World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

Check for updates

Study on smartphone addiction among the university students: A cross sectional survey-based study

A. K. M. Rezwan *, Nasima Yasmin, Kazi Abdullah, Jayeta Mohonto and Sharif Khan

Gono Bishwabidyalay, Nolan, Saver, Dhaka, Bangladesh.

World Journal of Advanced Research and Reviews, 2023, 18(03), 1063–1070

Publication history: Received on 08 May 2023; revised on 20 June 2023; accepted on 22 June 2023

Article DOI: https://doi.org/10.30574/wjarr.2023.18.3.1198

Abstract

University students almost universally use smartphones. The impact of smartphone addiction on academic performance is rarely studied among university students. In this study, the main objective was to explore the relationship between smartphone addiction and university enrollment. In order to collect the data, randomized sampling technique was used. To collect data a questionnaire was pretested and administered by an interviewer. The respondents' data were organized after collection. A data base was created in the computer using the software package Statistical package for the social sciences (SPSS) Version 22.0. Among the 295 respondents, 81.7% of the respondents were addicted to smartphones based on the smartphone addiction scale (SPAS) and there was significant relationship found between genders, marital status and studying class with type of phone use, where p-values were 0.032, 0.028, and 0.043. Students at different universities were found to be addicted to smartphones in this study. Globally, particularly in developing countries such as Bangladesh, it has become an increasing public health issue.

Keywords: Smart phone; Addiction; University; Student

1. Introduction

Our society has long relied on communication. People's daily lives have been changed significantly by the use of Smartphones [1]. Since the advent of the cell phone, the anomalous use of these devices has raised the question of whether abuse could lead to addiction [2]. Cell-phone addiction has been questioned without considering addiction as a concept [3]. As compared to drug or substance addiction, behavioral addiction is unique [4]. Smartphone usage under certain circumstances, including extraversion, self-esteem, neuroticism, age, and gender [5]. Mobile phones have significantly contributed to the new epidemic of this century [6]. In undergraduate and postgraduate medical education, smartphones can enhance learning activities [7]. It becomes essential to study smartphone addiction among medical students because it sheds light on how smartphones are used [8]. It is therefore considered smartphone addiction when a user excessively uses their smartphones to the point where they interfere with their daily lives [9]. There is evidence that university students' smartphone addiction negatively impacts their energy levels, sleep, eating habits, weight, exercise, and academic performance [10]. In addition to reinforcing social interactions, mobile phones can optimize communication between individuals and systems [11]. A smartphone is used for social networking, including Facebook, Instagram, What's App, Twitter, as well as gaming, e-mail, Slack, and other work-related activities [12]. Anxiety, depression, low conscientiousness, and high neuroticism have been linked to problematic smartphone use [13]. A person's mental and physical state can be adversely affected by the excessive use of smartphones [14]. Physical and mental health, social relationships, as well as academic and professional achievement are all affected by these flaws [15]. Mobile phones are becoming increasingly important, especially for students, due to their rapid social rhythm, busy daily lives, and complex interpersonal relationships [16]. Mobile phones have become increasingly popular in recent years [17]. Using mobile phones excessively can lead to mobile phone addiction, one of the most important social problems [18].

* Corresponding author: A. K. M. Rezwan

Addiction to smartphones is among the most common non-substance addictions, and its consequences are pessimistic [19]. Mobile phones are so enticing to teens that some of them rarely turn them off at night [20]. Using a smartphone in a compulsive manner can interfere with daily functioning [21]. University students are the most likely to own a smartphone and use it the most [22]. The symptoms of loneliness, boredom, anxiety, depression, stress, or lack of life satisfaction may be relieved online for smartphone addicts with dysphonic moods [23]. Excessive smartphone use may result in impulse control disorders, pathological gambling, decreased real-life social interaction, and decreased academic ability [24]. Depression, anxiety, and poor mental health are associated with excessive Internet use [25]. Smartphone overuse negatively impacts daily life [26]. Smartphones provide university students with the latest advancements in communications technology, as well as the ability to communicate with their families and friends rapidly [27]. In all countries, mobile phones are widely used due to their portability, permanent access, and features [28]. Similar to internet addiction, smartphone addiction can be classified as a behavioral addiction [29]. In university students, smartphone addiction, its relationship with academic procrastination, and its impact on quality of life are on the rise [30], which can negatively affect emotional intelligence and self-regulation, thereby affecting quality of life [31]. There are a variety of factors associated with depression, including smartphone addiction, internet addiction, and mobile phone addiction [32, 33].

2. Materials and methods

A six-month cross-sectional observational study was conducted. Several private universities in Dhaka city participated in this study. In their free time, University students were approached randomly after class hours. A questionnaire and consent form were distributed to students. In order to conduct the study, the institutional ethical committee approved it. The Smart Phone Addiction Scale (SPAS) was used to collect data. It consists of 10 self-report items with a 6-point Likert scale. Microsoft Excel and SPSS version 22 were used to analyze the results.

2.1. Data analysis & interpretation

Table 1 Distribution of respondents by type of phone use (n=295)

Type of phone Use	Frequency	percentage	Mean ± SD
Android	283	95.9%	**1.0407 ± 0.19788**
I Phone	12	4.1%	
Total	**295**	**100%**	

Table-1 revealed that 95.9% and 4.1% of respondents had Android or iPhone phones use respectively.

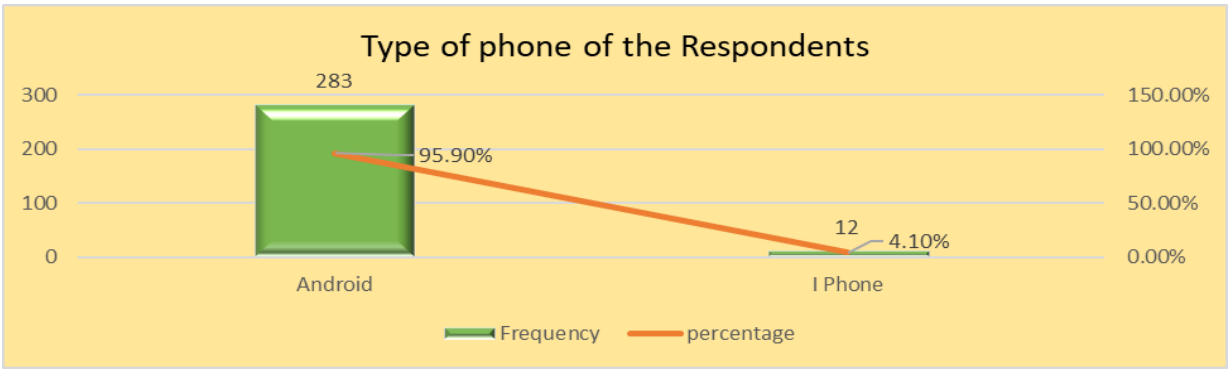

Figure 1 Distribution of respondents by type of phone use

Table 2 Distribution of respondents by use a Smartphone for (n=295)

Use a Smartphone	Frequency	Percentage	Mean ± SD
Texting	38	12.9%	**3.5424 ± 1.39876**
Email	17	5.8%	
Surfing the internet	107	36.3%	
Games	13	4.4%	
Facebook	120	40.7%	
Total	**295**	**100%**	

It was found that 12.9%, 5.8%, 36.3%, 4.4% and 40.7% of the respondents used their smartphones for texting, emailing, surfing the web, playing games, and using Facebook respectively.

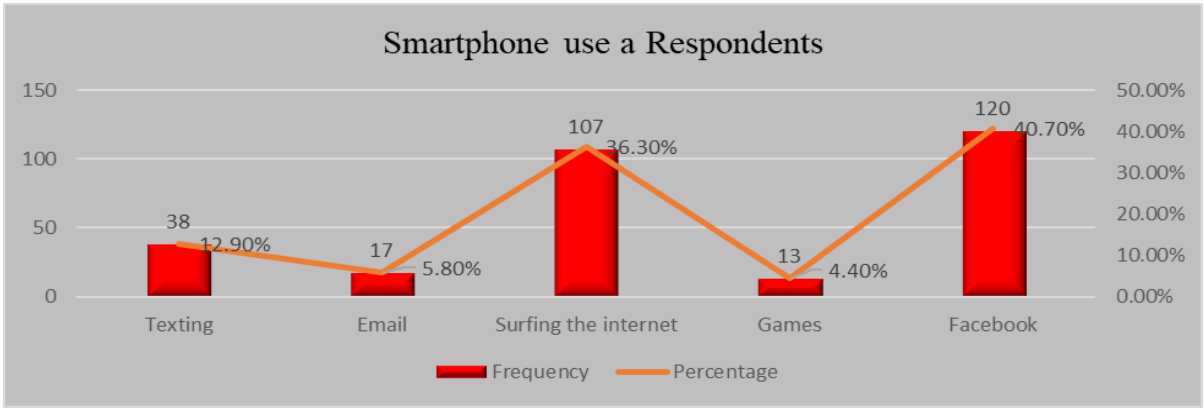

Figure 2 Distribution of respondents by use a Smartphone

Table 3 Distribution of respondents by mostly use smartphone everyday (n=295)

Mostly use	Frequency	Percentage	Mean ± SD
Morning	1	0.3%	**4.0847 ± 0.85887**
Afternoon	23	7.8%	
Evening	22	7.5%	
Night	153	51.9%	
Any time	96	32.5%	
Total	**295**	**100%**	

According to table-3, most of the respondents use their smartphones in the morning, afternoon, evening, night, or any time of the day (0.3%, 7.8%, 7.5%, 51.9%, and 32.5%, respectively).

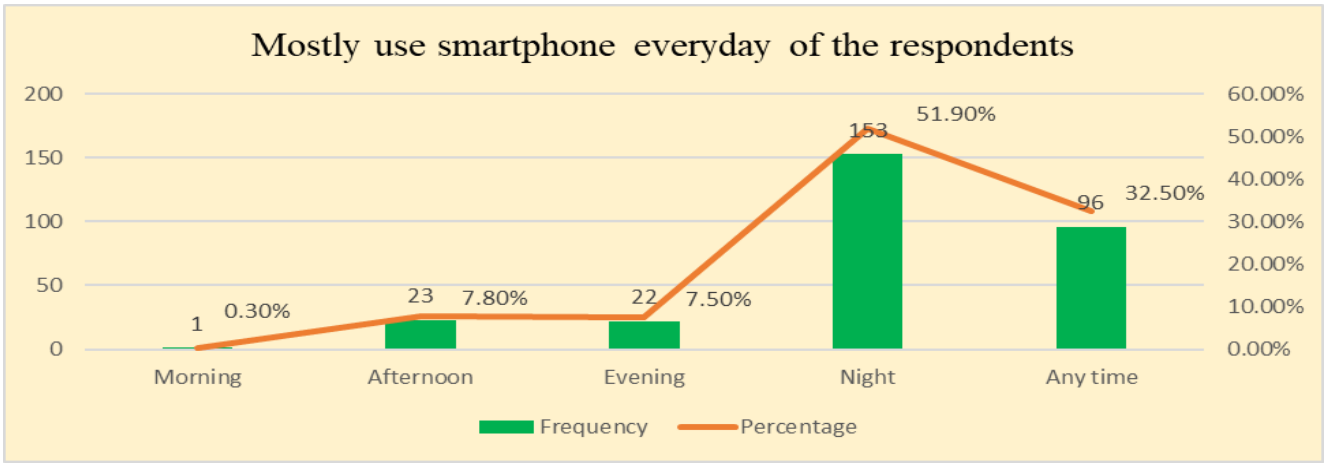

Figure 3 Distribution of respondents by mostly use smartphone everyday

Table 4 Distribution of respondents by type of application use mostly (n=295)

Type of application	Frequency	Percentage	Mean ± SD
Internet	86	29.2%	**2.4373 ± 1.12877**
Messengers	53	18.0%	
Social Networking Service	103	34.9%	
Entertainment	47	15.9%	
Games	6	2.0%	
Total	**295**	**100%**	

According to table-4, 29.2%, 18.0%, 34.9%, 15.9%, and 2.0% of the respondents used Internet, Messengers, Social networking services, Entertainment, and Games the most.

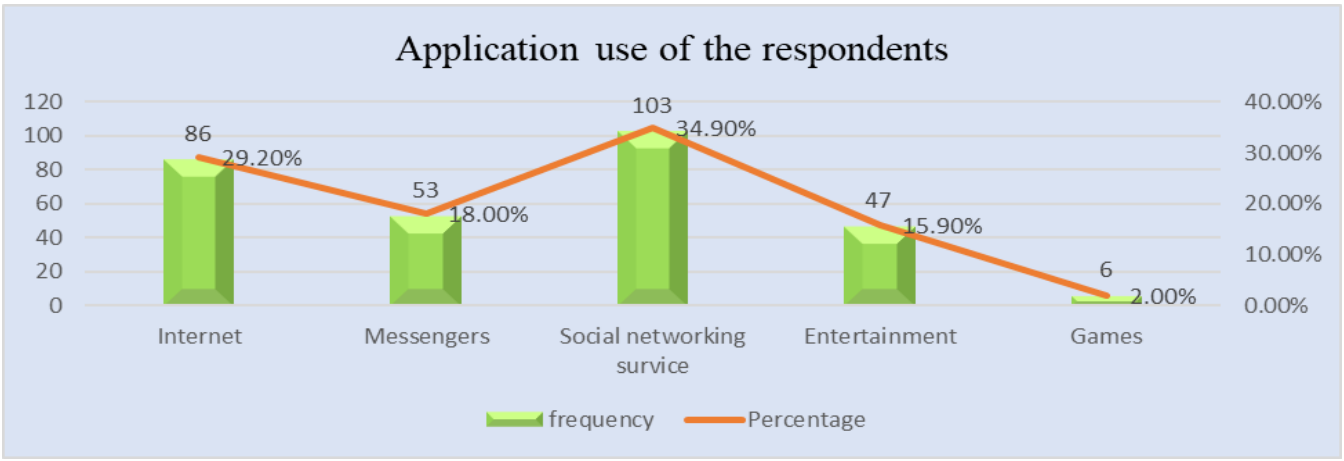

Figure 4 Distribution of respondents by type of application use mostly

Table 5 Distribution of respondents by smartphone addiction scale (n=295)

Addiction	Frequency	Percentage	Mean ± SD
Score 10 – 30 (Non-addicted)	54	18.3%	**37.8881±9.41942**
31 – 58 (addicted group)	241	81.7%	
Total	**295**	**100%**	

The table-5 revealed that the mean smartphone addiction of the respondents was 37.8881± 9.41942 and it was found that 18.3% and 81.7% of the respondents belonged to (score 10 to 30), and (score 31 to 58).

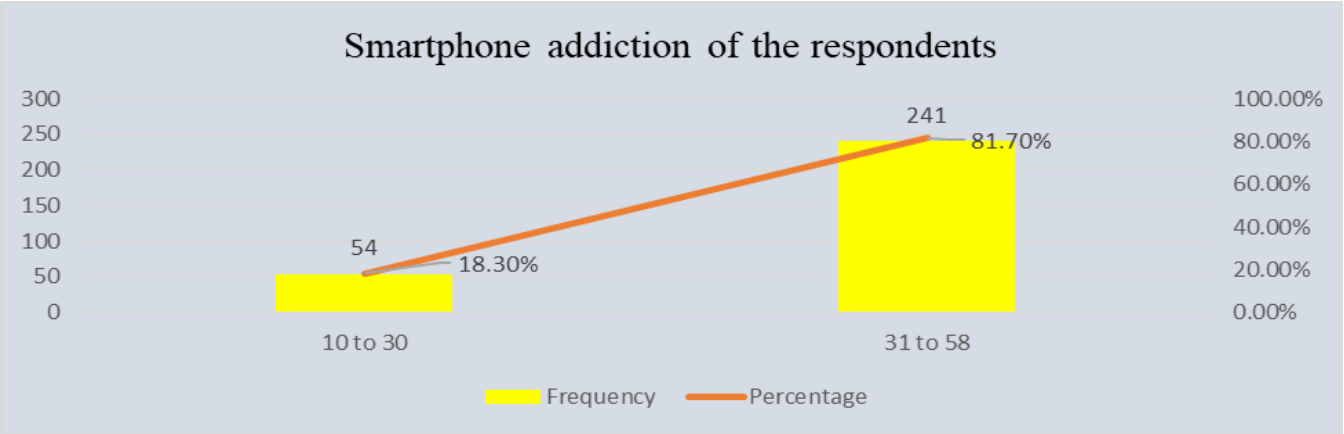

Figure 5 Distribution of respondents by smartphone addiction scale

3. Discussion

Studying smartphone addiction among university students was the purpose of the study. 295 samples were used in this research to determine if studies on smartphone addiction are associated with university students. Among the respondents, the median age was 21.5356 x 1.32657 years, ranging from 18 to 25. In another study, the age group 21 to 23 years (71.8%) was also found to be more addicted [34, 35]. The mean gender of the respondents was 1.4746 ± 0.50020. 52.5% and 47.5% of the respondents were females and males, respectively. It was found that female groups were more addicted. Respondents had an average marital status of 1.9288 ± 0.25757. 7.1% and 92.9% of the respondents were married and unmarried, respectively. There was a higher rate of addiction among unmarried people. It was found that 99.7% and 0.3% of the respondents belonged to graduate or postgraduate studies, respectively. Graduates were found to be more addicted. Based on the mean residential area of the respondents, it was determined that 74.2% and 25.8% were urban and rural, respectively. The study found that urban people were more addicted. There were 95.9% and 4.1% of respondents who used Androids and iPhones, respectively. Android users were found to be more addicted. It was found that 12.9%, 5.8%, 36.3%, 4.4%, and 40.7% of respondents used their smartphone for texting, e-mail, surfing the internet, playing games, and using Facebook. Facebook users were found to be more addicted. According to the results of the study, 34.6%, 3.4%, 15.3%, 2.4% and 44.4% of the respondents used a smartphone in the places that they were familiar with, places that they were unfamiliar with, urban environments, non-urban environments, and other places. The most common place is others. 54.9% of respondents used their smartphones rarely, 37.6% sometimes, and 7.5% always while driving, talking or walking. Rarely were there more. Based on the survey results, it was found that 0.3%, 7.8%, 7.5%, 51.9%, and 32.5% of respondents mostly used their smartphones in the morning, afternoon, evening, night, and at any time of the day. Night users were found to be more addicted. Based on the mean of the applications most commonly used by respondents, it was found that 29.2%, 18.0%, 34.9%, 15.9%, and 2.0% of respondents mainly used the internet, messengers, social networking services, entertainment, and games. Most people use social networking services. It was found that 7.1%, 50.2%, 39.3%, and 3.4% of the respondents were between the ages of (0-1) years, (2-4) years, (5-10) years and (11-15 years). The most common age group was (2-4) years. It was found that 18.3% and 81.7% of respondents belonged to the 10 to 30 and 31 to 58 age groups, respectively. It found that (31 to 58) were addicted, which was also found in another study [36]. There is a significant association between gender and type of phone use regarding smartphone addiction, according to this study. 0.032 was the p-value, which is less than 0.05. Smartphone addiction is significantly associated with marital status and type of phone use. There was a p-value of 0.028, which was less than 0.05. Residential area and marital status are significantly associated with smartphone addiction. The p-value

was 0.045, which is less than 0.05. Smartphone addiction was significantly associated with type of phone use, and the p-value was 0.043.

4. Conclusion

There is a great impact of smartphone addiction on university students. This study found that university students are significantly addicted to smartphones. In order to improve performance, students should be taught not to overuse smartphones and maintain healthy lifestyles, talking between work and relaxation.

Recommendation

To prevent and minimize smartphone addiction among university students, the following recommendations are made based on the study findings.

*Make self-care a priority. * Exercise (walking or running). * Avoid screen time on a daily basis. *Disable social media notifications.* Detox from digital devices. *Take time to spend with family.* Make use of apps that limit screen time. *Take up a hobby or learn something new. *Conversational engagement. *Enhance mental strength.*Reduce distraction. *Further prospective studies are required to accurately evaluate each proposed association for smartphone addicted students.

Limitation

The study has several limitations. Data on behavior, sleep, and smartphones in this study were derived from self-report questionnaires, which inevitably have biases. Due to the limited number of participants in this study, our conclusions must be conservative. In the future, we will conduct follow-up research.

7. Compliance with ethical standards

Acknowledgments

All participants provided support at every stage of the study, and the authors would like to extend their sincere gratitude to them.

Disclosure of conflict of interest

In developing to this study concept, the study materials, and interpreting the results, all authors collaborated. Gather & analyzed data and wrote the manuscript. A agreement on the order of presentation of the authors was reached after all authors read and approved the final version of the manuscript.

References

[1] Suparp, S. Revolution of communication and technology. Newsletter Science. 2006; 3(1): 18-20. https://www.researchgate.net/publication.

[2] Holden C. Behavioral addictions: do they exist? 2001; 294: 980–2. DOI: 10.1126/science.294.5544.980. https://pubmed.ncbi.nlm.nih.gov/11691967/

[3] Bianchi A, Phillips J. Psychological predictors of problem mobile phone use. Cyber Psychology and Behavior. 2005; 8: 39–51. https://pubmed.ncbi.nlm.nih.gov/15738692/

[4] Voon V, Fox S. Medication-related impulsive control and repetitive behaviors in Parkinson disease. Arch Neurol (2007) 64:1089–96 https://pubmed.ncbi.nlm.nih.gov/17698698/

[5] Bianchi A., Phillips J. Psychological Predictors of Problem Mobile Phone Use. Cyber Psychology and Behavior. 2005; 8: 1. https://pubmed.ncbi.nlm.nih.gov/15738692/

[6] Rupani P., Parikh D., Trivedi V., Manindra P. Cross- sectional study on mobile phone involvement among medical students of a tertiary care teaching hospital of western India. National Journal of Community Medicine. 2016; 7: 7. https://www.researchgate.net/publication/307475186

[7] Masters K, Ellaway R, Topps D, Archibald D, Hogue RJ. Mobile technologies in medical education: AMEE guide no. 105. Med Teach. 2016; 38(6): 537–49. https://pubmed.ncbi.nlm.nih.gov/27010681/

[8] Hakki B, Muhammed FP. Investigating the smart phone addictions of vocational school students from different variables. Malaysian Online J Educ Technol. 2018;6(4):40–52. https://files.eric.ed.gov/fulltext/EJ1192933.pdf

[9] Kuss DJ, Griffiths MD. Online social networking and addiction—a review of the psychological literature. Inter J Environ Res Pub Health. 2011;8:3528–3552. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3194102/

[10] Alosaimi FD, Alyahya H, Alshahwan H, Al Mahyijari N, Shaik SA. Smartphone addiction among university students in Riyadh, Saudi Arabia. Saudi Med J. 2016;37:675 https://pubmed.ncbi.nlm.nih.gov/27279515/

[11] H. Geser. Toward A sociological theory of the mobile phone. 2004; Available from: https://search.yahoo.com/search.

[12] R Ammanti, A Kakunje, R Karkal, D Nafisa. Smartphone Addiction among students of Medical University in south India. Available from: https://www.ijcap.org/html-article/

[13] Elhai, J. D., Yang, H., & Montag, C. (2019). Cognitive-and emotion-related dysfunctional coping processes: Transdiagnostic mechanisms explaining depression and anxiety's relations with problematic smartphone use. Current Addiction Reports,1-8 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7753448/

[14] Shankar, S. Barani; Rani, S. Leslie; Comparison study of factors associated with smartphone addiction among college students. Drug Invention Today. 2020;14(7):1165-1168. https://web.p.ebscohost.com/abstract

[15] Sohn SY, Rees P, Carter B. Prevalence of problematic smartphone usage and associated mental health outcomes amongst children and young people: a systematic review, meta-analysis and GRADE of the evidence. BMC Psychiatry. 2019;19 (1):356. :https://bmcpsychiatry.biomedcentral.

[16] Junlan xu. Research on the Relationship among Phone Addiction, Social Anxiety and Loneliness in University students Students. Open Journal of Social Sciences.2017; vol.5 no 6: DOI: 10.4236/jss.2017.56003.

[17] Sapacz M, Rockman G, Clark J. Are we addicted to our cell phones? Comput Hum Behav. 2016;57:153–9. Available From: https://doi.org/10.1016/j.chb.2015.12.004.

[18] Askarizadeh G, Poormirzaei M, Hajmohammadi R. Identity processing styles and cell phone addiction: the mediating role of religious coping. J Res Religion Health. 2017;3(1):18–29. https://journals.sbmu.ac.ir/en-jrrh/article/view/15610.

[19] Gligor Ş, Mozoş I. Indicators of smartphone addiction and stress score in university students. W. K. Wochenschr 2019;131:120-5. https://www.jehp.net/article.

[20] Tariq FJ, Bin Irfan AR. Cell phone addiction: A rising epidemic. J Pak Med Assoc 2019;69:928-9.https://www.jehp.net/article.

[21] S. Ezoe, M. Toda, K. Yoshimura, A. Naritomi. Relationships of personality and lifestyle with mobile phone dependence among female nursing students, Social Behavior and Personality: An International Journal, vol. 37, no. 2, pp. 231–238, 2009. Available Form: https://doi.org/10.2224/sbp.2009.37.2.231.

[22] D. K. Forgays, I. Hyman, and J. Schreiber, "Texting everywhere for everything: gender and age differences in cell phone etiquette and use," Computers in Human Behavior, vol. 31, pp. 314–321, 2014. Available From: https://doi.org/10.1016/j.chb.2013.10.053 .

[23] Wu AMS, Cheung VI, Ku L, Hung EPW (2013) Psychological risk factors of addiction to social networking sites among Chinese Smartphone users. J Behav Addict, 2013 Sep;2(3):160-6.Available From: 10.1556/JBA.2.2013.006

[24] Sim MS, Kim EM. The Smart Phone Use Survey 2011. Seoul: Korea Communications Commission Press; 2011: 21-23. https://doi.org/10.2147/NDT.S59233.

[25] Lebni JY, Toghroli R, Abbas J, NeJhaddadgar N, Salahshoor MR, Mansourian M, A study of internet addiction and its effects on mental health: A study based on Iranian University Students. J Educ Health Promot 2020;9:20 .https://www.jehp.net/article.asp

[26] Clayton RB, Leshner G, Almond A. The extended iSelf: the impact of iPhone separation on cognition, emotion, and physiology.J Computer-Mediated Commun. 2015;20(2):119–35. https://doi.org/10.1111/jcc4.12109

[27] Hong FY, Chiu SI, Huang DH. 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 Nov;28(6):2152–9. https://doi.org/10.1016/j.chb.2012.06.020.

[28] C jenoro, Flores, Caballo, Problematic internet and cell-phone use: psychological, behavioral, and health correlates. 2007; 15: 309-320 https://www.tandfonline.com/doi/abs/10.1080/16066350701350247.

[29] Kiran S., Sanjana J.S., Reddy Naik J. Mobile phone addiction: Symptoms, impacts and causes A review; Proceedings of the International Conference on Trends in Industrial & Value Engineering, Business and Social Innovation ICIVBS-2018; Bangalore, India. 4 April 2018; pp. 81–86. https://www.researchgate.net/publication/330521664.

[30] Rozgonjuk D., Kattago M., Täht K. Social media use in lectures mediates the relationship between procrastination and problematic smartphone use. Comput. Hum. Behav. 2018;89:191–198. 10.1016/j.chb.2018.08.003

[31] Mascia M.L., Agus M., Penna M.P. Emotional Intelligence, Self-Regulation, Smartphone Addiction: Which Relationship with Student Well-Being and Quality of Life? Front. Psychol. 2020;11:375. 10.3389/fpsyg.2020.00375.

[32] Duan L., Shao X., Wang Y., Huang Y., Miao J., Yang X., Zhu G. An investigation of mental health status of children and adolescents in China during the outbreak of COVID-19. J. Affect. Disord. 2020;275:112–118. Doi: 10.1016/j.jad.2020.06.029.

[33] Askarizadeh G, Poormirzaei M, Hajmohammadi R. Identity processing styles and cell phone addiction: the mediating role of religious coping. J Res Religion Health. 2017;3(1):18–29. https://www.semanticscholar.org/paper/

[34] Saiful I., Safaet H.S., & Halley M.P. problematic smartphone and social media use among the Bangladeshi university students amid covid-19, Frontiers in phychiatry,2021;12:647-386.https://www.frontiersin.org/articles/10.3389/fpsyt.2021.64

[35] Andrew I.O. prevalence and determinants of smartphone addiction, Research gate, 2020. Available from: https://www.researchgate.net/publication/343813163

[36] Viola DM. Negative health review of cell phone and social media. Journal of mental health and clinical psychology, (2021) 5(1): 7-18. https://www.mentalhealthjournal.org/articles/negative-health