

Smartphone Addiction and Associated Factors among Secondary School Students in Bangladesh: A Cross-Sectional Study

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ABSTRACT

Background: Smartphone addiction is a serious problem among school students worldwide. For Bangladesh, where about half of the population uses smartphones, it is linked with behaviour challenges and academic outcomes.

Purpose: The present study aimed to evaluate to smartphone addiction and associated factors among secondary school students of Bangladesh. A descriptive cross-sectional study was conducted with 186 ninth- and tenth-grade students from Rayerbazar High School in Dhaka, selected via convenience sampling.

Methods: The study was conducted after institutional review board approval from NIANER on December 2019 to February 2020 using a self-administered questionnaire on demographic data, usage patterns, and a validated addiction scale. Descriptive statistics, Pearson's correlation, t-tests and ANOVA were performed. The mean addiction score was 3.33 (SD=0.90).

Results: The father's educational attainment level ($p=0.003$), socioeconomic status ($p=0.002$) and family living status ($p=0.021$) were noted as significant associations. In addition, there was a significant correlation between higher scores and the use of smartphones ($p<0.001$), the duration of daily smartphone use ($p<0.001$), social networking ($p<0.001$) and gaming ($p=0.021$). Findings are important because the cross sectional design precludes causal inferences, but it is easy to see implications.

Conclusion: School nurses should include regular health screening that incorporates an assessment for addiction in all medical practices. It is recommended that guidelines be created to set limits on recreational screen time for school health. Offline social interaction and student education on digital balance are key strategies in adolescent health promotion.

Keywords: Addiction, School, Smartphone, Student

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BACKGROUND

In general, smartphone addiction has been defined as an individual's inability to control their smartphone usage despite negative consequences in their daily life (Cha & Seo, 2018). Smartphones are versatile devices with high degrees of functionality that enable them to operate as portable computers, thereby promoting high levels of user activity and user interaction (Bisen & Deshpande, 2016). Worldwide, the number of these devices is exploding; today, there are more than 7.74 billion mobile phone subscribers in the world (International Telecommunication Union, 2017). However, in Bangladesh, the penetration rate is ranked among the lowest in the top twenty smartphone markets in the world and has increased significantly and steadily over recent years (Common Sence Media, 2016). This quick uptake has gone through all age ranges, and has had a particular impact on teenagers and their parents. According to societal reports, many teens and parents report their own smartphone addiction, often checking their phones in addictive ways, highlighting the extent of the problem (The Daily Star, 2018). Empirical research has also confirmed these findings, indicating that many adolescents are diagnosed as being at-risk of addiction (Cha & Seo, 2018). Unfortunately, even though many teens recognize that their use is problematic, the majority have actually indicated a desire to curb their dependence (Anderson & Jiang, 2018).

There are many factors related to smartphone addiction that have been identified in different populations. There is strong evidence from previous studies indicating that the overall amount of time spent on applications is a major behavioral risk factor for addiction (Shilpa & Deshpande, 2016 ;Cha & Seo, 2018). Other factors are also important – for example, research on these factors has highlighted that children from higher income families may be more susceptible, perhaps because of greater access to and lesser parent oversight (Vasudev et al., 2012). Moreover, the different purposes of use are a critical factor. Some of these activities have been emphasized as being strong contributors, including information-seeking (Bian & Leung, 2015; Lopez-Fernandez et al., 2017) and gaming (Kahyaoglu & Sut, 2016). Specifically, internet gaming is known to have a greater addictive potential than smartphone gaming, given that the latter is portable and instant (Cha & Seo, 2018).

The consequences of uncontrolled addiction reach far and wide, having health, psychological, and social impact. The negative impacts are especially harmful for students' academic achievement and overall health. Evidence gleaned from various sources shows that there is a consistent negative relationship between excessive use of and academic performance; addiction is a significant obstacle to learning and focus (Kwon & Paek, 2016; Rabiou et al., 2016; Shilpa & Deshpande, 2016). In terms of behavior, dependency can be identified through a whole range of discomfort associated with being out of reach of the device, irritation from constant notifications and frustration when the device is taken away (Rai et al., 2016). Addiction perpetuates sedentary lifestyle, which leads to somatic complaints such as digital eye strain, recurrent headaches, and disturbs sleep quality (Ikeda & Nakamura, 2013; Tamura et al., 2017). Psychologically it is no different and multiple studies have shown associations of depression, anxiety, and stress with increased prevalence amongst students (Soni et al., 2017; Thomée et al., 2011).

The literature to date, which is mostly from high-income western and East Asian countries, strongly supports the view that smartphone addiction is a multi-faceted phenomenon strongly associated with usage duration and with the type of applications used; and, above all, its harmful consequences on academic achievement, mental health and physical health of adolescents. Yet, in the landscape of low and middle income countries that are rapidly moving into the digital era, there are still many knowledge gaps. In particular, empirical evidence on smartphone addiction among secondary school students in Bangladesh is not very available

and the interplay among local socioeconomic disparities, the high competitiveness in education, new digital infrastructure, and unique cultural dynamic is largely untouched. This study offers a novel contribution as one of the first investigations to systematically assess smartphone addiction using a validated scale specifically among ninth- and tenth-grade Bangladeshi students, uniquely integrating sociodemographic backgrounds, familial factors, and detailed usage behaviors to holistically delineate associated factors within this unexamined cohort. The results are expected to offer empirical support to incorporate brief addiction screening measures into standard adolescent health assessments, a process that may allow healthcare providers to identify adolescents at risk. For adolescent health promotion, the results may inform culturally sensitive educational interventions, digital hygiene curricula, and family-centered awareness programs. In the overall context, this study sought to empower educators and parents with context-specific data, paving the way for balanced technology use, future psychosocial safety, and the comprehensive growth of Bangladeshi teens.

METHODS

The present study used a descriptive cross-sectional design to assess the level of smartphone addiction among secondary school students in Bangladesh. To conduct the research the researcher approached Rayerbazar High School, Dhanmondi, Dhaka with an approximate number of students as 1800 which included 222 students in Class Nine and 299 students in Class Ten. A G*Power analysis was conducted using power of 0.8, with an accepted level of significance of 0.05, and with a medium effect of 0.25 with a 20% attrition rate, the required sample size was determined to be 186. Participants were selected through a convenience sampling, which involved individuals who fulfilled inclusion criteria of being 15–17 years old, studying in class nine and ten and had a smart phone or regular access to one. Students were excluded if they were absent on the days of the data collection or if they had a diagnosed cognitive or psychiatric condition that could interfere with understanding the questionnaires or if the questionnaires had more than 10% of items blank. Convenience sampling was used to optimize data handling in the school context; however, this sampling technique may give rise to selection bias and thus limit the generalizability of results with regard to the broader adolescent population.

Data collection instruments included a Demographic Data Questionnaire (DDQ) and a Smartphone Related Questionnaire (SRQ) to gather information on participants' socio-demographic characteristics and smartphone usage patterns. Further, a validated 33-item questionnaire to assess smartphone addiction was used, which is known as the Smartphone Addiction Scale (SAS) (Kwon et al., 2013), which consisted of 33 items regarding 6 addiction factors: withdrawal, tolerance, overuse, positive anticipation, daily-life disturbance, and cyber-oriented relationships. The scale was rated on a six-point Likert type scale ranging from "strongly disagree" to "strongly agree" with higher scores representing more severe the addiction. In the current sample, the SAS demonstrated excellent internal consistency, yielding a Cronbach's alpha coefficient of 0.92, which confirms its reliability for this study population.

The study has been approved by the Institutional Review Board (IRB) of National Institute of Advanced Nursing Education and Research, Dhaka, Bangladesh, Micro-Memorial No: NIANER/General/2016/222. Administrative approval was then obtained from the chosen secondary school, and the purpose of the study, its benefits, the confidentiality issues and their data collection protocols were fully discussed with school authority and head teacher. The data were collected from December 2019 to January 2020 with the researcher and trained assistant teacher. The students were asked to answer the structured questionnaires in the class time using verbal instructions to clarify each item. The average completion time for the questionnaire was approximately 20–25 minutes. Of the 186 questionnaires distributed, 180 complete

questionnaires were considered valid for analysis (96.8% response rate). Descriptive statistics such as frequencies, percentages, mean and standard deviation were used to summarize the demographic dimensions of the participants. Independent t-test, one-way ANOVA and Pearson's correlation were performed as inferential statistics to examine the correlations among the socio-demographic variables with the addictions scores of the smartphones. These parametric tests were performed following an inspection of the underlying statistical assumptions, which included normality and homogeneity of variance, with the Shapiro-Wilk test and Levene's test, respectively. These assumptions were confirmed to be satisfied and the use of parametric analysis was justified.

RESULTS

This section represents the findings under some domains such as socio-demographic characteristics of the participants, smartphone related characteristics, smartphone addiction, relationship between demographic characteristics and smartphone addiction and relationship between smartphone related characteristics and smartphone addiction of the participants.

Table 1. Distribution of Socio-Demographic Characteristics of the Participants (N=186)

Variables	Category	n	%	M (SD)
Age in years				15.77(.739)
Gender				
	Male	152	81.7	
	Female	34	18.3	
Religion				
	Islam	177	95.2	
	Hindu	9	4.8	
Class of education				
	Class nine	93	50	
	class ten	93	50	
Father's educational level				
	No formal education	14	7.5	
	Secondary	88	47.3	
	College	37	19.9	
	University	47	25.3	
Mother's educational level				
	No formal education	11	5.9	
	Secondary	115	61.8	
	College	41	22.0	
	University	19	10.2	
Father's occupation				
	Service holder	84	45.2	
	Businessman	84	45.2	
	Others	18	9.7	
Mother's occupation				
	Housewife	167	89.8	
	Service holder	19	10.2	
Parent's marital status				
	Living Together in	176	94.6	
	Widow	8	4.3	
	Separated	2	1.1	

Variables	Category	n	%	M (SD)
Monthly family income in Bangladeshi Taka				29177.42(15983.969)
Living status				
	Living in hostel and others	14	7.5	
	Living with parents at home	172	92.5	

Table 1 presents the socio-demographic characteristics of secondary school students, indicating a mean age of 15.77 (SD = 0.739) years. The majority (81.7%) of participants identified as Muslim, with a minority (4.8%) identifying as Hindu. Half of the students (50%) were from class nine, while the remaining half (50%) were from class ten. Regarding parental education, 47.3% of fathers and 61.8% of mothers had received formal education. Fathers' occupations primarily consisted of service holders (45.2%) and businessmen (45.2%), while most mothers (89.8%) were housewives. The majority of parents (94.6%) were living together, with average monthly family income reported at BDT 29177.42 (SD = 15983.969), ranging from BDT 8000 to 1,20000. In addition, most of the participants (92.5%) were living with their parents at home while only a few of them (7.5%) were living in other places (hostel, grandparents' house).

Table 2. Distribution of Smartphone related Characteristics (N=186)

Variables	Yes n(%)	No n(%)	M(SD)
Total duration of Smartphone use in a day in hours			2.13(1.371)
Number of Smartphone users			2.54(1.177)
Year of using Smartphone			2.54(1.514)
Smartphone used*			
Own	86(46.2%)	100(53.8%)	
Father	38(20.4%)	148(79.5%)	
Mother	57(30.6%)	129(69.4%)	
Siblings	34(18.3%)	152(81.7%)	
Friends	7(3.8%)	179(96.2%)	
Others	7(3.8%)	179(96.2%)	
Functions that use frequently*			
Social networking	123(66.1%)	63(33.9%)	
Phone calls	94(50.5%)	92(49.5%)	
Gaming	105(58.5%)	81(43.5%)	
Text Messaging	63(33.9%)	123(66.1%)	
Watching video	81(43.5%)	105(56.5%)	
Listening Music	84(45.2%)	102(54.8%)	
Reading news	39(21.0%)	147(79.0%)	
Others	12(6.5%)	174(93.5%)	

* multiple answer

The table 2 offers insights into various aspects of Smartphone usage among the participants. On average, participants reported a total duration of Smartphone use of 2.13 hours (SD = 1.371) in a typical day and an average of 2.54 (SD = 1.177) Smartphone users per participant at home, indicating presence of multiple devices. The mean number of years since the participants began using Smartphones was also 2.54 (SD = 1.514) years. Regarding Smartphone ownership, a significant portion reported owning their own device (46.2%), with

similar percentages reporting their fathers (20.4%) or mothers (30.6%) as the owners. Relatively few participants reported Smartphone ownership by siblings (18.3%), friends (3.8%), or others (3.8%). The most frequently used Smartphone functions were social networking (66.1%), gaming (58.5%), and phone calls (50.5%). Additionally, participants commonly used their devices for text messaging (33.9%), watching videos (43.5%), listening to music (45.2%), and reading news (21.0%). These statistics provide valuable insights into the patterns and preferences of Smartphone usage among the study participants, highlighting the multifaceted nature of their interactions with these devices.

Table 3. Distribution of Participants' Smartphone Addiction through Smartphone Addiction Scale (SAS)

Smartphone Addiction Scale (SAS) Items	Mean $\pm$ SD
Daily life disturbance	0.64 $\pm$ 0.17
Positive anticipation	0.74 $\pm$ 0.23
Withdrawal	0.51 $\pm$ 0.23
Social networking services	0.63 $\pm$ 0.27
Overuse	0.45 $\pm$ 0.17
Tolerance	0.34 $\pm$ 0.13
Total Mean of Smartphone addiction scale	3.33 $\pm$.90

By table 3, the Smartphone Addiction Scale (SAS) items provide valuable insights into the level of Smartphone addiction among the participants. Across various dimensions, participants reported mean scores indicative of varying degrees of addiction. The mean scores for daily life disturbance (0.64 $\pm$ 0.17), positive anticipation (0.74 $\pm$ 0.23), withdrawal (0.51 $\pm$ 0.23), and social networking services (0.63 $\pm$ 0.27) suggest a moderate level of addiction in these areas. Interestingly, the overuse dimension yielded a lower mean score (0.45 $\pm$ 0.17), indicating a relatively lower level of addiction in this aspect. Similarly, tolerance exhibited the lowest mean score (0.34 $\pm$ 0.13), indicating the least degree of addiction among the measured dimensions. Overall, the total mean of the Smartphone addiction scale was 3.33 $\pm$ 0.90, suggesting a moderate level of Smartphone addiction among the participants, with variations in addiction intensity across different dimensions of Smartphone usage as measured by the scale.

Table 4. Relationship between socio-demographic profile and smart phone addiction of participants (N=186)

Variables	Categories	M $\pm$ SD	t/F/r	(P)
Age		15.77 $\pm$.739	.105	0.154
Gender				
	Male	103.97 $\pm$ 28.71	.1.770	0.106
	Female	95.29 $\pm$ 25.14		
Religion				
	Islam	102.28 $\pm$ 28.68	-.319	0.832
	Hindu	104.33 $\pm$ 18.16		
Class of education				
	Class nine	101.31 $\pm$ 30.94	-.516	0.607
	class ten	103.45 $\pm$ 25.35		
Father's educational level				
	No formal education	99.71 $\pm$ 22.34	2.965	0.033
	Primary and Secondary	98.81 $\pm$ 26.90		

	College & Others	114.51 ± 31.90		
	University	100.32 ± 27.38		
Mother's educational level	No formal education	91.09 ± 21.02	1.362	0.256
	Secondary	101.96 ± 28.82		
	College	108.66 ± 27.06		
	University	103.37 ± 29.63		
Father's occupation	Service holder	98.74 ± 26.38	1.861	0.158
	Businessman	106.76 ± 30.18		
	Others	98.94 ± 25.58		
Mother's occupation	Housewife	102.24 ± 19.10	-.278	0.839
	Service holder	103.63 ± 19.48		
Parent's marital status	Living Together in	102.57 ± 28.44	.403	0.669
	Widow			
	Separated	84.50 ± 2.12		
Monthly family income		29177.42 ± 15983.97	.222	0.002
Living status	Living in hostel and others	119.07 ± 30.00	2.176	0.021
	Living with parents at home	101.02 ± 27.73		

The relationship between socio-demographic characteristics and smartphone addiction can be seen in table 4. Regarding age, the mean age of the participants was 15.77 years with a standard deviation of 0.739, showing no significant correlation with Smartphone addiction ($r = 0.105$, $p = 0.154$). Gender did not reveal a significant difference in Smartphone addiction scores, with males averaging 103.97 (± 28.71) and females 95.29 (± 25.14) ($t = 1.770$, $p = 0.106$). However, significant associations were found between Smartphone addiction and father's educational level ($F = 2.965$, $p = 0.033$) and monthly family income ($F = 2.176$, $p = 0.021$). Participants whose fathers had a college education or other tertiary education showed higher mean scores, while those with lower family incomes exhibited higher addiction scores. Other socio-demographic factors such as religion, class of education, mother's educational level, father's occupation, mother's occupation, and parent's marital status did not demonstrate significant correlations with Smartphone addiction. These findings suggest that educational level and family income may influence the likelihood of Smartphone addiction among secondary school students.

Table 5. Relationship between the Smartphone related Characteristics and Smartphone Addiction (N=186)

Variables	Mean ± SD		t/f/r	(p)
	Yes	No		
Total duration of Smartphone use		2.13 ± 1.371	.288	<.001

Variables	Mean $\pm$ SD		t/f/r	(p)
	Yes	No		
Number of Smartphone users		2.54 $\pm$ 1.177	.256	<.001
Year of using Smartphone		2.54 $\pm$ 1.514	.197	.007
Smartphone used				
Own	111.86 $\pm$ 29.107	94.45 $\pm$ 25.06	4.318	<.001
Father	93.82 $\pm$ 23.936	104.58 $\pm$ 28.90	2.365	.036
Mother	92.02 $\pm$ 23.671	106.96 $\pm$ 28.94	3.698	.001
Siblings	100.03 $\pm$ 23.186	102.91 $\pm$ 29.28	.622	.592
Friends	91.83 $\pm$ 20.430	102.84 $\pm$ 28.47	1.279	.349
Others	99.67 $\pm$ 23.209	102.58 $\pm$ 28.47	.300	.805
Functions that use frequently				
Social networking	109.09 $\pm$ 29.426	89.29 $\pm$ 20.27	5.378	<.001
Phone calls	104.91 $\pm$ 31.700	99.79 $\pm$ 24.08	1.242	.217
Gaming	106.76 $\pm$ 30.100	97.16 $\pm$ 24.86	2.378	.021
Text Messaging	113.13 $\pm$ 28.390	96.88 $\pm$ 26.62	3.772	.001
Watching video	112.48 $\pm$ 30.406	94.59 $\pm$ 23.79	4.365	.001
Listening Music	107.51 $\pm$ 32.204	98.16 $\pm$ 23.82	2.210	.024
Reading news	102.85 $\pm$ 28.610	102.26 $\pm$ 28.22	.114	.588
Others	102.91 $\pm$ 21.073	102.53 $\pm$ 28.64	.056	.966

The relationship between Smartphone characteristics and Smartphone addiction is illustrated in the table 5. The mean scores for various variables indicated significant associations with Smartphone addiction. Participants who reported longer total durations of Smartphone use exhibited significantly higher addiction scores ($t = 0.288$, $p < 0.001$). Similarly, those who reported a higher number of Smartphone users also showed higher addiction scores ($t = 0.256$, $p < 0.001$). Furthermore, the year of using Smartphone was positively correlated with addiction scores ($t = 0.197$, $p = 0.007$). When considering the Smartphone used, participants who owned their Smartphones had significantly higher addiction scores compared to those who did not ($t = 4.318$, $p < 0.001$). Similarly, using Smartphones for social networking, gaming, text messaging, watching videos, and listening to music was associated with higher addiction scores (all $p < 0.05$). Conversely, the frequency of phone calls, reading news, and other functions did not significantly correlate with addiction scores. These findings suggest that certain Smartphone characteristics, such as longer duration of use, owning a Smartphone, and specific types of usage (e.g., social networking, gaming, texting, watching videos, and listening to music), may contribute to increased Smartphone addiction among secondary school students.

DISCUSSION

The present study conducted a descriptive cross-sectional investigation among secondary school students in Bangladesh to evaluate Smartphone addiction. Demographic characteristics of the participants revealed a mean age that represents the average age of a secondary school student in the Bangladeshi context (Prodhan, n.d.). In terms of religion, the current study reflects the current situation in Bangladesh (*Bangladesh Demographics Profile, 2018*) such as Muslim majority among the participants. Notably, the participants' average monthly family income exceeded the national average (*Bangladesh Average Monthly Income, 2017*), indicating a relatively affluent sample. Most participants resided with their parents

differing from a similar study finding in India where a significant portion lived in hostels (Nowreen & Ahad, 2018).

Like a prior study (Tamura et al., 2017), a majority of the participants possessed their own smartphone in this investigation. Furthermore, the mean total duration of smartphone uses per day in our study resembling findings from Switzerland (Yam & Kumcağız, 2023). This is indicative of pupils of this age group (15-16 years) from both developed and developing countries spending almost similar time in using smartphones in a day. The predominant functions used by the current study participants included social networking followed by gaming, phone calls, listening to music, and text messaging. Similarly, a study in Turkey identified social media, phone calls, gaming, and messaging as frequently used functions by respondents (Zencirci et al., 2018).

The association between socio-demographic characteristics and smartphone addiction emerged prominently in this study, mirroring findings from previous research (Zencirci et al., 2018; Cha & Seo, 2018; Munasinghe, 2016; Sarhan, 2024; Yam & Kumcağız, 2023). Notably, a significant positive correlation was observed between monthly family income and Smartphone addiction, corroborating findings by a study of Sri Lanka (Munasinghe, 2016). Despite the context of Bangladesh having an average monthly family income of 13258.00 (*Bangladesh Average Monthly Income*, 2017), the participants in our study exhibited a higher income level, which corresponded to a higher addiction level. This trend suggests that higher-income families may provide their children with smartphones more readily, potentially leading to increased addiction. Additionally, the relationship between living status and smartphone addiction mirrored findings from a group of researcher (Zencirci et al., 2018). Participants living away from their families exhibited higher addiction levels compared to those residing with their parents, possibly due to increased access to smartphones and prolonged usage. These consistent findings underscore the importance of considering socio-economic factors in understanding smartphone addiction among secondary school students.

In addition, the current investigation revealed a noteworthy positive correlation between the duration of smartphone use per day and smartphone addiction. This finding aligns with a study in Switzerland (Yam & Kumcağız, 2023), indicating that individuals who spend more time with their smartphones are more prone to addiction compared to those with lesser usage. Similarly, this study identified a significant positive association between the number of smartphone users in the family and smartphone addiction, suggesting that participants from families with more smartphone users exhibit higher addiction levels. This may be attributed to increased exposure to smartphones in such households. Contrary to a study in Palestine (Sarhan, 2024), present research found a significant positive relationship between the duration of smartphone use and addiction, indicating that prolonged smartphone usage contributes to addiction. Furthermore, significant relationships were observed between smartphone addiction and individual smartphone ownership, as well as using the father's and mother's smartphones. In our country's context, mothers, whether housewives or working mothers, may have limited time to monitor their children's smartphone usage, potentially contributing to addiction. Additionally, the study found significant associations between addiction and frequent engagement in social networking, gaming, text messaging, watching videos, and listening to music. These findings corroborate with some previous studies that highlighting similar factors influencing smartphone addiction among students (Zencirci et al., 2018; Cha & Seo, 2018; Yam & Kumcağız, 2023).

The study underscores the intricate interplay between socio-demographic factors, Smartphone usage behaviors, and addiction among secondary school students. Considering the significant positive correlation between monthly family income and smartphone addiction, it is crucial for parents and guardians to monitor and regulate their children's smartphone usage,

particularly in affluent households where smartphone access may be more readily available. This highlights the need for parental guidance in mitigating smartphone addiction risks. Moreover, the observed relationship between living status and smartphone addiction underscores the importance of creating supportive home environments where parental supervision can be enhanced. Parents should actively engage in conversations with their children about responsible smartphone usage and set clear boundaries to prevent excessive screen time.

Additionally, interventions targeting the duration of smartphone use per day and the number of smartphone users in the family should be implemented to mitigate addiction risks. Educating students about healthy screen time habits and promoting alternative activities that foster social interaction and physical activity can help reduce excessive smartphone usage. Furthermore, given the significant associations between smartphone addiction and frequent engagement in social networking, gaming, text messaging, watching videos, and listening to music, school-based interventions and community programs should raise awareness about the potential risks of overreliance on smartphones for entertainment and communication purposes. By implementing comprehensive strategies that involve parents, schools, and communities, stakeholders can effectively address smartphone addiction and promote healthier digital habits among adolescents.

CONCLUSION

The present study offers valuable insights into the complex dynamics of smartphone addiction among secondary school students in Bangladesh. Our findings illuminate the intricate interplay between socio-demographic factors, smartphone usage behaviors, and addiction tendencies in this population. Mirroring previous research, we observed a significant positive correlation between monthly family income and smartphone addiction, indicating the need for parental monitoring and regulation, particularly in affluent households where smartphone access is more prevalent. The relationship between living status and addiction underscores the importance of fostering supportive home environments conducive to parental supervision. Interventions targeting daily smartphone usage duration and family smartphone user numbers are recommended to mitigate addiction risks. Educating students about healthy screen time habits and promoting alternative activities can reduce excessive smartphone usage. Furthermore, interventions should address the association between addiction and frequent engagement in social networking, gaming, text messaging, video watching, and music listening. By implementing comprehensive strategies involving parents, schools, and communities, stakeholders can effectively combat smartphone addiction and cultivate healthier digital habits among adolescents. These efforts are crucial in safeguarding the well-being of youth in the digital age.

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CONFLICTS OF INTEREST

None

REFERENCES

- Akbulut Zencirci, S., Aygar, H., Göktaş, S., Önsüz, M. F., Alaiye, M., & Metintaş, S. (2018). Evaluation of smartphone addiction and related factors among university students. *International Journal of Research in Medical Sciences*, 6(7), 2210. <https://doi.org/10.18203/2320-6012.ijrms20182805>.
- Anderson, Monica ;Jiang, J. (n.d.). *Teens, Social Media & Technology 2018 | Pew Research Center*. 2018. Retrieved June 25, 2026, from <https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/>.
- Bangladesh Average Monthly Income*. (n.d.). Retrieved June 25, 2026, from <https://tradingeconomics.com/bangladesh/wages>.
- Bangladesh Demographics Profile*. (n.d.). Retrieved June 25, 2026, from https://www.indexmundi.com/bangladesh/demographics_profile.html.
- Bian, M., & Leung, L. (2015). Linking Loneliness, Shyness, Smartphone Addiction Symptoms, and Patterns of Smartphone Use to Social Capital. *Social Science Computer Review*, 33(1), 61–79. <https://doi.org/10.1177/0894439314528779>;WEBSITE:WEBSITE:SAGE;WGROU:STRING:PUBLICATION.
- Cha, S. S., & Seo, B. K. (2018). Smartphone use and smartphone addiction in middle school students in Korea: Prevalence, social networking service, and game use. *Health Psychology Open*, 5(1). <https://doi.org/10.1177/2055102918755046>.
- Common Sense Media. (n.d.). *New Report Finds Teens Feel Addicted to Their Phones, Causing Tension at Home | Common Sense Media*. 2016. Retrieved June 25, 2026, from <https://www.commonsensemedia.org/press-releases/new-report-finds-teens-feel-addicted-to-their-phones-causing-tension-at-home>.
- Ikeda, K., & Nakamura, K. (2013). Association between mobile phone use and depressed mood in Japanese adolescents: a cross-sectional study. *Environmental Health and Preventive Medicine* 2013 19:3, 19(3), 187–193. <https://doi.org/10.1007/S12199-013-0373-3>.
- International Telecommunication Union. (2017). *Measuring the Information Society volume 1*. https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2017/MISR2017_Volume1.pdf.
- Kahyaoglu, H., & Sut. (2016). *Effects Of Smartphone Addiction Level On Social And Educational Life In Health Sciences Students*.
- Kwon, M., Kim, D. J., Cho, H., & Yang, S. (2013). The Smartphone Addiction Scale: Development and Validation of a Short Version for Adolescents. *PLOS ONE*, 8(12), e83558. <https://doi.org/10.1371/JOURNAL.PONE.0083558>.
- Kwon, Y. S., & Paek, K. S. (2016). The Influence of Smartphone Addiction on Depression and Communication Competence among College Students. *Indian Journal of Science and Technology*, 9(41), 1–8. <https://doi.org/10.17485/IJST/2016/V9I41/103844>.
- Lopez-Fernandez, O., Kuss, D. J., Romo, L., Morvan, Y., Kern, L., Graziani, P., Rousseau, A., Rumpf, H. J., Bischof, A., Gässler, A. K., Schimmenti, A., Passanisi, A., Männikkö, N., Kääriäinen, M., Demetrovics, Z., Király, O., Chóliz, M., Zacarés, J. J., Serra, E., ... Billieux, J. (2017). Self-reported dependence on mobile phones in young adults: A European cross-cultural empirical survey. *Journal of Behavioral Addictions*, 6(2), 168–177. <https://doi.org/10.1556/2006.6.2017.020>.
- Munasinghe, P. G. (2016). Factors Influencing the Smartphone Addiction Among Students of the North Central Province in Sri Lanka. *SSRN Electronic Journal*. <https://doi.org/10.2139/SSRN.2794735>.

- Nowreen, N., & Ahad, F. (2018). Effect of smartphone usage on quality of sleep in medical students. *National Journal of Physiology, Pharmacy and Pharmacology*, 8(9), 1366. <https://doi.org/10.5455/njppp.2018.8.0620009062018>.
- Prodhan, M. (n.d.). *Bangladesh Education System Analysis | PDF | Schools | Teachers*. Retrieved June 25, 2026, from <https://www.scribd.com/document/488528104/Prodhan-The-Educational-System-in-Bangladesh-and-Scope-for-Improvement-pdf>.
- Rabiu, H., Muhammed, A. I., Umaru, Y., & Ahmed, H. T. (2016). Impact Of Mobile Phone Usage On Academic Performance Among Secondary School Students In Taraba State, Nigeria. *European Scientific Journal, ESJ*, 12(1), 466–466. <https://doi.org/10.19044/ESJ.2016.V12N1P466>.
- Rai, S., Saroshe, S., Khatri, A. K., Sirohi, S., & Dixit, S. (2016). A cross sectional study to assess the effects of excessive use of smartphones among professional college going students. *International Journal Of Community Medicine And Public Health*, 3(3), 758–763. <https://doi.org/10.18203/2394-6040.IJCMPh20160647>.
- Sarhan, A. (2024). Prevalence and Associated Factors of Smartphone Addiction Among Medical and Health Sciences University Students: A Cross-Sectional Study. *Palestinian Medical and Pharmaceutical Journal*, 9(1). <https://doi.org/10.59049/2790-0231.1097>.
- Shilpa Bisen, & Dr. Yogesh Deshpande. (2016). An Analytical Study of Smartphone Addiction among Engineering Students: A Gender Differences. *International Journal of Indian Psychology*, 4(1). <https://doi.org/10.25215/0401.128>.
- Soni, R., Upadhyay, R., & Jain, M. (2017). Prevalence of smart phone addiction, sleep quality and associated behaviour problems in adolescents. *International Journal of Research in Medical Sciences*, 5(2), 515–519. <https://doi.org/10.18203/2320-6012.IJRMS20170142>.
- Tamura, H., Nishida, T., Tsuji, A., & Sakakibara, H. (2017). Association between Excessive Use of Mobile Phone and Insomnia and Depression among Japanese Adolescents. *International Journal of Environmental Research and Public Health* 2017, Vol. 14, Page 701, 14(7), 701. <https://doi.org/10.3390/IJERPH14070701>.
- The Daily Star. (n.d.). Active internet connections 9cr | The Daily Star. 2018. Retrieved June 25, 2026, from <https://www.thedailystar.net/business/internet-users-bangladesh-over-9-core-active-1636477>.
- Thomée, S., Härenstam, A., & Hagberg, M. (2011). Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults--a prospective cohort study. *BMC Public Health*, 11. <https://doi.org/10.1186/1471-2458-11-66>.
- Vasudev, A., Vasudev, A., Kaur, M., Kumar, H., & Chaturvedi, R. (2012). Mobile Phone Usage and Awareness of Health Related Issues Among the Male Science Students. *Studies in Sociology of Science*, 3(3), 62–67. <https://doi.org/10.3968/j.sss.1923018420120303.1997>.
- Yam, F. C., & Kumcağız, H. (2023). Investigation Psychological Factors Effecting the Phubbing Behavior of Young Adults with Different Structural Equation Models. *MANAS Journal of Social Studies*, 12(3), 1087–1105. <https://doi.org/10.33206/MJSS.1231104>.