

Prevalence of Smartphone Addiction Among Adolescents in Ahmedabad City

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ABSTRACT

BACKGROUND AND NEED OF STUDY: Smartphones have become a central part of modern life, especially for adolescents, who use them more than tablets or laptops. This widespread use can lead to addiction, as children become overly dependent on their devices. Addiction now extends beyond drugs to include gaming, internet use, and smartphone dependence. The easy access to smartphones and the internet has created a growing behavioural issue, particularly among adolescents.

AIM AND OBJECTIVE: This study aims to find the prevalence of smartphone addiction among adolescents in Ahmedabad.

METHOD: This observational study was carried out at Ahmedabad. The method included administration of SAS-SV through a Google form link which was sent various adolescents groups.

RESULT: The result of the study was calculated using Microsoft Excel 2016. The analysis showed that 67% of the population exhibited signs of smartphone addiction. Gender-based findings revealed that 43% of the addicted individuals were boys, while 57% were girls. This indicates a slightly higher prevalence of smartphone addiction among girls.

CONCLUSION: This study concludes that smartphone addiction is prevalent among adolescents, with the growing role of smartphones in everyday life. Promoting responsible phone use and encouraging healthy habits are essential for preventing and controlling addiction.

Keywords: Adolescents, Smartphone Addiction, Smartphone Addiction Scale – Short Version

INTRODUCTION

In the digital age, smartphones have become an integral part of daily life, offering unparalleled convenience, instant communication, and access to a vast array of information. Their widespread adoption has transformed the way people interact, learn and work, making them indispensable tools in modern society. However, this pervasive presence has also given rise to a

concerning phenomenon: smartphone addiction. This behavioral addiction is characterized by excessive and compulsive smartphone usage, leading to significant disruptions in personal, academic and social spheres ^[1]. The convenience that smartphones offer comes with a hidden cost—an increased risk of dependency that can negatively impact mental health,

cognitive development and overall well-being.^[2]

The prevalence of smartphone addiction is particularly alarming among adolescents, a vulnerable group in the critical stages of psychological and social development. Adolescents are especially susceptible due to their heightened need for social connection, identity formation, and exposure to digital environments^[3]. An investigative organization focused on technology and human wellness, conducted a survey revealing alarming statistics among adolescents. The study, which interviewed 1,017 adolescents aged 13–18 between 2016 and 2018, found that 58% of teenagers felt an urgent need to respond immediately to notifications, 33% preferred online socialization over face-to-face interactions, and 69% expressed a desire to engage more in live, in-person social activities.^[4]

Additionally, 52% of respondents acknowledged that they spent excessive silent time on their phones when in the company of friends. These findings underscore the pervasive influence of smartphones and social media on adolescent behavior, reflecting shifting social norms and potential negative implications for mental and physical health. The data provides critical insights into the evolving expectations surrounding digital communication and its impact on interpersonal relationships and well-being.^[4]

The rapid proliferation of the internet, combined with the seamless distribution of digital content through smartphones, has created an environment where excessive screen time can easily become a habit.^[5]

This addiction often manifests through compulsive behaviors such as constant social media usage, online gaming, and excessive digital interactions, frequently at the expense of physical health, academic performance, and real-world relationships.^[5]

The Smartphone Addiction Scale (SAS), developed by Kwon et al. (2013), is a comprehensive self-report tool designed to assess the degree of smartphone addiction. It consists of 33 items rated on a 6-point

Likert scale and evaluates six major dimensions of problematic smartphone use: daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationships, overuse, and tolerance. Each of these factors captures a distinct aspect of addiction-related behavior. Daily-life disturbance assesses how smartphone use interferes with responsibilities and interpersonal relationships, while positive anticipation reflects the excitement or urge felt before using a smartphone. Withdrawal measures psychological discomfort when the device is unavailable. Cyberspace-oriented relationships explore a preference for online interactions over real-life ones, overuse addresses excessive usage, and tolerance refers to the increasing need for smartphone use to achieve the same level of satisfaction. The SAS has demonstrated high reliability, with a Cronbach's alpha of 0.967. However, its application has shown certain limitations; It has primarily been administered among university students and adults, which limits the generalizability of the findings to other age groups. Therefore, further refinement is needed to enhance its effectiveness across diverse populations and to establish standardized diagnostic thresholds.^[5]

The short-version scale developed from this study is designed to provide a simple, efficient and cost-effective method for evaluating smartphone addiction. Its streamlined structure reduces the time required for assessment without compromising the reliability and validity of the results. Additionally, the established cut-off values can be effectively applied in both clinical settings and practical societal contexts, offering a standardized approach for identifying individuals at risk of smartphone addiction. The authors anticipate that this scale will serve as a valuable tool for screening smartphone addiction in community settings, supporting further research and monitoring the progress of treatment interventions. Its ease of use and adaptability make it a practical choice for both academic studies and real-world

applications in the field of digital health and behavioral assessment.^[5]

Furthermore, the study emphasizes the importance of using reliable diagnostic tools, such as validated smartphone addiction scales with well-defined cut-off values. These tools are essential for accurately identifying addiction levels and supporting prevention. The present study utilized a short-form smartphone addiction scale specifically developed for adolescents, which includes only 10 items to ensure ease of use in large-scale screenings. This abbreviated version was designed to effectively identify adolescents who may be vulnerable to smartphone addiction while maintaining the validity and reliability of longer, more complex tools.^[7] The brevity of the scale allows for quick administration in school and clinical settings, making it a practical tool for early identification and intervention.

One of the key features of this scale is its inclusion of gender-specific cut-off values, which enhances the precision of the screening process by taking into account the behavioral and psychological differences between male and female adolescents in their patterns of smartphone use. Previous studies have reported that females often use smartphones more for social interaction, while males may be more inclined toward gaming and media consumption.^[8] By including gender-based thresholds, the scale allows for more accurate detection of at-risk individuals and minimizes the potential for over- or under-diagnosis.

MATERIALS & METHODS

This observational study, aimed to assess the extent of smartphone addiction in adolescents residing in Ahmedabad City. The study employed a cross-sectional design to collect data at a single point in time, allowing for the evaluation of smartphone addiction prevalence and associated factors among this population. Adolescents aged 13 to 18 years were selected as the study's target demographic, as this age group is particularly vulnerable

to developing digital addictions due to increased social media usage and heavy smartphone engagement during their developmental year.^[6]

To ensure a representative sample, participants were selected using a stratified random sampling technique, which allowed for the inclusion of diverse groups based on age, gender, and educational background. The total sample size was calculated to ensure sufficient statistical power, with an effort to achieve balanced representation across key demographic variables. The primary data collection tool used in this study was the Smartphone Addiction Scale – Short Version (SAS-SV), a validated instrument developed which has been widely used in similar research on smartphone addiction. The SAS-SV consists of 10 items that assess core symptoms of smartphone addiction, including craving, withdrawal, tolerance, and disturbances in daily life. These items are rated on a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree), with higher scores indicating greater levels of addiction.^[5]

The SAS-SV was administered through a Google Form link, which was distributed to various adolescent groups through school networks, peer groups and social media platforms to maximize reach and participation. The survey was anonymous to protect the privacy of participants, and it included an informed consent section that detailed the study's purpose, ethical guidelines and confidentiality measures. Parental consent was obtained for participants under 18 years of age, and adolescents provided assent before participating. The questionnaire included demographic questions such as age, gender, academic status and average daily smartphone usage, followed by the SAS-SV items.

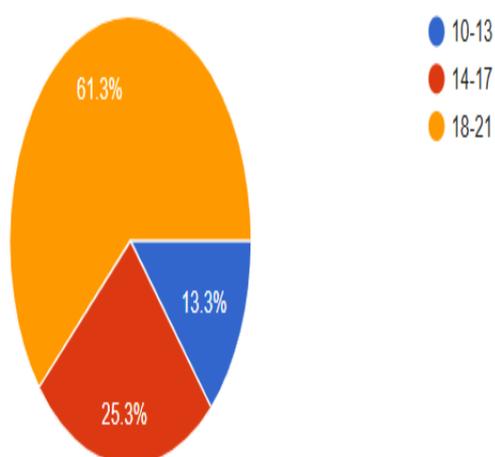
Data analysis was performed using Microsoft Excel for data organization, statistical computation and graphical representation. Descriptive statistics, such as frequencies, percentages, and means, were

calculated to summarize the demographic characteristics of the participants and their responses to the SAS-SV. The prevalence of smartphone addiction was determined using the cut-off scores where scores above a certain threshold on the SAS-SV indicate potential addiction.

Ethical approval for the study was obtained from the Institutional Review Board (IRB) of the associated institution and all data were kept confidential and used solely for research purposes.

STATISTICAL ANALYSIS

The data for this study were analyzed using Microsoft Excel 2016. The results showed that 67% of the people who took part in the study are addicted to smartphones.

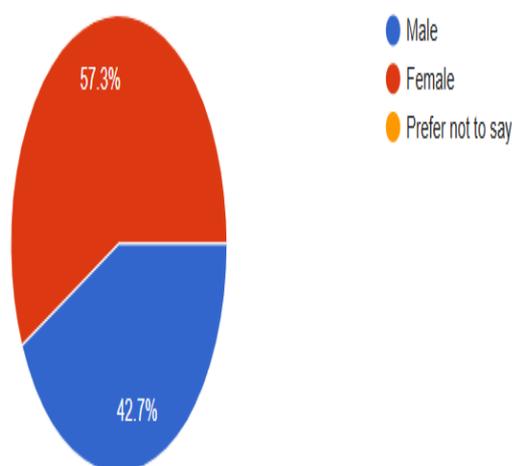


Graph 1: Represents distribution Age wise

RESULT

The results based on gender showed that 57% of girls and 43% of boys exhibited signs of smartphone addiction. This indicates that in this study more girls than boys were affected by smartphone addiction.

These findings showed that smartphone addiction is quite common among the people surveyed. The difference between boys and girls suggests that they might be using smartphones in different ways, or for different reasons, which could affect how likely they are to develop an addiction. More research is needed to understand why this difference exists.



Graph 2: Represents distribution Gender wise

DISCUSSION

Kim et al. highlighted that adolescents are more likely to develop habitual media usage compared to adults, especially when exposed to new forms of media. This is due to their tendency to concentrate intensely on media use and to quickly adopt and replace older media with newer ones. As a result, adolescents are considered to be more vulnerable to smartphone addiction than adults.

These findings underline the need for early preventive strategies targeted at adolescents, particularly those who are at higher risk of developing smartphone addiction.

Identifying these individuals early can help in designing effective interventions to manage and reduce addiction-related behaviors.

The importance of recognizing gender-specific patterns in smartphone addiction among adolescents. Prior research has indicated heterogeneous determinants of smartphone addictive tendencies between boys and girls. For instance, boys tend to be more influenced by factors such as age and social support in developing higher smartphone addiction tendencies, whereas girls are more affected by frequent smartphone access, subjective well-being,

and depression. These differences may reflect deeper psychosocial dynamics, including the higher emphasis girls place on interpersonal relationships and their increased vulnerability to depressive symptoms. This aligns with existing literature showing that girls are more likely to use smartphones for social interaction and emotional fulfillment, making them more susceptible to addiction when their social or emotional needs are unmet. Given the strong connection between unstable attachments, dependence on digital social interactions, and psychological well-being, intervention strategies aimed at reducing smartphone addiction should account for these gender-specific vulnerabilities. In particular, adolescent girls may benefit from targeted mental health support and programs that promote healthy offline social interactions. These insights reinforce the need for differentiated approaches in prevention and treatment strategies for smartphone addiction in urban adolescent populations^[8].

Moreover, the scale is not limited to basic percentage calculations or self-reported behaviors. It incorporates evaluations conducted by clinical psychologists, which adds a layer of professional judgment to the screening process. This approach ensures that the results reflect not only quantitative data but also the individual characteristics and psychological context of each adolescent, thereby increasing the depth and reliability of the assessment.^[5]

In addition to its screening function, the scale also serves as a valuable tool for monitoring treatment outcomes and supporting the implementation of evidence-based interventions. The ability to measure addiction levels over time allows clinicians and researchers to track changes and adjust treatment strategies accordingly.^[9] Compared to conventional tools, this scale provides a more dynamic and adaptable method of assessing smartphone addiction among youth.

Given the growing concern over digital device dependency in younger populations,

tools such as this are essential in both clinical and educational settings. They help stakeholders identify problems early and take targeted steps to mitigate the long-term effects of smartphone addiction.

CONCLUSION

This study concludes that smartphone addiction is significantly prevalent among adolescents in Ahmedabad, reflecting the increasing integration of smartphones into various aspects of their daily lives, including communication, education and entertainment. The findings indicate that many adolescents exhibit problematic usage patterns, characterized by compulsive behavior, loss of control and interference with academic, social and emotional functioning. This trend is concerning, as excessive smartphone use has been linked to several negative outcomes, such as reduced concentration, poor sleep quality, anxiety and social isolation.

The growing reliance on smartphones among adolescents highlights the urgent need for targeted interventions. Promoting responsible smartphone use through awareness programs, parental guidance and school-based education is essential in preventing and managing addiction. Encouraging healthy digital habits—such as setting screen-time limits, engaging in offline activities and fostering face-to-face social interactions—can help adolescents maintain a balanced relationship with technology. Furthermore, collaboration among parents, educators, healthcare providers and policymakers are crucial in developing sustainable strategies to address this behavioral concern.

In light of the findings, it is evident that smartphone addiction among adolescents is not just an individual issue, but a broader social and public health challenge. Proactive measures and preventive strategies must be prioritized to ensure the well-being and healthy development of adolescents in the digital age.

Declaration by Authors

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REFERENCES

1. Kuss DJ, Griffiths MD. Social networking sites and addiction: Ten lessons learned. *International journal of environmental research and public health*. 2017 Mar;14(3):311.
2. Andreassen CS, Torsheim T, Brunborg GS, Pallesen S. Development of a Facebook addiction scale. *Psychological reports*. 2012 Apr;110(2):501-17.
3. Panova T, Lleras A. Avoidance or boredom: Negative mental health outcomes associated with use of Information and Communication Technologies depend on users' motivations. *Computers in Human Behavior*. 2016 May 1; 58:249-58.
4. Viola DM. Negative health review of cell phones and social media. *Journal of mental health and clinical psychology*. 2021;5(1):7-18.
5. Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: development and validation of a short version for

- adolescents. *PloS one*. 2013 Dec 31;8(12): e83558.
6. J Kuss D, D Griffiths M, Karila L, Billieux J. Internet addiction: A systematic review of epidemiological research for the last decade. *Current pharmaceutical design*. 2014 Aug 1;20(25):4026-52.
7. Kim D, Lee Y, Lee J, Nam JK, Chung Y. Development of Korean smartphone addiction proneness scale for youth. *PloS one*. 2014 May 21;9(5): e97920.
8. Chae D, Kim H, Kim YA. Sex differences in the factors influencing Korean college students' addictive tendency toward social networking sites. *International Journal of Mental Health and Addiction*. 2018 Apr; 16:339-50.
9. Cho GY, Kim YH. Factors affecting smartphone addiction among university students. *Journal of the Korea Academia-Industrial cooperation Society*. 2014;15(3): 1632-40.

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