Addiction and Troublesome Cell Phone Use in Different Generations: The Contributions of Smartphone Use and Psychopathological Symptoms in Society

Dr. Siddappa D O

Associate Professor and Head of the Department of Sociology,
Government First Grade College for Women, Chitradurga, Karnataka, India.

Abstract:
Recent advancements in technology have resulted in a notable rise in the utilization of mobile devices. Current studies indicate potential issues stemming from excessive mobile use, such as addiction, financial difficulties, risky behaviors (e.g., using phones while driving), and unauthorized usage (e.g., in restricted areas). This research aims to build upon earlier findings concerning the predictive capabilities of psychopathological symptoms (including depression, anxiety, and stress), mobile phone usage (such as calls, text messages, time spent on the device, and participation in specific smartphone activities) across Generations X and Y, focusing on problematic mobile phone use among a sample of 273 adults. The results showed that prohibited use and dependency were influenced by the number of calls made per day, total time spent on the phone, and social media usage. Notably, stress was a significant factor only in relation to dependent mobile phone use, not prohibited use. Additionally, social media usage and anxiety were strong predictors of belonging to Generation Y, while the frequency of calls per day was indicative of belonging to Generation X. This suggests that Generation Y tends to favor asynchronous communication via social media, whereas Generation X is more inclined towards synchronous communication. These findings highlight the need for preventive measures and awareness initiatives regarding potentially problematic mobile phone use, targeting educators, parents, and individuals, especially concerning issues of dependency and unauthorized use.

Keywords: Social problems, Mobile addiction, Negative effects, Positive effects, Communication, Modern society.

1. INTRODUCTION:

Indeed, mobile addiction represents a major contemporary social issue, as excessive use of smartphones leads to mental health challenges such as anxiety and depression, disrupts genuine relationships and social interactions, and adversely affects work, education, and sleep. Fueled by the omnipresence of smartphones, which serve as mini-computers for communication and entertainment, this "silent epidemic" impacts individuals across all age groups, but is especially prevalent and hazardous for younger individuals due to their less developed self-control abilities. How Mobile Addiction Manifests Socially. Problematic smartphone use refers to a psychological or behavioral dependence on mobile devices. It is closely linked to other types of digital media overuse, including social media addiction and internet addiction disorder. Commonly referred to as "smartphone addiction," the phrase "problematic smartphone use" was introduced by researchers to characterize similar behaviors that occur without clear signs of addiction.

The pervasive integration of mobile technology into daily routines has given rise to a spectrum of usage patterns. Problematic mobile communication manifests in several key ways. One significant indicator is a mental preoccupation with one's mobile device. This can involve a constant urge to check notifications, respond to messages immediately, or simply engage with applications for extended periods, often at the expense of other activities. Beyond mental fixation, excessive financial or temporal investment in mobile phone usage is another marker. This could translate to substantial sums spent on mobile plans, in-app

purchases, or the latest hardware upgrades, or conversely, allocating an undue amount of waking hours to the device. Furthermore, the inappropriate deployment of mobile phones in socially or physically hazardous contexts presents a clear danger. A prime example is the use of a mobile phone while driving an automobile. This behaviour significantly impairs a driver's reaction time and situational awareness, leading to a heightened risk of accidents and potentially severe consequences. Similarly, using a mobile device during important social interactions, such as a dinner with family or a professional meeting, can be perceived as disrespectful and detrimental to interpersonal connections.

This escalating reliance on mobile devices can precipitate a cascade of adverse effects. Relationships may suffer as face-to-face interactions diminish and digital communication becomes the primary mode of connection, often lacking the nuance and depth of in-person exchanges. For instance, couples might find themselves sitting in silence, each engrossed in their own phone, rather than engaging with each other. The consequences can extend to personal well-being, with prolonged screen time potentially contributing to degraded mental health. Issues such as increased feelings of isolation, comparison with others' online personas, and sleep disturbances are frequently linked to excessive mobile use. Physical health can also be negatively impacted. Postural problems, eye strain, and even repetitive strain injuries are becoming more common among heavy mobile users. Moreover, a notable psychological consequence of problematic mobile use is the development of increased anxiety when separated from one's device. This separation anxiety, often termed "nomophobia," can trigger feelings of unease, panic, or a sense of being disconnected from the world. This heightened state of anxiety can also arise when a mobile phone user experiences a poor or non-existent cellular signal, disrupting their ability to communicate or access online information. The dependence fostered by this behaviour can create a cycle where individuals feel compelled to constantly check their phones for reassurance or to avoid missing out.

Despite these potential downsides, it is crucial to acknowledge the substantial positive contributions of smartphones to modern existence. These devices have undeniably enhanced global communication, breaking down geographical barriers and allowing for instantaneous connection with individuals across continents. They facilitate easier and more frequent contact with friends, family, and colleagues. In terms of productivity, smartphones offer robust tools for task management. Applications ranging from sophisticated calendar and to-do list managers to collaborative project platforms empower individuals and teams to organise their work efficiently. Beyond communication and organisation, smartphones provide an array of indispensable utility functions. Portable navigation systems, for instance, have revolutionised travel, making it simpler than ever to find one's way, discover new places, and avoid getting lost, whether one is driving, walking, or using public transport. The ability to access vast amounts of information, engage in educational pursuits, and enjoy entertainment all from a single handheld device underscores their multifaceted value in contemporary life.

2. NEGATIVE EFFECTS:

Excessive use of mobile phones can lead to adverse effects on both mental and physical health, as well as influence the way users engage socially.

Social

Some people are opting for online communication instead of face-to-face discussions. Clinical psychologist Lisa Merlo notes, "Certain patients pretend to have phone conversations or use applications to avoid eye contact and other social interactions during events. Furthermore, a study carried out in 2011 showed.70% check their phones in the morning within an hour of getting up;

- 56% check their phones before going to bed;
- 48% check their phones over the weekend;
- 51% constantly check their phones during vacation; and
- 44% reported they would feel very anxious and irritable if they did not interact with their phones within a week.

According to Elliot Berkman, a psychology professor at the University of Oregon, the habitual checking of phones is driven by reward learning and the fear of missing out (FOMO). Berkman states, "Habits are a product of reinforcement learning, one of our brain's most ancient and reliable systems," which leads individuals to form habits around behaviors that have previously provided rewards. For many, the experience of using a mobile phone has been pleasurable in the past, as it elicits positive feelings when they

receive and respond to notifications. Berkman further emphasizes that individuals frequently check their smartphones to alleviate the social pressure they impose on themselves to avoid missing out on exciting events. As Berkman notes, "Smartphones can serve as an escape from boredom because they offer a glimpse into numerous worlds beyond the one immediately in front of you, helping us feel connected and engaged in society. When individuals refrain from checking their mobile phones, they struggle to fulfill this "check habit" or mitigate the fear of missing out, resulting in feelings of anxiety and irritability.

Hygiene

A study conducted by the London School of Hygiene and Tropical Medicine at Queen Mary in 2011 revealed that one out of every six cell phones is tainted with fecal matter. Some of these contaminated devices were found to contain harmful bacterial strains, including E. coli, which can lead to symptoms such as fever, vomiting, and diarrhea. Additional research has identified a significant risk of medical personnel transmitting these bacteria, as they often carry their cell phones throughout their shifts, allowing the devices to serve as a breeding *ground for the bacteria.*

Health

In 2011, the International Agency for Research on Cancer indicated that radio frequency radiation (RF) may be a potential human carcinogen, citing limited evidence suggesting an increased risk of glioma tumors. Subsequently, in 2018, the US National Toxicology Program (NTP) released findings from a decade-long, $30 million investigation into the effects of radio frequency radiation on laboratory rodents, which revealed 'clear evidence' of malignant heart tumors (schwannomas) and 'some evidence' of malignant gliomas and adrenal tumors in male rats. In 2019, NTP researchers published an article highlighting that RF scientists discovered 'significant' DNA damage in the frontal cortex and hippocampus of male rat brains, as well as in the blood cells of female mice. Additionally, the Ramazzini Cancer Research Institute conducted a study in 2018 on cell phone radiation and cancer, concluding that "The RI findings on far field exposure to RFR align with and support the NTP study results on near field exposure, as both indicated an increase in the occurrence of brain and heart tumors in RFR-exposed Sprague-Dawley rats. These tumors share the same histotype as those noted in certain epidemiological studies involving cell phone users. These experimental findings provide ample evidence to warrant a re-evaluation of IARC's conclusions regarding the carcinogenic potential of RFR in humans.

Psychological

Concerns have been raised regarding the significant debt incurred by some mobile phone users, as well as the potential for mobile phones to be used for privacy violations and harassment. Specifically, there is a growing Research indicates a link between excessive mobile phone use and depression. Following the rise of smartphones, American psychology professor Jean M. Twenge observed an uptick in depressive symptoms and even suicides among adolescents in 2010. Teenagers who are heavy smartphone users are dedicating so much time to their devices that they neglect face-to-face interactions, which are crucial for mental well-being: "The more time teens spend looking at screens, the more likely they are to report symptoms of depression." Twenge also highlights that three out of four American teens owned an iPhone, and since 2011, rates of teen depression and suicide have surged following the introduction of the iPhone in 2007 and the iPad in 2010. Additionally, teens now allocate the majority of their free time to their phones; eighth-graders who spend 10 or more hours weekly on social media are 56% more likely to experience unhappiness compared to those who spend less time on these platforms. Psychologist Nancy Colier has contended that individuals have lost touch with what genuinely holds significance in their lives, asserting that they have become "disconnected from what truly matters, from what provides us with nourishment and stability as human beings. The addiction to technology has hindered both neurological and relational growth, as mobile technology is being introduced to individuals at a very young age. Colier remarks: "Without open spaces and periods of rest, the nervous system remains perpetually active-it's in a constant state of fight-or-flight. We are perpetually wired and fatigued. Even computers undergo a reboot, yet we fail to do the same.

Neural

Intense discussion surrounds how excessive smartphone use might affect how young minds grow. Questions arise about whether these constant digital habits could be fundamentally altering the brain's structure. Scientific studies offer compelling evidence. Researchers have observed differences. The brain's reward pathways in heavy phone users show distinct structural connections. These differ from individuals who engage with their devices less frequently. This suggests a tangible biological impact.

The brain's reward system is complex. It governs motivation and pleasure. Certain behaviours activate this system, reinforcing them. For instance, receiving a notification or a 'like' on social media triggers a small release of dopamine. This neurotransmitter is key to the reward pathway. This creates a cycle of seeking more such rewards. When this cycle becomes dominant, it can shape neural pathways. Heavy phone users may experience enhanced connectivity in specific areas. These areas are crucial for processing rewards. This could mean their brains become more sensitive to digital stimuli. This heightened sensitivity might come at a cost. It could potentially draw resources away from other cognitive functions. These might include attention, focus, and deep thinking. For example, constant task-switching between apps trains the brain for rapid shifts. It may become less adept at sustained concentration. Studies exploring this phenomenon are beginning to map these changes. They use advanced imaging techniques. These techniques reveal the physical architecture of the brain. They highlight how usage patterns leave a physical imprint.

The significance of these findings is considerable. Early cognitive development is a critical period. The brain is highly adaptable during these years. Habits formed now can have lasting effects. Understanding this potential 'rewiring' is crucial. It informs how we approach digital integration in education and daily life. It also raises important questions about long-term mental well-being. As our reliance on mobile technology grows, so does the need for this research. It helps us comprehend the profound ways digital engagement is shaping us.

Distracted driving

US statistics indicate that more than 8 individuals are killed and 1,161 are injured each day as a result of distracted driving. At any moment during daylight hours in the US, around 660,000 drivers are engaged with cell phones or electronic devices while operating their vehicles. A considerable portion of injuries and accidents caused by distracted driving can be linked, at least in part, to mobile phone usage, and many incidents involving phones go unreported due to drivers' hesitance to acknowledge their phone use while driving. The National Highway Traffic Safety Administration reports that drivers aged 16 to 24 are the most distracted, with women facing a higher risk of fatality in crashes. Approximately 20,000 motor vehicle deaths from 2012 to 2017 were associated with distracted driving.

3. POSITIVE EFFECTS:

Communication

Smartphones have improved interpersonal communication by allowing users to stay in touch continuously through calls, text messages, and video chats. Studies indicate that regular mobile communication enhances social connections, especially in long-distance relationships, where elevated levels of texting and calling correlate with greater relationship satisfaction. Additionally, calls are shown to offer visual cues and a heightened sense of presence, fostering family closeness and emotional well-being despite physical distances.

Productivity

Smartphones enhance productivity by providing built-in tools and third-party applications. These tools encompass calendars, reminders, note-taking applications, and collaborative work platforms. Business users have reported saving time and experiencing greater efficiency through mobile task management. A study indicated that the use of smartphones resulted in a 34% boost in productivity for professionals.

Navigation

Smartphones enable real-time navigation through GPS, enhancing travel efficiency and route planning. Applications like Google Maps and Apple Maps are commonly utilized for directions related to driving,

walking, and public transportation. By 2019, approximately two-thirds of smartphone users in the U.S. indicated that they used a navigation app at least once a month.

Services

Mobile phones provide users with the ability to utilize a variety of services, such as banking, shopping, ridesharing, and food delivery. Mobile banking applications facilitate bill payments, transfers, and account management without the need to go to a physical location. Additionally, digital wallets and QR code systems have played a significant role in the increase of cashless transactions.

4. PSYCHOLOGICAL SYMPTOMS OF PHONE USAGE:

Excessive use of smartphones may lead to symptoms that fall into three main categories: depression, social isolation, and low self-esteem or anxiety.

Depression

Depression is a mental health disorder that negatively affects emotions, creativity, and self-control. Symptoms of depression can pose significant psychological challenges for teenagers; the link between these symptoms and mobile phone addiction is crucial, as it can occasionally result in substance abuse, academic failure, and even suicide.

Isolation

Social isolation refers to the absence of interaction between individuals and the broader society. When communication primarily occurs online, it diminishes face-to-face interactions with others, potentially hindering normal social development and interpersonal relationships. Consequently, this can impact social support, escalate other compulsive behaviors, and further compromise psychological well-being.

Low self-esteem and anxiety

Excessive smartphone use can lead to low self-esteem, diminished self-confidence, and a negative self-image, which are often linked to anxiety stemming from the fear of missing out. Problematic smartphone usage can also impact latent factors related to competence and the quality of life, especially in the context of 'unaware use'—that is, using smartphones alongside other activities or late at night. Research involving teenagers has consistently indicated significant correlations between high extroversion, elevated anxiety levels, low self-esteem, and mobile phone usage. The more addicted a young person is to their mobile phone, the more likely they are to experience high call times, receive numerous calls, and get excessive text messages. Individuals with anxiety are more prone to view ordinary life events as stressful, and efforts to alleviate this stress may lead to even more addictive behaviors. Additionally, females tend to depend more on mobile phones to sustain their social connections.

Narcissism

Another indication of cell phone addiction is the development of narcissistic personality traits. Studies indicate that personality influences excessive cell phone usage. Narcissistic personality disorder often arises from the excessive use of social media, leading individuals to exhibit traits such as inflated self-importance, fantasies of boundless success, a sense of being special and unique, a deficiency in empathy, envy, and arrogance. Nevertheless, research has revealed that certain aspects of these traits can be perceived as beneficial, as they offer a means to boost self-esteem and self-confidence.

5. CONCLUSION

Problematic smartphone use (PSU) is a growing concern. It is closely linked to psychological distress, including symptoms of depression and anxiety. This connection is particularly pronounced in younger individuals. Adolescents and young adults are navigating significant psychosocial development. They also experience constant immersion in digital technology. This combination makes them more susceptible to the negative effects of excessive smartphone engagement. For instance, a teenager might experience heightened social anxiety due to constant social media comparisons. Alternatively, a student might develop depressive symptoms from sleep disruption caused by late-night phone use.

While the term "addiction" is frequently used to describe these behaviours, "problematic smartphone use" is a more precise descriptor. This terminology acknowledges that the behaviour often mirrors the detrimental consequences of addiction. These can include withdrawal-like symptoms, loss of control, and interference with daily life. However, it avoids definitively labelling it as a formal psychiatric disorder, which requires a more rigorous diagnostic framework. The behaviour exhibits addictive patterns without necessarily meeting clinical criteria for addiction. The focus remains on the negative outcomes rather than a formal diagnostic classification.

Addressing this complex issue necessitates a comprehensive, multi-pronged strategy. Effective interventions are crucial. These could range from educational programmes in schools about healthy digital habits to therapeutic support for individuals exhibiting severe PSU. Raising public awareness is also vital. Many people may not recognise the signs of problematic smartphone use in themselves or loved ones. Education campaigns can highlight the risks and promote mindful technology use.

Furthermore, sustained and targeted research is essential. This research should aim to develop specialised strategies. These strategies need to be tailored to the unique needs and vulnerabilities of different age groups. For example, interventions for young children will differ from those for adults. Understanding the long-term mental health impacts is also a priority. This knowledge will help mitigate potential negative consequences across generations. Without proactive measures, the pervasive nature of smartphones could contribute to enduring mental health challenges for future populations.

REFERENCES:

1. Alhassan, A. A., Alqadhib, E. M., Taha, N. W., Alahmari, R. A., Salam, M., & Almutairi, A. F. (2018). The relationship between addiction to smartphone usage and depression among adults: A cross sectional study. BMC Psychiatry, 18(1), 148. https://doi.org/10.1186/s12888-018-1745-4.
2. American Psychiatric Association (APA). (2013). Diagnostic and statistical manual of mental disorders (DSM-5) (5th ed.). American Psychiatric Pub 234 8. Smartphone addiction.
3. Bae, S. M. (2015). The relationships between perceived parenting style, learning motivation, friendship satisfaction, and the addictive use of smartphones with elementary school students of South Korea: Using multivariate latent growth modeling. School Psychology International, 36(5), 513–531.
4. Enez Darcin, Asli, et al. "Smartphone addiction and its relationship with social anxiety and loneliness." *Behaviour & Information Technology* 35.7 (2016): 520-525.
5. Park KA, Kim HS, Lee HJ, Kim OH. The effect of family and personal variable of internet addicted young adults. Korea J Health Psychol 2009;14:41–51.
6. Segal Z, Williams JM, Teasdale J. Mindfulness based cognitive therapy for depression: a new approach to preventing relapse. London: Guilford Press; 2011.
7. Valdez CR, Lambert SF, Ialongo NS. Identifying patterns of early risk for mental health and academic problems in adolescence: a longitudinal study of urban youth. Child Psychiatry Hum 2011;42:521–538.
8. Weinstein A, Lejoyeux M. Internet addiction or excessive internet use. Am J Drug Alcohol Abuse 2010;36:277–283.
9. Young K, Pistner M, O'Mara J, Buchanan J. Cyber disorders: the mental health concern for the new millennium. Cyberpsychol Behav 1999;2:475–479.