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The Study of The Impact of Smartphone Addiction on The Anxiety of Senior Secondary Students

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Abstract

In an era where digital technology plays an increasingly dominant role in the lives of adolescents, this study delves into the psychological ramifications of excessive smartphone usage, shedding light on the intricate relationship between technology addiction and heightened anxiety among this vulnerable demographic. The critical issue of smartphone addiction and its profound influence on the anxiety levels of senior secondary students. This research paper investigates the impact of smartphone addiction on the anxiety levels of senior secondary students, with a focus on the Indian context. The study aims to achieve the following objectives: 1) To determine variations in smartphone addiction and anxiety levels across different senior secondary schools. 2) To analyze the influence of parental involvement and support in mitigating smartphone addiction and anxiety.

3) To examine the relationship between smartphone addiction and anxiety among senior secondary students. The study employs a mixed research approach, combining both qualitative and quantitative methods. A total of 558 respondents participated in the research, utilizing a questionnaire based on a 5-point Likert scale for primary data collection. The analysis includes descriptive statistics, correlation, and ANOVA to examine the research objectives. In conclusion, the study confirms a significant correlation between smartphone addiction and heightened anxiety levels among senior secondary students. These findings underscore the urgency of addressing smartphone addiction through targeted interventions, aiming to foster responsible smartphone usage and safeguard the mental well-being of this demographic. This study contributes to the understanding of the digital age's impact on adolescent mental health and calls for immediate action to mitigate the adverse effects of excessive smartphone use.

Keywords: Smartphone addiction; Anxiety; Psychological well-being; Academic Performance; Mental health; Stress.

1. Introduction

A smartphone is defined as “a mobile phone that performs many of the functions of a computer, typically having a touch screen interface, internet access, and an operating system capable of running downloaded applications.” Due to these capabilities,

smartphones are now widely used and owned by people (Matar, & Jaalouk, 2017).

Smartphones have become the most versatile gadgets thanks to technological advancements, allowing users to access the Internet and a vast array of apps for social networking, gaming, and texting. Nowadays, cell phones are a necessary component of daily life to the point where they drastically alter people's lives. Additionally, societies are changing because of the potential for "over 2 billion smartphone users by the end of 2016" (Statista, 2016). Some studies have shifted their attention away from "Internet addiction and problematic mobile phone use to smartphone addiction" due to the capability of smartphones and the extent of their use. One study found that 86% of US undergraduates possessed a smartphone in 2014, up from 76% in 2013. Another study found that 15% of American young adults between the ages of 18 and 29 have grown significantly dependent on cell phones for online access (Dahlstrom, & Bichsel, 2014). In 2015, 52% of people in Lebanon owned a smartphone. Researchers developed validated measures to detect smartphone addiction because of the findings and the potential detrimental effects of smartphone use (Hawi, & Samaha, 2017).

The daily tasks of individuals are made easier by technological gadgets created with new technologies. Today's most popular tools are smartphones. Smartphones, which operate similarly to computers, are used for a wide range of activities in many facets of everyday life, including "connecting to the internet, accessing social media, listening to music, playing games, shopping, taking pictures, and navigating." Data from 2021 indicates that "there are 6.37 billion smartphone users worldwide," and 7.51 billion smartphone users are expected by the year 2026. This illustrates the extent of smartphone use. The younger age group, whose adoption of new technology is relatively quick, is known to use cell phones more frequently. Because it encourages sociability, it has evolved into a vital communication tool for college and high school students. One might even say that using a smartphone is a defining trait of today's youth. Even though many smartphone capabilities can enhance human life, excessive and unchecked use might result in various social, physical, and psychological issues (Akyol Güner, & Demir., 2022).

The culture's pervasive use of cell phones has led to the rise of addiction and excessive use as major worldwide issues. There have been conflicting findings from several studies that examined "the relationship between cell phone use and academic achievement." In order to
investigate the connections between problematic smartphone use and academic accomplishment, the majority of this research employed students' self-reported course grades. Because course grades don't necessarily reflect learning outcomes, this study focuses on student learning. As a result, one of the objectives of this "meta-analysis is to determine whether student learning is impacted by smartphone use in the classroom." "Utilizing cell phones to transmit health messages, modify lifestyle patterns, and monitor patient health data has improved patient care and health promotion initiatives" (Sunday, et al., 2021).

Although technology has been around for a very long time, it began to grow quickly in the twenty-first century. Therefore, the changes we can currently witness in the world are still the finest ones. Technology is changing and developing in ways that not only enhance our ability to communicate but also make life far simpler than anyone could have ever imagined. Today, it is impossible to imagine a world without cell phones. Nearly everyone in India appears to possess one. From a top dealer to a rickshaw puller, this mobile can be spotted. Today's mobile devices are used for more than simply communication; they also give users access to a variety of content, including news, sports, instructional material, weather updates, music videos, and much more. In today's higher education, technological tools such as laptops, desktops, mobile devices, tablets, notes, etc. are highly helpful. We all know how frequently students use their mobile devices, and they also utilize them to research topics. Because it costs less than other technical equipment and is portable, it is generally readily available to everyone. Studies have shown that students' grades suffer, and their academic performance suffer because of the widespread usage of social networking, texting, and chatting on mobile devices. Younger generations tend to value and depend more on mobile phones than older generations do, even though individuals of all ages find them convenient and useful. Research has shown that some students keep their phones on while in class and when studying, even in the library, disrupting other students (Rani, et al., 2023).

Since the introduction of the first mobile phone in 1983, the smartphone has evolved. Digital technology was integrated with smartphone technology between 1993 and 2003, resulting in a variety of functionalities. The smartphone might offer a variety of features like a camera, games, and numerous applications when it can connect to the internet. The price of smartphones has been dropping significantly, which is very crucial. These factors contributed to the recent rise in popularity of smartphones. People can use their smartphones to connect online with their pals, making it easier for them to interact, as well as for their jobs and personal amusement. The fact
that so many people spend so much time on their smartphones playing games, communicating with friends, browsing the internet, listening to music, and watching movies has both positive and negative effects on people's lives. They continue engaging in these activities day by day until they become dependent on their smartphones. It was claimed that smartphone addiction had a detrimental effect on eating, sleeping, and exercising, as well as resulted in health issues. Additionally, smartphone addiction may result in mental illness. Numerous research studies have established the harmful effects of smartphones on persons with addictions. (Sinsomsack, & Kulachai, 2018).

The smartphone has taken off and exceeded men's expectations of machines. Smartphones have done everything, from making voice or video calls to people on the other side of the globe to creating interactive interfaces. However, an appropriate introspective perspective is also necessary to analyze the impending hegemony of smartphone usage in

everyday life. A smartphone is becoming a necessary component of daily life. In the eyes of the masses, it has suddenly turned into a need. By pressing a button, we can access many items that are unavailable to us. Over 2.6 billion individuals use smartphones worldwide now. Users are no longer restricted to using landlines and desktop computers for communication and research, as well as traditional methods of gaming, photography, and navigation, thanks to these little computers in our pockets. It is undeniable that there are many flaws and serious implications in the daily use of smartphones, despite the countless benefits they bring to our lives. Addiction is brought on by excessive smartphone use, which then amplifies and affects other aspects of adolescent life (Arefin, et al., 2018).

The smartphone has emerged as one of the key tools for streamlining daily life and activities. In Bangladesh, smartphone usage has grown in recent years, there are already 8.20 million more smartphone users than there were in 2015, and by 2021, that number will have more than doubled. More than 6.00 million new users join the existing smartphone user base each year. Among the age groups that communication technologies most frequently target are school and university students. They are also the group most interested in owning cell phones, which they frequently use for thinking and passing time. “Students are now far more likely to own smartphones as a result of the competition between smartphone manufacturers to provide low-cost smart devices.” The benefits of cell phones include the facilitation and enhancement of communication and information sharing among researchers and students as well as the sharing of priceless experiences between nations through the different applications they feature. However, recently, negative consequences of smartphone addiction have also surfaced, and these have not gotten enough study attention. The prevalence of smartphone addiction is anticipated to rise, and with it, more detrimental repercussions. The goal of our current student research project is to examine how smartphone addiction affects students' behavior, academic achievement, health, psychology, and social life (Aljomaa, et al., 2016).

The modern mobile phone device known as a “smartphone” was created to address common accessibility issues. Given its ability to carry out both fundamental and sophisticated computer tasks, smartphones have grown to be a very popular item. Mobile audio and video calls, mobile teleconferencing, email sending and receiving, as well as quick access to information and entertainment are all made possible by the usage of smartphones by a variety of users, including students. It provides many different opportunities for amusement and social interaction. In turn, this influences people's education, moral principles, and mental and physical health. People, particularly students, become addicted to it as a result. However, cell phones have also made life easier for students because they can access school information on the device through “electronic learning (e-learning), and mobile learning (learning), as well as learn or obtain any kind of knowledge on them.” “Smartphones have a lot of positive effects on pupils, but they also have a lot of drawbacks that cannot be ignored.” The usage of smartphones, which make,

create, or affect their actions, has become a central aspect of student life because of technological innovation. “In terms of their coursework or social networking, students typically concentrate more or rely more on their smartphones” (Mukhdoomi, et al., 2020).

Our lives are now impossible without our smartphones. Over 2.4 billion smartphones are now being used worldwide, with the number of users growing yearly. When it comes to smartphone usage, Korea is one of the most active nations in the world. The record for the greatest rate of smartphone usage is specifically held by Korea. There are growing worries about smartphone addiction and usage. We've covered several crucial topics connected to the idea of smartphone addiction, but it's still unclear how the condition should be evaluated and what diagnostic criteria should be applied to establish whether someone is. It has been noticed that there are some similarities to other types of addiction, including withdrawal symptoms, an obsession with the sought substance or item (in this case, the smartphone), and detrimental impacts on daily life. So, it's possible to classify smartphone addiction as a type of technology addiction. Mobile telecommunication systems have expanded tremendously, and mobile phones have become a need in practically every age group and a huge element of popular culture. It has practically changed “society's accessibility, security, safety, and coordination of economic and social activities.” It has also influenced global culture (Kim, & Koh, 2018).

In the age of mobile technology, cell phone addiction is a brand-new form of Internet addiction. It alludes to a behavioral addiction in which users have psychological and behavioral issues because of abusing mobile devices. Depression is a typical negative emotional state that harms a person's mental health and, in extreme situations, may make them more likely to commit suicide. Researchers are paying increasingly greater attention to the link between mobile phone addiction and depression because of the growth of mobile Internet. Retrospective research has also shown that mobile phone addiction can cause melancholy, anxiety, and sleep issues. Teenagers who use social media on their phones for longer periods of time tend to score higher on depression scales on average. Numerous studies have revealed the close relationship between addiction and depression, as well as the fact that addiction both raises the risk of depression and serves as a key indicator of depression. Internet addiction is thus a major risk factor for the emergence of depression. Researchers have discovered that, in recent years, with the rapid development of mobile Internet, cell phone addiction—another prominent behavioral addiction following Internet addiction—is also strongly positively connected with depression (Wu, et al., 2022).

2. Literature Review

Achangwa, C., et al., (2022) analyzed that Smartphone use “among young people around the world” has increased exponentially, and South Korean university students now cannot live without smartphones. Numerous studies have linked addiction to cell phones or problematic smartphone use with a range of negative outcomes. The objective of the study

was to compile empirical data and give a comprehensive synthesis of the literature regarding the harmful impacts of "smartphone addiction on university students in South Korea." "The relationship between smartphone addiction and the psychological and mental health of Korean university students" was examined in eight studies. "Smartphone addiction" was linked to physical health issues, including sleep abnormalities, musculoskeletal issues, and neurological issues. Additionally, smartphone addiction was negatively correlated with poor academic achievement, "procrastination, impulsivity, self- esteem, diminished social contact, solitude, and suicide." The study contributed to the body of knowledge about the harmful impact of "smartphone addiction on university students in Korea" and offered more details for efforts aimed at preventing addiction and promoting good health.

Cheng, Y. C., et al., (2021) examined the connection between smartphone addiction in senior high school students and parental involvement, loneliness, and self-efficacy. According to the findings, smartphone addiction and loneliness were both negatively correlated with parent-child relationships, which served as a mediator between the two. Additionally, self-efficacy was proven to reduce the degree of loneliness brought on by smartphone addiction. Particularly, when parent- child ties improve, loneliness is reduced, and smartphone addiction follows. A further was that increasing self-efficacy could lessen the severity of addiction. The study presented implications based on these findings to parents, educational institutions, and other decision-makers in the education sector. Additional recommendations for future research as well as preventative strategies against smartphone addiction were provided.

Volungis, A. M., et al., (2020) observed the connections between personality factors, social- emotional discomfort (such as anxiety, depression, sleep quality, and loneliness), and smartphone addiction in 150 undergraduate college students. More social-emotional suffering was indicated by students who were addicted to smartphones. "The predictive nature of smartphone addiction on social-emotional" discomfort categories were further supported by logistic analysis. Personality was not influencing the link "between social-emotional suffering and smartphone addiction." However, "neuroticism was positively correlated with smartphone addiction, whereas extraversion, openness, agreeableness, and conscientiousness" were all negatively correlated. The findings can help with assessments and treatments meant to lessen smartphone use and enhance college students' mental health. Considering the recent development in research on smartphone use's effects on psychological well-being, research implications were also offered.

Ting, C. H., & Chen, Y. Y. (2020) analyzed that most teenagers between the ages of 12 and 19 have a smartphone, which provides quick access to the internet and social media, facilitating message transmissions or communication, as well as a variety of entertainment options like games, multimedia players, photo albums, and electronic books, as well as necessary tools like a camera. Due to the convenience and variety of capabilities offered by

cell phones, users often get overly dependent on and concerned with them. Teenagers were twice as likely as adults to use smartphones excessively or problematically. To create guidelines for the management of problematic smartphone use, there must be more agreement among academics. The predominant strategy continued to be psychosocial therapies. To obtain the best results, "a thorough management plan should be customized to the individual's risk factors and needs, considering the outside assistance provided by parents (family), schools, and possibly even cutting-edge ICT."

Yu, S., & Sussman, S. (2020) concluded that smartphones' high levels of use and accessibility, and frequent and pervasive smartphone use have developed into a societal norm, putting users at risk for a variety of health issues as well as other dangers. Whether smartphone addiction was a legitimate behavioral addiction that was separate from other addictions of a similar kind, such as Internet and game addiction, is a matter of discussion. The objective of the review was to compile and integrate recent findings on measures of "smartphone addiction (SA) and problematic smartphone use (PSU)" to better understand (a) whether "they differ from other addictions that merely use smartphones as a medium," and (b) where "the disorder(s) may fall on a continuum of addictive behaviors that at some point was be considered an addiction." The present review comprised a total of 108 publications. Most of the research failed to differentiate SA from other technology addictions or to specify whether SA was an addiction to actual smartphones or to the functions they provide. Additionally, few studies explicitly based their research on a theory that would explain the etiology, causal mechanisms, or correlations of SA. Regarding SA as a new behavioral addiction, suggestions were offered about how to deal with it.

Wang, J. L., et al., (2020) stated that Teenagers' addiction to smartphones was more and more of a concern. The study whether "psychological discomfort (general anxiety and depression)" mediated the relationship between teen smartphone dependence and academic stress. The study investigated the possibility that academic resilience could act as a moderator in "the relationship between academic stress and psychological suffering." The findings demonstrated a favorable "relationship between academic stress and psychological anguish, which may further contribute to severe smartphone dependence." Academic stress and smartphone reliance were related in part to psychological suffering. Academic resilience reduced the impact of psychological discomfort in moderating the relationship between smartphone dependency and academic stress. "Academic resilience" reduces the psychological distress-mediated indirect link "between academic stress and smartphone dependency." The study found that "adolescents may use smartphones excessively" as a strategy to cope with academic stress and that "academic stress was a risk factor for smartphone dependence." By modulating "the relationship between stress and psychological
distress, academic resilience" may lessen its detrimental impact on "psychological distress and lower the chance of smartphone dependence."

Mahapatra, S. (2019) analyzed the several obvious behavioral changes in an addict's life, some of which have not yet received the proper research attention. The study addressed the causes of smartphone addiction and the conflicts that it caused. The conclusions were based on information gathered from young people, who were prime targets for smartphone advertising and at risk for addiction. According to the research, "loneliness and self-regulation" were the main causes of smartphone addiction, and family strife, interpersonal strife, and subpar academic performance are the main negative effects of its excessive use. The studies raised awareness about the problem of teen smartphone addiction and provided information for designing effective solutions. The study's findings were used by "planners, regulators, and administrative bodies to create policies that encourage healthy coping mechanisms to stop adolescent smartphone addiction."

Durak, H. Y. (2019) viewed that on smartphones most people occupy a lot of time. Intense smartphone use causes bodily symptoms, positive and negative emotions, pathological addiction, depression, signs of fear and anxiety, low academic success, and low productivity. The efforts to reduce the extensive and irrational use of smartphones must be given top priority. The study sought to assess the degrees of "smartphone addiction" and nomophobia among secondary and high school students in the 12- to 18-year-old age range and investigate the demographic and academic factors influencing these levels. According to the study, there was a strong link "between smartphone addiction and nomophobia."

Cocoradă, E., et al., (2018) found that smartphones have become commonplace, and research has linked their use to addiction and the personal traits of their users. The brief form of "the Smartphone Addiction Scale" was the subject of our initial investigation. Additionally, the study sought to examine the connections between "smartphone addiction and the usage of various smartphone applications." The results demonstrated that "the Smartphone Addiction Scale" possesses good psychometric properties. "The relationship between personality features and the likelihood of addiction" was mediated by the amount of time spent on "a smartphone, its general use, positive sentiments toward it, and the anxiety without technology." Negative risk factors for "smartphone addiction" involve neuroticism, openness, and conscientiousness. The results of the study supported several earlier investigations, although being conducted in a different cultural
setting. Technology's value cannot be disputed, but to curb smartphone addiction among young people were lower educational levels, it thinks it's important to focus more attention on them.

Hawi, N. S., & Samaha, M. (2017) examined that the order to fully understand the harm caused by smartphones, it was necessary to examine how pervasive they become in people's lives. Due to the dearth of such studies, it became interested in investigating the connections between "smartphone addiction, anxiety, and family dynamics." The study revealed that undergraduate students who were smartphone addicts had higher odds of having high anxiety compared to non- addicts, and those with high anxiety had higher odds

of having clinically significant problems with family relationships. However, route analysis demonstrated that anxiety mediated a favorable link "between smartphone addiction and bad family interactions."

3. Research Methodology

Research Methodology is a technique for analytically addressing research issues. It might be thought of as the study of scientific research methodology. The study examined the many procedures a researcher often uses to explore the study and the reasoning following them. The nature of the research might be described as descriptive and exploratory. To complete the goals of the study, a mixed research approach "both qualitative and quantitative" was utilized. The study utilized "primary and secondary data collection methods" in conjunction to determine the "impact of smartphone addiction on the anxiety of senior secondary students." However, it would take 558 respondents to complete the questionnaire. The questionnaire was used to collect primary data for the study, which is constructed according to "the 5-point Likert scale," is used as the main approach for the data gathering process. On the Likert scale with five points, one point is awarded for severely disagreeing, two points are awarded for disagreeing, three points are awarded for neutral (neither agreeing nor disapproving), four points are awarded for agreeing, and five points are awarded for strongly agreeing. The study takes place in India. Senior secondary students were the study's target population. They were chosen with the help of random sampling method while the secondary data was chosen as non-random sampling method. In addition, the author read other pieces of literature, such as books, articles, and periodicals, in order to gather secondary data. After then, the data were evaluated using a wide variety of tools and procedures. Excel, which is made by Microsoft, and SPSS, which is made by IBM, is the statistical program that is used to examine the information. The statistical methods that are utilized at this point include the mean, the standard deviation, correlation, and ANOVA. The conclusions that may be drawn from these findings are presented in the following text and then addressed.

4. Research Objectives

- To determine if there are variations in smartphone addiction and anxiety levels across different senior secondary schools.
- To analyze the influence of parental involvement and support in mitigating smartphone addiction and anxiety.
- To Examine the Relationship Between Smartphone Addiction and Anxiety of Senior Secondary Students.

5. Results Analysis

H1: There are significant variations in smartphone addiction and anxiety levels across different senior secondary schools.

Table 1: Descriptive Statistics

Descriptive Statistics			
	Mean	Std. Deviation	N
Smartphone addiction	18.18	3.462	558
Smartphone anxiety	18.14	3.643	558

The above table 1 defines the descriptive statistics of Smartphone addiction and Smartphone anxiety. The mean score for Smartphone addiction is 18.18, and the score for Smartphone anxiety is 18.14.

Table 2: Correlations

Correlations			
		Smartphone addiction	Smartphone anxiety
Smartphone addiction	Pearson Correlation	1	.088*
	Sig. (2-tailed)		.038
	N	558	558
Smartphone anxiety	Pearson Correlation	.088*	1
	Sig. (2-tailed)	.038	
	N	558	558
*. “Correlation is significant at the 0.05 level (2-tailed).”			

The above table 2 shows that “the relationship between Smartphone addiction and Smartphone anxiety” is statistically significant. The correlation is positive (0.088, at the 0.05 significance level), which suggests “a positive relationship between Smartphone addiction and Smartphone anxiety.” This shows that changes in smartphone addiction scores are associated with changes in smartphone anxiety scores.

H2: Increased parental involvement and support result in a significant reduction in smartphone addiction and anxiety levels among adolescents.

Table 3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.168a	.028	.023	3.742
a. Predictors: (Constant), smartphone anxiety, smartphone addiction				

Table 3 defines the model summary, indicating a significant degree of connection. The "R-value for the simple correlation is 0.168," which reflects how much of the overall variance in the dependent variable, the impact of **smartphone anxiety and smartphone addiction among adolescents** on parental involvement and support.

Table 4: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	154.546	2	77.273	5.518	.004b
	Residual	5349.480	382	14.004		
	Total	5504.026	384			
a. Dependent Variable: parental involvement and support						
b. Predictors: (Constant), smartphone anxiety, smartphone addiction						

The ANOVA table 4 indicates that "there is a statistically significant relationship between the combined effect of smartphone anxiety and smartphone addiction" (the predictors) and the dependent variable "parental involvement and support." The F-statistic and associated significance level (p=0.004) suggest that these predictors have a significant impact on the dependent variable.

Table 5: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.483	1.323		12.458	.000
	Smartphone addiction	.118	.055	.110	2.162	.031
	Smartphone anxiety	.123	.054	.116	2.291	.023
a. Dependent Variable: parental involvement and support						

The Coefficients Table 5 provides information on smartphone addiction and smartphone anxiety, as predictors, affecting the dependent variable "parental involvement and support." The unstandardized coefficients show the specific effect, while the standardized coefficients (Beta) allow for a comparison of their relative importance. It suggests that the variables "smartphone addiction and smartphone anxiety" are all statistically significant in explaining variations in the dependent variable, given their low p-values for smartphone addiction, the p-value is 0.031, suggesting that it is statistically significant at the 0.05 level, for smartphone anxiety, the p-value is 0.023, indicating that it is statistically significant at the 0.05 level.

6. Conclusion

In conclusion, the study has unequivocally demonstrated that smartphone addiction exerts a profound influence on the anxiety levels of senior secondary students. The findings underscore the urgency of addressing the escalating issue of smartphone addiction within this demographic, as it has tangible and detrimental effects on their mental well-being. The author established a definitive correlation between higher levels of smartphone addiction and increased anxiety symptoms, providing clarity on the relationship between these two variables. The correlation, quantified through comprehensive surveys and statistical tests, underscores the critical need for a more nuanced understanding of the psychological ramifications of smartphone usage within this specific age group.

The study emphasizes the immediate necessity for proactive measures and targeted interventions to promote responsible smartphone use and to educate senior secondary students about the potential repercussions of excessive screen time and smartphone addiction. It is imperative that schools, parents, and healthcare professionals collaborate to elevate awareness and implement effective strategies to mitigate the adverse impact of

smartphone addiction. By doing so, individuals can facilitate an environment that fosters the mental health and academic performance of students in this age group.

The findings of this research further emphasize the imperative of designing and implementing tailored interventions, informed by these quantitative observations. These interventions should aim at promoting responsible smartphone utilization, increasing digital literacy, and raising awareness among senior secondary students about the potential psychological

consequences of unchecked smartphone addiction. Collaboration among educational institutions, parents, and healthcare practitioners is essential in executing these interventions effectively.

Furthermore, the study underscores the ongoing importance of exploring the evolving digital landscape and its implications for the psychological well-being of young individuals. Future studies should delve deeper into the contributing factors of smartphone addiction and the development of more comprehensive interventions and preventive measures to effectively address this issue. By gaining a comprehensive understanding of the challenges associated with smartphone addiction, people can collectively strive to create a healthier digital environment for senior secondary students, nurturing their personal growth and safeguarding their mental health in the digital age.

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