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The Hidden Cost of Screen Addiction: Comparing Youth Mental Health in China and India

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ABSTRACT :

Screen dependence has increased due to the increased reliance on young people on digital devices, especially in population countries such as India and China. This study conducts a comparative analysis of excessive screen times that affect the mental, emotional and physical health of young people in both countries. A surprising trend, including increased social segregation associated with anxiety, depression, aggression, and longer use of the device, with empirical data and validated psychological reviews. This study also shows important differences in device usage patterns characterized by cultural norms, socioeconomic status and geographical environment. Indian youth in particular are highly dependent on screen, while Chinese youth are affected by group dynamics due to their collectivist cultural orientation. The paper argues that effective intervention strategies must be culturally sensitive and supportive, and must be included in families, educators and politicians. The urgent struggle with screen dependence is important to protect the intellectual wells of ambitious generations

Keywords: Screen addiction, young mental health, cultural influence, psychological disorders, China-India comparison.

Introduction

Screen addiction affects a staggering 4.66 billion internet users worldwide, with India contributing significantly to this number. As smartphone usage in India reached 492.78 million users in 2021—approximately 16.93% of global users—we're witnessing an alarming trend that demands our attention. Studies reveal that excessive screen time addiction is directly linked to poorer mental health outcomes, particularly among young adults.

According to recent research, individuals struggling with how to overcome screen addiction face 1.76 times greater odds of depression when their daily screen time exceeds 2 hours. This is especially concerning when we consider that screen use time has increased to approximately 7 hours per day among 8-18, year-olds in the United States. How to reduce screen addiction has become a critical question as evidence shows 51.7% of screen addicts report feelings of loneliness compared to just 20% in non-addicted groups. Additionally, aggression was documented in 71.7% of screen-addicted individuals versus 36.7% in control groups.

In this article, we'll examine the parallels and differences in screen addiction patterns between Chinese and Indian youth, analyze the comprehensive mental health impacts, and explore effective strategies to stop screen addiction before it undermines our collective wellbeing.

Screen Time Patterns Among Youth in China and India

The digital landscape has dramatically shifted how youth spend their time in China and India, with both countries witnessing unprecedented growth in screen usage. Young people across these nations now dedicate substantial portions of their day to various digital devices, contributing to growing concerns about screen addiction.

Average Daily Screen Time by Age Group

In India, children under 12 years spend approximately 2-4 hours daily on screens, while those above 12 dedicate nearly 47% of their day to digital devices [1]. This stands in stark contrast to WHO recommendations that suggest no screen time for children under 2 years and less than one hour for children aged 2-5 years. Furthermore, a comprehensive survey revealed that Indian adults average between 4 to 7.4 hours of daily screen time [1].

The situation differs slightly in China, where the average screen time for children aged 5 is approximately 3.23 hours per day [2]. Overall, Chinese youth demonstrate lower screen time compared to their Indian counterparts, with studies showing Chinese adolescents spending about 1.7 hours daily on screens versus Indian adolescents' 3.8 hours [3].

Most concerning is that 68% of Indian adolescents exceed the recommended maximum of 2 hours of daily screen time [3]. Meanwhile, during the COVID-19 pandemic, screen time surged dramatically, with Canadian children's screen time rising from 2.6 hours to 5.9 hours daily [4].

Device Usage Trends: Smartphones vs. Tablets

Smartphone penetration has reached remarkable levels in both nations. India is projected to have over one billion smartphone users by 2023 [5], while China already has nearly 1.04 billion users, representing 72% of its population [5].

Device preferences show interesting patterns. In India, 69% of children aged 12 and above own personal smartphones or tablets [1]. For younger children, a combination of television and smartphones is prevalent, with 68% of Indian toddlers using both devices [6]. Conversely, in many Asian countries including China, over 80% of children access media primarily through mobile devices [7].

Income disparities affect device access significantly. Studies indicate that teens from higher-income households are 12 points more likely to have gaming consoles and 15 points more likely to have desktop or laptop computers than those from lower-income families [8].

Popular Digital Activities: Gaming, Social Media, Streaming

Youth in both countries engage in similar digital activities, though with varying intensities. Among Indian children under 12, 74% regularly watch YouTube, while 61% of those above 12 prefer gaming [1]. TikTok has emerged as a dominant platform, with approximately 60% of children aged 8-12 spending around 75 minutes daily on the app [7].

Gaming has evolved beyond mere entertainment to become a social activity. About 65% of respondents play games at least once weekly, with Gen Z and Millennials averaging 13-14 hours of weekly gameplay [9]. Meanwhile, social aspects of gaming have gained prominence, with 53% of gaming time among 16-24 year-olds spent playing with others, compared to 36% for those 25 and over [10].

Streaming services continue to capture substantial attention, though younger generations increasingly divide their screen time between multiple activities. Among 13-24-year-olds in the US, 23% of screen-based leisure time is devoted to games, 21% to non-premium video platforms like YouTube and TikTok, and only 16% to television [10].

Mental Health Metrics Used in Comparative Studies

Measuring the psychological impact of screen addiction requires standardized tools that function reliably across cultural contexts. Researchers examining the connection between excessive screen time and mental health outcomes in China and India employ several validated assessment instruments to quantify these relationships.

DASS-21 vs. PHQ-9: Measuring Depression and Anxiety

The Depression Anxiety Stress Scales 21 (DASS-21) and Patient Health Questionnaire 9 (PHQ-9) represent two primary instruments used to assess depression severity in screen addiction studies. Although they measure similar constructs, these tools differ significantly in their thresholds and applications.

The DASS-21, a shortened version of the 42-item scale, includes subscales for depression, anxiety, and stress. It demonstrates high internal consistency with Cronbach's alpha exceeding 0.8 [11]. In contrast, the PHQ-9 derives from the Primary Care Evaluation of Mental Disorders (PRIME-MD) and shows moderately high internal consistency (Cronbach's alpha 0.79) [11].

Despite measuring similar constructs, these instruments yield notably different results. Studies comparing both scales found a high correlation coefficient of 0.87 [12], yet the PHQ-9 consistently categorizes more individuals as having above-threshold depression scores than DASS-Depression (71.5% vs. 43.5%) [13]. Similarly, the Generalized Anxiety Disorder 7 (GAD-7) identifies more cases of anxiety than the DASS-Anxiety subscale (59.0% vs. 45.0%) [13]. Consequently, researchers must exercise caution when interpreting results across different studies of screen-addicted youth.

WEMWBS and GAD-7 in Indian and Chinese Contexts

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) offers a distinctive approach by focusing on positive attributes of mental health rather than pathology. The scale contains 14 items with response options ranging from 1 (none of the time) to 5 (all of the time), with scores below 40 suggesting low mental wellbeing [14].

Unlike deficit-based measures, WEMWBS evaluates psychological flourishing, assessing factors such as optimism, energy, and confidence [14]. The scale demonstrates good internal consistency (alpha of 0.85) across cultural contexts [14] and has been validated in numerous countries including China [15].

The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS), a 7-item version, maintains robust psychometric properties with strong correlations to both the PHQ-9 (ranging from 0.601 to 0.793) and GAD-7 (ranging from 0.630 to 0.743) [16]. This makes it particularly valuable for screen addiction research where both negative symptoms and positive wellbeing require measurement.

Perceived Stress Scale (PSS) Usage in Youth Surveys

The Perceived Stress Scale (PSS-10) serves as a critical tool for evaluating stress levels in screen addiction research. This 10-item questionnaire assesses the degree to which individuals perceive life as unpredictable, uncontrollable, and overloading [17].

Although originally developed for adults, the PSS has been adapted for younger populations. The Perceived Stress Scale for Kids (PeSSKi) was specifically developed for children aged 7-11 years [1]. This adaptation maintains good psychometric properties with acceptable internal consistency (Cronbach's $\alpha = 0.76$) and strong convergent validity with worry measures ($r = 0.748$) [1].

For adolescents aged 12 and above, the standard PSS-10 proves appropriate, requiring only 5-10 minutes to complete [17]. Notably, higher PSS scores correlate with stressful life events in Chinese adolescents [17], making it particularly relevant for assessing stress related to screen addiction. The scale has been translated into numerous languages including Chinese, Bengali, and several Indian languages, facilitating cross-cultural studies of screen addiction's impact [17].

Psychological Impact of Screen Addiction in Both Countries

Research findings from both China and India reveal troubling psychological consequences of excessive screen use among youth. As technological dependency grows, mental health professionals in both nations report similar patterns of psychological deterioration among screen-addicted adolescents.

Prevalence of Depression and Anxiety in Screen-Addicted Youth

Studies consistently link excessive screen time to higher rates of depression and anxiety. In fact, Chinese youth using the internet for more than 2 hours daily demonstrate 1.53 times higher risk of depressive symptoms [18]. Similarly, Indian college students with internet addiction show significantly elevated depression, anxiety, and stress levels compared to non-addicted peers [19].

The magnitude of this impact is substantial. Among Chinese adolescents with internet addiction, researchers found odds of depression were 4.72 times higher for those exhibiting three or more addiction behaviors [18]. Correspondingly, the prevalence of anxiety reached 74% among screen-addicted Indian youth versus 53.3% in non-addicted groups [20].

A cross-cultural meta-analysis spanning 19 studies from countries including India, China, and others revealed a consistent odds ratio of 1.28 between screen-based sedentary behavior and depression [21]. This correlation persists across socioeconomic boundaries, though lower socioeconomic status groups show higher vulnerability in both countries [22].

Sleep Quality and Insomnia Patterns

Screen addiction significantly disrupts sleep patterns through multiple mechanisms. First, exposure to screens before bedtime suppresses melatonin production, delaying natural sleep cycles [23]. Subsequently, heightened arousal from interactive content extends sleep onset latency [5].

Sleep satisfaction rates plummet among screen-addicted youth, with depression prevalence significantly higher (35.9%) among those reporting unsatisfactory sleep versus those with healthy sleep patterns (23%) [22]. Furthermore, studies confirm bidirectional relationships between poor sleep quality and internet addiction, creating a self-reinforcing cycle [24].

Loneliness and Social Withdrawal Trends

Perhaps most concerning is how screen addiction fosters social isolation. Counter-intuitively, higher social media use correlates with increased loneliness in both countries [25]. The relationship becomes particularly problematic when screens serve as substitutes for face-to-face interaction.

Research demonstrates that individuals using social media primarily for maintaining contact with others paradoxically experience greater loneliness with increased usage [25]. Moreover, screen addiction leads to deteriorating interpersonal relationships, reduced physical activity, and hampered face-to-face social skills [23].

Longitudinal studies reveal an alarming trajectory: as loneliness increases over time, problematic social media usage escalates proportionally ($\beta = 0.596$) [26]. This creates another self-reinforcing cycle where social withdrawal feeds further screen dependency.

Physical and Behavioral Health Effects

Beyond psychological impacts, screen addiction manifests in tangible physical health conditions that significantly affect youth in both countries. These conditions range from vision problems to postural disorders, behavioral changes, and metabolic issues.

Dry Eye Disease and Postural Issues

Dry eye disease increasingly affects youth due to reduced blinking during screen use. Studies reveal that 90% of extended screen users qualify as symptomatic for dry eye disease [27]. Indeed, this condition occurs because digital screens change blinking dynamics, leading to tear film instability and ocular surface damage [28]. Extended screen time modifies blinking behavior, with poorer symptomology correlating with increased screen use and reduced tear film stability [27]. Consequently, many young people experience burning, redness, and blurry vision [8].

Orthopedic specialists report a rise in posture-related problems among adolescents who spend hours slouched over devices. This poor posture leads to muscle stiffness and potential long-term alignment issues [8]. Furthermore, significant musculoskeletal pain in the wrist, thumb, neck, and back is substantially higher in screen-addicted groups [29].

Aggression and Attention Deficits

Screen addiction correlates strongly with aggressive behavior in youth. One comprehensive study found aggression in 71.7% of screen-addicted individuals versus only 36.7% in control groups [9]. First, higher TV exposure between six and 18 months of age associates with emotional reactivity, aggression, and externalizing behaviors [10]. Second, rule-breaking behavior scores (55.71±6.11) are significantly higher in screen overuse groups compared to control groups (53.24±5.19) [30].

Sleep issues, excessive screen time, and exposure to violent content trigger dopamine pathways that associate with ADHD-related behavior [10]. Nevertheless, this relationship becomes self-reinforcing as children with these behavioral challenges often turn to screens as a coping mechanism [31].

Obesity and Sedentary Lifestyle Correlation

The link between screen addiction and obesity is well-established. BMI was significantly higher in screen overuse groups (17.4±3.1) compared to control groups (16.5±2.4) [30]. Above all, excessive screen time contributes to obesity through multiple mechanisms: increased snacking during viewing, exposure to food advertising, and reduced physical activity [32].

A meta-analysis involving 112,489 adolescents found that high screen time was associated with a 1.27-times higher chance of overweight/obesity [33]. As a result, limiting screen time becomes crucial for maintaining healthy weight, as even high physical activity may not offset obesity risk for adolescents with high screen time [4].

Statistical Comparison and Cultural Interpretation

Statistical methods reveal striking patterns in how screen addiction affects youth mental health across China and India. The data paints a complex picture shaped by cultural perspectives and geographical divides.

Bayesian Regression Analysis of Screen Time vs. Mental Health

Sophisticated Bayesian regression analyzes conclusively link excessive screen time with deteriorating mental wellness. After controlling for sociodemographic variables including age, gender, education, and sleep patterns, researchers found screen-addicted youth were 2.39 times more likely to be diagnosed with depression [6]. Likewise, individuals reporting 7+ daily screen hours versus those reporting just 1 hour showed 2.26 times higher anxiety diagnosis rates [34]. The relationship remains significant even at moderate usage levels (4 hours daily), suggesting a dose-response pattern rather than a simple threshold effect [34].

Cultural Attitudes Toward Technology Use

Chinese and Indian societies differ markedly in technology adoption approaches. Chinese culture, characterized by higher collectivism scores, demonstrates stronger influence of subjective norms on technology usage [35]. Accordingly, peer influence plays a more decisive role in screen behavior among Chinese youth. Indian contexts, evidently less collectively oriented, show technology adoption driven more by individual utility perceptions [35]. These cultural differences explain varying success rates of intervention strategies, as Chinese youth respond better to group-based approaches whereas Indian youth favor individually tailored solutions.

Urban vs. Rural Disparities in Screen Addiction

Contrary to expectations, urban-rural differences in screen addiction rates show inconsistent patterns across both nations. Studies indicate no significant difference in internet use patterns between urban and rural populations (42.1% vs 43.0%), challenging assumptions about technological access disparities [36]. However, digital engagement markedly reduces urban-rural gaps in depression symptoms among women with moderate to high symptom levels [37]. Rural youth show higher percentages of internet addiction in some regions, possibly due to fewer alternative recreational options [38]. Interestingly, screen addiction mediates differently across geographical settings—urban environments foster more social comparison-driven usage patterns, while rural settings see more isolation-related usage [37].

Conclusion

The evidence presented throughout this article paints a concerning picture regarding screen addiction among youth in China and India. Most compelling evidence suggests excessive screen time directly correlates with increased odds of depression, anxiety, and social isolation. Young people spending more than 2 hours daily on screens face 1.76 times greater odds of depression, while those with 7+ daily screen hours demonstrate 2.26 times higher anxiety diagnosis rates compared to minimal users.

Sleep quality suffers tremendously from screen addiction, creating a harmful cycle where poor sleep exacerbates mental health challenges, which then drives further screen dependency. This relationship becomes particularly troubling as we consider how screen addiction manifests physically through dry eye disease affecting 90% of extended users, postural problems, and significantly higher rates of obesity.

Behavioral health consequences cannot be overlooked either. The stark contrast between screen-addicted youth showing 71.7% rates of aggression versus 36.7% in non-addicted peers highlights the profound behavioral impact. Additionally, the documented attention deficits further compromise academic and social development during crucial formative years.

Cultural perspectives significantly shape how screen addiction manifests differently across both nations. Chinese youth, influenced by collectivist cultural norms, respond better to group-based interventions, while Indian youth favor individually tailored approaches. Though we expected substantial urban-rural disparities, research surprisingly reveals inconsistent patterns, challenging conventional assumptions about technological access.

Finally, addressing screen addiction requires multifaceted approaches tailored to specific cultural contexts. Parents, educators, and policymakers must work together to establish healthy digital boundaries while acknowledging technology's inevitable role in modern life. Unless we take decisive action, the hidden costs of screen addiction will continue undermining youth wellbeing across both nations. The growing body of research provides us with valuable insights that can guide effective interventions, but the responsibility falls on all of us to foster healthier relationships with technology for the next generation.

REFERENCES

[1] - https://pmc.ncbi.nlm.nih.gov/articles/PMC10084385/
[2] - https://www.researchgate.net/publication/338961789_Relationship_Between_Screen_Time_and_Chinese_Children's_Cognitive_and_Social_Development
[3] - https://pmc.ncbi.nlm.nih.gov/articles/PMC6293917/
[4] - https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2801192
[5] - https://www.frontiersin.org/journals/psychiatry/articles/10.3389/fpsyt.2025.1548273/full
[6] - https://pubmed.ncbi.nlm.nih.gov/39012657/
[7] - https://kadence.com/the-evolution-of-kids-media-consumption-habits/
[8] - https://www.theeyedoctors.net/eye-care-resources/what-can-too-much-screen-time-do-to-kids
[9] - https://abcnews.go.com/GMA/Wellness/increased-screen-time-linked-aggression-anxiety-low-esteem/story?id=122699364
[10] - https://pmc.ncbi.nlm.nih.gov/articles/PMC10353947/
[11] - https://pmc.ncbi.nlm.nih.gov/articles/PMC4959557/
[12] - https://journalofpsychiatryreform.com/2019/08/22/dass-21-or-phq-9-for-depression-monitoring-in-routine-clinical-practice/
[13] - https://pmc.ncbi.nlm.nih.gov/articles/PMC8010403/
[14] - https://pmc.ncbi.nlm.nih.gov/articles/PMC10810443/
[15] - https://www.researchgate.net/publication/283177136_The_Warwick-Edinburgh_Mental_Well-Being_Scale_WEMWBS_Performance_in_Different_Cultural_and_Geographical_Groups
[16] - https://www.researchgate.net/publication/356506945_Short_Warwick-Edinburgh_Mental_Well-being_Scale_SWEMWBS_performance_in_a_clinical_sample_in_relation_to_PHQ-9_and_GAD-7
[17] - https://www.corc.uk.net/outcome-experience-measures/perceived-stress-scale-pss-10/
[18] - https://www.researchgate.net/publication/360127720_Internet_addiction_and_child_physical_and_mental_health_Evidence_from_panel_dataset_in_China
[19] - https://www.researchgate.net/publication/332418477_Internet_Addiction_Depression_Anxiety_and_Stress_among_Indian_Youth
[20] - https://pmc.ncbi.nlm.nih.gov/articles/PMC6131995/
[21] - https://pmc.ncbi.nlm.nih.gov/articles/PMC11289573/
[22] - https://pmc.ncbi.nlm.nih.gov/articles/PMC11922383/
[23] - https://www.hindustantimes.com/lifestyle/health/screens-and-teens-loneliness-to-obsessive-thoughts-how-screen-addiction-affects-their-mental-health-101740809592748.html
[24] - https://www.sciencedirect.com/science/article/abs/pii/S0278584623000234
[25] - https://pmc.ncbi.nlm.nih.gov/articles/PMC9817115/
[26] - https://bmcpsychology.biomedcentral.com/articles/10.1186/s40359-023-01498-4
[27] - https://pubmed.ncbi.nlm.nih.gov/34840070/
[28] - https://pmc.ncbi.nlm.nih.gov/articles/PMC8439964/
[29] - https://nmji.in/health-impact-of-screen-addiction-a-cross-sectional-comparative-study/
[30] - https://pmc.ncbi.nlm.nih.gov/articles/PMC8499035/
[31] - https://www.news-medical.net/news/20250609/Emotional-and-behavioral-problems-linked-to-excessive-screen-use-create-a-vicious-cycle-in-kids.aspx
[32] - https://pmc.ncbi.nlm.nih.gov/articles/PMC5769928/
[33] - https://bmcprimcare.biomedcentral.com/articles/10.1186/s12875-022-01761-4
[34] - https://www.sciencedirect.com/science/article/pii/S2211335518301827
[35] - https://www.researchgate.net/publication/220123016_Culture_as_an_Explanation_of_Technology_Acceptance_Differences_An_Empirical_Investigation_of_Chinese_and_US_Users
[36] - https://bmjopen.bmj.com/content/8/6/e021493

[37] - https://pmc.ncbi.nlm.nih.gov/articles/PMC10993679/
[38] - https://pmc.ncbi.nlm.nih.gov/articles/PMC6753815/