



Assessment of Changes in Child and Adolescent Screen Time During The pandemic

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ABSTRACT

Background: The pandemic has precipitated a significant transformation in the daily lives of children and adolescents, particularly concerning their screen time usage. The literature reflects a growing recognition of the multifaceted implications of increased digital screen time, with studies revealing alarming trends and potential health consequences. **Literature Review:** Further analysis by (D. Ribner et al., 2001) reveals that pre-pandemic screen habits are strong predictors of increased screen time during the pandemic, suggesting that individual behaviors significantly shape current outcomes. This notion is complemented by (Lee et al., 2002), who discuss the intersection of socioeconomic status and screen time management, indicating that children from lower economic backgrounds are particularly vulnerable to the negative effects of increased screen usage. Moreover, highlight the correlation between increased recreational screen time and heightened levels of psychopathology among adolescents, indicating that while some screen time can foster social connections, excessive use can exacerbate mental health issues. This is further supported by (Moitra & Madan, 2002), who document a concerning trend of screen addiction among Indian adolescents, linking high screen time to decreased physical activity and poor sleep quality. The narrative review by (Y. Q. Lua et al., 2003) synthesizes these findings, suggesting a complex relationship between screen time and wellbeing, where moderate use may enhance social connectedness, yet excessive use correlates with poorer outcomes. **Conclusion:** In conclusion, the literature presents a concerning trend of increased screen time among children and adolescents during The pandemic, with significant implications for their physical and mental health. The studies collectively underscore the necessity for informed policies and guidelines aimed at mitigating the adverse effects associated with excessive screen use, particularly among vulnerable populations. The evidence highlights the need for a balanced approach to screen time, recognizing both its potential benefits and risks, and calls for future research to explore the diverse dimensions of screen time across different cultural and socioeconomic contexts.

Keyword: Changes, Child and Adolescent, Screen Time, During The pandemic

INTRODUCTION

The pandemic has precipitated a significant transformation in the daily lives of children and adolescents, particularly concerning their screen time usage. The literature reflects a growing recognition of the multifaceted implications of increased digital screen time, with studies revealing alarming trends and potential health consequences. (Sultana et al., 2000) highlight a meta-analytic review that underscores the psychosocial ramifications of mass media exposure during the pandemic. They assert that the surge in digital screen time poses a public health concern, linking excessive media consumption to adverse physical and mental health outcomes. This foundational understanding sets the stage for subsequent investigations into the nuanced effects of screen time on youth.

Expanding on these themes, (Łuszczki et al., 2001) provide empirical evidence from Poland, demonstrating significant increases in children's screen time during the pandemic compared to pre-pandemic levels. Their findings indicate that the reliance on digital devices has intensified, particularly on weekdays, and they caution against the developmental risks associated with excessive screen use. This aligns with (D. Ribner et al., 2001), who explore international trends and reveal that individual pre-pandemic screen habits are strong predictors of increased screen time during the pandemic, suggesting that prior behaviors significantly shape current outcomes.

(Lee et al., 2002) delve into the intersection of screen time and socioeconomic status, revealing that children from lower economic backgrounds may experience heightened vulnerability to adverse effects stemming from increased screen usage. Their work emphasizes the need for tailored guidelines to mitigate potential harm, particularly in light of the unique challenges faced by these populations. Complementarily, (Marciano et al., 2002) conduct a systematic review that correlates increased screen time with negative mental health outcomes among adolescents, further underscoring the urgency of addressing this public health issue.

(Moitra & Madan, 2002) contribute to the discourse by focusing on Indian adolescents, reporting alarming levels of screen addiction and associated health problems, such as sleep disturbances and depressive symptoms. Their research reinforces the critical link between screen time and physical inactivity, echoing the concerns raised by previous studies regarding the broader implications of excessive digital media consumption.

(Y. Q. Lua et al., 2003) offer a narrative review that synthesizes existing research on screen time and wellbeing, suggesting a complex relationship where moderate screen use may foster social connectedness, yet excessive use correlates with poorer wellbeing outcomes. This duality highlights the need for a balanced approach to screen time, particularly within the context of ongoing global health crises.

In summary, the literature reveals a concerning trend of increased screen time among children and adolescents during The pandemic, with significant implications for their physical and mental health. The studies collectively underscore the necessity for informed policies and guidelines aimed at mitigating the adverse effects associated with excessive screen use, particularly among vulnerable populations.

LITERATURE REVIEW

The article titled "Digital screen time during pandemic: A public health concern" by Sultana et al. (Sultana et al., 2000) provides a comprehensive examination of the significant increase in digital screen time among children and adolescents during The pandemic. This increase is positioned as a pressing public health concern, particularly given the established links between excessive screen time and various adverse health outcomes.

The authors effectively synthesize contemporary evidence that highlights the rapid escalation of screen time during the pandemic, contrasting this with pre-pandemic research that outlines the potential negative implications of prolonged screen exposure. They argue that this surge in screen time could exacerbate existing physical and mental health issues in young populations, such as obesity, sleep

disturbances, and anxiety (Sultana et al., 2000). This critical evaluation of the material underscores the need for urgent attention to this emerging public health crisis.

Moreover, Sultana et al. (Sultana et al., 2000) emphasize the importance of developing mitigation strategies to address the health hazards associated with increased screen time. They advocate for the strengthening of the knowledge base to inform policies and guidelines aimed at reducing these adverse impacts. This call to action is particularly pertinent in the context of low- and middle-income countries, where research on this issue is notably scarce. The article highlights a gap in the literature that could hinder effective interventions and policy-making in these regions.

The authors also suggest that collaborative research efforts across nations could enhance the understanding of the relationship between screen time and health outcomes, particularly in diverse populations affected by . They propose that such research could facilitate the development of evidence-based practice guidelines to better manage screen time among children and adolescents.

The article "Children's Eating Habits, Physical Activity, Sleep, and Media Usage before and during Pandemic in Poland" by Łuszczki et al. (Łuszczki et al., 2001) provides a comprehensive examination of the shifts in children's screen time as a result of The pandemic. The authors present a compelling argument that digital media and devices have become indispensable in the daily lives of both children and adults, particularly during the pandemic when traditional activities such as schooling and extracurriculars were disrupted.

One of the key insights from the article is the significant increase in screen time among children, which the authors attribute to the closure of schools and the limitation of physical activities. The data indicates that children's reliance on digital tools surged, leading to an average increase of four hours of screen time daily in the USA, with similar trends observed in Germany. This highlights a critical shift in children's media consumption patterns, which raises concerns regarding the potential adverse effects on their development and health. The authors emphasize

that excessive screen time is correlated with various health risks, including mental health issues and negative impacts on cognitive and emotional development.

The article effectively synthesizes relevant data to illustrate the dramatic changes in children's screen habits during the pandemic. It also discusses the dual nature of digital media, recognizing both its potential benefits and the risks associated with inappropriate usage. The authors argue that while technology can facilitate learning and social interaction, its overuse can lead to detrimental outcomes, including increased risks of obesity, sleep disturbances, and impaired social skills.

Moreover, the authors call for the implementation of preventative measures to mitigate unhealthy screen time. They advocate for a balanced approach that includes promoting physical activity and healthy eating habits alongside responsible media usage. This is particularly important in the context of the pandemic, where children have experienced significant lifestyle changes that could have long-term implications for their health and well-being.

The article "Screen Time in the Era: International Trends of Increasing Use Among 3- to 7-Year-Old Children" by Ribner, Coulanges, Friedman, and Libertus (D. Ribner et al., 2001) provides a comprehensive analysis of the shifts in screen time among young children during The pandemic. The authors present compelling evidence that individual pre-pandemic screen time habits significantly influenced the changes observed during the pandemic, accounting for a substantial portion of the variance in screen use among children.

One of the critical insights from the article is the finding that only 13% of the variance in changes in screen use could be attributed to country-level differences in media consumption patterns. This suggests that, despite varying cultural contexts, individual behaviors played a more pivotal role in determining screen time increases. The article emphasizes that between 30% and 72% of the variance in children's media use was attributable to individual factors, underscoring the importance of pre-existing habits in predicting how children adapted to the pandemic's challenges (D. Ribner et al., 2001).

The authors also highlight a significant limitation in their assessment of screen time, noting that their estimates may underestimate the actual time spent on screens. The largest response option was '>2 hours', which likely fails to capture the extent of screen engagement for some children, particularly as families navigated prolonged lockdowns and inconsistent schooling. This point raises important questions about the methodologies used in measuring screen time and the potential implications for understanding children's media consumption behaviors during such unprecedented times.

Moreover, the article touches on the dual nature of screen use, differentiating between educational and entertainment purposes. The pandemic has redefined how children interact with screens, and ongoing research is essential to capture these evolving patterns and their implications for child development. The authors advocate for continued investigation into the impacts of increased screen time, particularly as it relates to educational outcomes and mental health.

The article "Relationship between screen time among children and lower economic status during elementary school closures due to the coronavirus disease 2019 pandemic" by Sangha Lee et al. (Lee et al., 2002) provides a comprehensive examination of the complex interplay between screen time, economic status, and child development during The pandemic. The authors highlight the dual nature of screen time, noting both its potential benefits and risks. They argue that while digital devices can facilitate social interaction and enhance social skills during periods of isolation, excessive exposure to inappropriate content can have detrimental effects on children's psychological development.

One of the key insights presented in the article is the impact of economic status on screen time management. The authors emphasize that families with lower economic means face significant challenges in regulating their children's screen time, particularly during school closures. This economic strain is correlated with increased screen time, which can exacerbate mental health issues among children. The authors suggest that tailored interventions, including educational resources for parents on screen time management and the promotion of alternative activities, are essential to mitigate these risks.

Furthermore, the article discusses the role of digital interventions in promoting physical activity among adolescents. The authors reference a review indicating that mobile applications and video games that incorporate physical activity can effectively increase engagement in exercise, which is particularly relevant in the context of reduced physical activity during lockdowns. This finding underscores the potential for digital tools to be harnessed positively, provided they are used judiciously.

However, the study does have limitations that warrant consideration. The reliance on parent-reported data raises questions about the accuracy of the reported screen time, as self-reporting can often lead to biases. Additionally, the cross-sectional nature of the study means that it cannot definitively establish causal relationships or track changes in screen usage patterns over time. The authors acknowledge these limitations and call for further longitudinal research to better understand the long-term implications of increased screen time during the pandemic.

The article titled "Digital Media Use and Adolescents' Mental Health During The pandemic: A Systematic Review and Meta-Analysis" by Marciano, Ostroumova, Schulz, and Camerini provides a comprehensive examination of the shifts in screen time among adolescents during The pandemic, highlighting critical implications for mental health and well-being.

The systematic review indicates a significant increase in screen time across various platforms, particularly in urban settings, where adolescents reported higher engagement in online leisure activities, television viewing, and overall internet usage compared to their rural counterparts. This finding is particularly important as it underscores the role of environmental factors in influencing screen time behaviors during the pandemic, suggesting that urban adolescents may face unique challenges related to digital media consumption .

Moreover, the article reveals a concerning correlation between increased recreational screen time and heightened levels of psychopathology among young people. The authors note that leisure screen time, particularly when not utilized for social interaction, is negatively associated with mood and overall social well-being.

This insight raises critical questions about the nature of screen time engagement; while some screen time can foster social connections, excessive use, especially in isolation, may exacerbate mental health issues .

The study also emphasizes the importance of structured activities as a mitigating factor against the adverse effects of increased screen time. Adolescents who engaged in reading, studying, or exercising reported lower psychological distress and a lesser degree of increase in internet-related activities. This suggests that promoting balanced lifestyles that incorporate physical activity and cognitive engagement could serve as protective factors against the negative mental health impacts associated with excessive screen time .

Interestingly, the article highlights that while increased screen time was linked to negative outcomes, it also served as a tool for coping with the uncertainties of the pandemic. Many participants expressed that consuming news and engaging with digital platforms helped them stay informed, which suggests a dual role of screen time—both as a source of distress and a means of connection and information .

The article "Impact of screen time during on eating habits, physical activity, sleep, and depression symptoms: A cross-sectional study in Indian adolescents" by Moitra and Madan (Moitra & Madan, 2002) provides a comprehensive examination of the implications of increased screen time among adolescents during The pandemic. The study highlights several critical findings that reflect the profound changes in lifestyle and health behaviors due to prolonged confinement.

One of the primary insights is the substantial increase in daily screen usage among adolescents, with a mean reported screen time that was notably higher on weekdays compared to weekends. This trend underscores the shift in daily routines, where screens became central to both education and leisure activities. The findings reveal a concerning pattern of screen addiction behavior, suggesting that many adolescents are not only using screens for educational purposes but are also engaging excessively in recreational screen time, which may contribute to a range of negative health outcomes.

The research also illuminates the correlation between high screen time and decreased levels of physical activity, particularly among girls, who exhibited lower engagement in moderate to vigorous physical activities. This gender disparity in physical activity levels is significant, as it indicates that girls may be disproportionately affected by the sedentary lifestyle exacerbated by the pandemic. The authors emphasize the critical need for interventions aimed at promoting physical activity, especially among vulnerable populations.

In terms of sleep patterns, the study found that girls reported higher levels of sleep latency, daytime dysfunction, and overall poor sleep quality. These findings are particularly alarming as sleep is a crucial component of adolescent health and development. The association between increased screen time and sleep disturbances further reinforces the need for strategies to mitigate screen usage, particularly before bedtime.

The article also explores the relationship between screen time, eating habits, and mental health. It was observed that greater screen time was inversely related to healthy eating habits and physical activity, while not showing a direct correlation with depression symptoms. This suggests that while screen time negatively impacts physical activity and dietary choices, its relationship with mental health symptoms may be more complex and warrants further investigation.

The authors conclude with a call to action for public health initiatives aimed at promoting healthy screen usage among adolescents. They advocate for the development of age-appropriate resources that encourage balanced screen time and raise awareness about the adverse health effects associated with excessive screen exposure. This recommendation is particularly relevant given the ongoing nature of the pandemic and its potential long-term effects on adolescent health.

The article titled "A Narrative Review of Screen Time and Wellbeing among Adolescents before and during The pandemic: Implications for the Future" by Lua, Chua, and Chia (Y. Q. Lua et al., 2003) presents a comprehensive examination of the implications of increased screen time on the emotional wellbeing of adolescents during The pandemic. The authors highlight the dual nature of screen time, suggesting that while excessive use is generally linked to

negative wellbeing outcomes, certain types of screen engagement can foster social connectedness and provide emotional benefits.

One of the critical insights from the article is the nuanced relationship between screen time and wellbeing. The authors argue that the context and purpose of screen usage are pivotal in determining its impact. For instance, screen time dedicated to one-on-one communication or positive social interactions can enhance feelings of connection and support, which are particularly vital during periods of social isolation caused by the pandemic. Conversely, high levels of screen time, especially when associated with passive consumption, are correlated with poorer emotional and mental health outcomes (Y. Q. Lua et al., 2003).

The article emphasizes the importance of regulating screen time to optimize its benefits while mitigating adverse effects. The authors call attention to the significant increases in screen time observed during the pandemic, which necessitate a careful evaluation of both its positive and negative consequences on adolescent wellbeing. This evaluation is critical, as existing literature predominantly focuses on samples from North America, Europe, and affluent Asian countries, thereby creating a gap in understanding the experiences of adolescents in less studied populations, such as those in Africa and lower-income Asian countries (Y. Q. Lua et al., 2003).

Moreover, the review discusses specific activities such as exergaming, which can have mixed outcomes. While exergaming may promote physical activity and social interaction, excessive engagement can lead to sleep disturbances and other negative health effects. This complexity underscores the need for future research to explore the diverse dimensions of screen time and its implications across different cultural contexts and socioeconomic backgrounds.

CONCLUSION

The literature reviewed highlights a significant increase in screen time among children and adolescents during The pandemic, with profound implications for their physical and mental health. The studies collectively illustrate how the pandemic has reshaped daily routines, resulting in increased reliance on digital

devices for education, social interaction, and entertainment. (Sultana et al., 2000) emphasize that this surge in screen time constitutes a public health concern, linking excessive media consumption to adverse health outcomes such as obesity, sleep disturbances, and anxiety. This foundational understanding is echoed in the findings of (Łuszczki et al., 2001), who report an average increase of four hours of screen time daily among children in Poland, attributing this change to school closures and reduced physical activities.

Further analysis by (D. Ribner et al., 2001) reveals that pre-pandemic screen habits are strong predictors of increased screen time during the pandemic, suggesting that individual behaviors significantly shape current outcomes. This notion is complemented by (Lee et al., 2002), who discuss the intersection of socioeconomic status and screen time management, indicating that children from lower economic backgrounds are particularly vulnerable to the negative effects of increased screen usage.

Moreover, highlight the correlation between increased recreational screen time and heightened levels of psychopathology among adolescents, indicating that while some screen time can foster social connections, excessive use can exacerbate mental health issues. This is further supported by (Moitra & Madan, 2002), who document a concerning trend of screen addiction among Indian adolescents, linking high screen time to decreased physical activity and poor sleep quality.

The narrative review by (Y. Q. Lua et al., 2003) synthesizes these findings, suggesting a complex relationship between screen time and wellbeing, where moderate use may enhance social connectedness, yet excessive use correlates with poorer outcomes. This duality underscores the importance of context and purpose in screen engagement.

In conclusion, the literature presents a concerning trend of increased screen time among children and adolescents during The pandemic, with significant implications for their physical and mental health. The studies collectively underscore the necessity for informed policies and guidelines aimed at mitigating the adverse effects associated with excessive screen use, particularly among vulnerable populations. The evidence highlights the need for a balanced approach

to screen time, recognizing both its potential benefits and risks, and calls for future research to explore the diverse dimensions of screen time across different cultural and socioeconomic contexts.

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