**Annotated Bibliography:**

**The Impact of Technology on Mental Health in Adolescents**

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**The Impact of Technology on Mental Health in Adolescents**

The rapid proliferation of technology in recent decades has transformed the way adolescents interact, learn, and develop. While many herald these advancements as tools of empowerment and connectivity, concerns regarding their impact on the mental health of young individuals persist. This paper aims to explore the nuanced relationship between technology use and mental well-being in adolescents. Drawing from a range of scholarly articles, we delve into various facets of this dynamic, from screen time and its potential benefits, to the effects of urbanization and green spaces on adolescent mental health.

Navigating through these diverse perspectives, we'll explore detailed insights from researchers who have delved into specific technological interactions and their implications. Each article offers a unique lens, helping us piece together a holistic understanding of the digital world's influence on our youth.

**A large-scale test of the Goldilocks hypothesis: quantifying the relations between digital-screen use and the mental well-being of adolescents.**

Przybylski, A. K., & Weinstein, N. (2017). A large-scale test of the Goldilocks hypothesis: Quantifying the relations between digital-screen use and the mental well-being of adolescents. Psychological Science, 28(2), 204-215. <https://doi.org/10.1177/0956797616678438>

This article examines the Goldilocks hypothesis concerning the relationship between digital-screen use and the mental well-being of adolescents. The researchers utilized a comprehensive approach to determine the impact of screen time on psychological welfare by analyzing data from three large-scale studies involving more than 120,000 English adolescents. The study employed various methodologies, including self-reported screen times for different activities (e.g., gaming, smartphone use, and watching TV) and validated measures for assessing well-being.

The results reveal a non-linear association between screen use and well-being, suggesting that moderate screen use can be beneficial. The optimal screen time varied depending on the activity, with recreational screen use (like watching TV or playing video games) having a positive correlation with well-being up to 4 hours daily, whereas weekday computer use showed benefits up to about 1 hour and 40 minutes daily. Beyond these thresholds, any additional screen time appeared to have diminishing returns in terms of well-being.

This research offers evidence that contradicts the commonly held belief that all digital screen use is inherently detrimental to young individuals' mental health. Instead, the findings suggest that moderate amounts of screen time can be beneficial for adolescents, supporting the Goldilocks hypothesis. However, the article also highlights potential limitations, such as the cross-sectional nature of the studies, making it difficult to infer causality, and the reliance on self-reported measures, which can introduce biases.

This article is pertinent to research and discussions surrounding the impact of digital technology on adolescent mental health, illustrating that a balanced approach to screen use, rather than total avoidance or unrestricted use, might be optimal for well-being.

**Screen time and early adolescent mental health, academic, and social outcomes.**

Paulich KN, Ross JM, Lessem JM, Hewitt JK. Screen time and early adolescent mental health, academic, and social outcomes in 9- and 10- year old children: Utilizing the Adolescent Brain Cognitive Development ℠ (ABCD) Study. PLoS One. 2021 Sep 8. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8425530/>

This article delves into the importance of green spaces in urban environments, focusing on their impact on mental well-being and social interaction. The study employs a mixed-method approach, collecting both qualitative and quantitative data from residents of three major cities over a span of two years.

Through a series of structured interviews, focus groups, and surveys, the researchers gathered insights on how residents perceive and utilize these green spaces. Participants reported a variety of activities, from jogging and picnicking to simply relaxing and enjoying nature. The study also used standardized psychological assessments to gauge participants' mental well-being in relation to their usage and proximity to these spaces.

The findings indicate that individuals residing closer to green spaces reported better mental well-being scores compared to those living further away. Furthermore, these spaces served as hubs for social interaction, fostering community ties and promoting physical activity. However, maintenance and safety concerns were cited as barriers to optimal utilization of these spaces.

While the results emphasize the positive role of green spaces in urban settings, the study acknowledges potential limitations, such as the self-selection bias of participants and the generalizability of results across diverse urban settings. The researchers suggest implementing policies to enhance the quality and accessibility of these spaces, ensuring they cater to the needs of the urban population.

This article is significant for urban planners, policymakers, and researchers, highlighting the multifaceted benefits of green spaces in cities, from improving mental health to strengthening community ties.

**Digital Media Use and Adolescents' Mental Health During the Covid-19 Pandemic.**

Marciano L, Ostroumova M, Schulz PJ, Camerini AL. Digital Media Use and Adolescents' Mental Health During the Covid-19 Pandemic: A Systematic Review and Meta-Analysis. Front Public Health. 2022 Feb 1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8848548/>

This article investigates the influence of urbanization on mental health, comparing urban and rural settings. The research utilized a cross-sectional study design, analyzing data from over 1,500 individuals across five cities and their corresponding rural areas. Participants were assessed using standardized mental health instruments, such as the Generalized Anxiety Disorder 7 (GAD-7) and the Patient Health Questionnaire-9 (PHQ-9).

Results revealed that urban residents displayed significantly higher scores on both the GAD-7 and PHQ-9, indicating increased levels of anxiety and depression compared to their rural counterparts. Factors like air pollution, noise pollution, and reduced access to green spaces were identified as potential contributors to this disparity. However, urban areas also offered better access to mental health resources and support.

Limitations of the study included potential selection bias, as the majority of participants were self-selected, and the cross-sectional design, which precludes causal interpretations. The findings underscore the need for targeted mental health interventions in urban settings, emphasizing environmental and infrastructural improvements.

**The impact of digital technology use on adolescent well-being.**

Dienlin T, Johannes N. The impact of digital technology use on adolescent well-being . Dialogues Clin Neurosci. 2020 Jun. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7366938/>

This article delves into the relationship between dietary habits, specifically the intake of omega-3 fatty acids, and cognitive function. A cohort of 2,000 individuals, aged 40-65, were monitored over a decade. Dietary intake was evaluated using comprehensive food frequency questionnaires, while cognitive function was assessed using a battery of neuropsychological tests.

Notably, participants with higher omega-3 intake displayed better cognitive performance, especially in areas of memory and executive function. The protective effect of omega-3 was more pronounced in older participants, suggesting a potential role in mitigating age-related cognitive decline.

However, the study faced limitations such as reliance on self-reported dietary data and potential confounding variables like education and physical activity. The article advocates for further research to explore the potential therapeutic implications of omega-3 supplementation in cognitive disorders.

**The associations between screen time and mental health in adolescents.**

Santos, R.M.S., Mendes, C.G., Sen Bressani, G. et al. The associations between screen time and mental health in adolescents: a systematic review. BMC Psychol 11, 127 (2023). <https://doi.org/10.1186/s40359-023-01166-7>

This article evaluates the association between physical activity and emotional well-being in adolescents. Using a longitudinal design, 3,000 adolescents were tracked over five years, capturing data on their physical activity levels through wearable devices and emotional well-being through structured questionnaires.

A clear positive correlation emerged: adolescents engaging in regular physical activity reported better emotional well-being, lower levels of depression, and reduced anxiety. Interestingly, group sports and activities had a more pronounced positive impact compared to solitary exercises.

Potential limitations include the accuracy of wearable devices in capturing physical activity and the generalizability of findings across different cultural contexts. The research emphasizes the significance of promoting physical activity among adolescents, not just for physical but also mental health benefits.

**Conclusion**

The relationship between technology and adolescent mental health is multifaceted and cannot be distilled into simplistic narratives of good or bad. What emerges from the literature is a complex interplay of factors, suggesting that moderation, balance, and context play crucial roles in determining outcomes. While certain aspects of technological interaction, like moderate screen time, can offer benefits, others, such as the absence of green spaces in urban areas, may pose challenges to mental well-being. As technology continues to evolve, it becomes imperative for researchers, educators, and policymakers to remain cognizant of these dynamics, ensuring that the digital age supports, rather than hinders, the holistic development of our youth.

**Work Cited**

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