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Scoping review: Online video games and mental health among school-going children in Africa

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ABSTRACT

Introduction

Online video gaming is increasingly popular among school-aged children in Africa, driven by expanding internet penetration and mobile technology access. While gaming may offer cognitive and social benefits, concerns persist regarding its potential psychological and behavioural consequences—particularly within African contexts that are underrepresented in existing research.

Purpose

This scoping review aimed to synthesise current evidence on the mental health implications of online video gaming among school-going children in Africa. Both positive and negative effects were examined, with a focus on mental health outcomes such as anxiety, depression, social interaction, cognitive development, and behavioural challenges.

Methods

The review followed the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) protocol. Systematic searches were conducted in AJOL, PubMed, Scopus, and Google Scholar for peer-reviewed articles, theses, and reports published between 2010 and 2024. Inclusion criteria comprised studies involving African school-aged children (10–18 years), examining online gaming's effects on mental health, and published in English or French. Thirty-eight articles met the criteria for inclusion.

Results

The findings revealed both beneficial and harmful outcomes associated with online gaming. Positive effects included enhanced cognitive flexibility, problem-solving skills, peer connectedness, and stress relief. Conversely, excessive gaming was linked to anxiety, depression, disrupted sleep, cyberbullying, and gaming addiction. These impacts were moderated by contextual factors such as socioeconomic disparities, cultural perceptions, and regulatory gaps.

Conclusion

Online gaming among African schoolchildren presents a double-edged sword for mental health. While benefits exist, they are offset by serious risks when gaming becomes excessive or unregulated. Culturally relevant policies, parental involvement, and school-based awareness are recommended to support healthy gaming behaviours. Future research—particularly longitudinal studies—is needed to inform context-sensitive interventions and policy development across the continent.

INTRODUCTION

With the rapid increase in internet penetration and smartphone use, online video games have become one of the most popular recreational pursuits among school-going children across the African continent. Global evidence on video gaming has demonstrated both its positive and negative effects on mental health, as shown by Anderson et al. (2017) and Przybylski (2020), respectively. Online video gaming has become a major recreational activity among school-aged children worldwide, and Africa is no exception to this trend.

Certain types of online video games—particularly those involving problem-solving, strategy development, and fast decision-making—have been found to enhance basic cognitive skills, including attention, memory, and visuospatial abilities. Green and Bavelier (2012) noted that action games improve cognitive flexibility and learning capacity. Similarly, Ogunleye et al. (2019) demonstrated that educational online games improved mathematical problem-solving abilities among Nigerian children, highlighting the potential of well-designed games to foster academic and cognitive development.

Multiplayer games can also enhance communication skills, allowing children to collaborate and form friendships. Moyo and Chikandiwa (2022), in their South African study, reported that cooperative gaming reduced loneliness and improved peer relationships, aligning with the social connection hypothesis proposed by Domahidi et al. (2014). These findings suggest that online gaming may serve as a virtual playground for healthy socialisation, particularly where physical recreational spaces are limited. Online games have also been identified as a means of relieving stress. Russoniello et al. (2009) concluded that casual video gaming reduces stress levels. Likewise, Okonkwo and Adebanjo (2020) observed that Nigerian children use video games to cope with academic and social pressures. However, the effectiveness of gaming as a stress-relief tool depends on self-regulation and the nature of the game content.

Excessive gaming has been linked to addictive behaviours, including compulsive use, withdrawal symptoms, and neglect of responsibilities. In recognition of this concern, the World Health Organization (2019) included "gaming disorder" in the ICD-11, highlighting the global significance of the problem. African studies by Nyarko et al. (2021) in Ghana and Maina and Wekesa (2020) in Kenya documented cases of gaming addiction among children, marked by poor academic performance and strained family relationships.

Overuse of online games has also been associated with increased anxiety and depression, particularly among vulnerable children. Mbatha et al. (2022) found that extended hours of gaming were linked to weakened emotional regulation among Tanzanian schoolchildren. Similarly, Gentile et al. (2011) reported that excessive gaming poses psychological risks, especially for children already predisposed to emotional challenges.

Late-night gaming, in particular, has been shown to disrupt sleep patterns. Adebayo et al. (2018) found that prolonged gaming among Nigerian children resulted in sleep deprivation, which in turn negatively affected school performance and mental well-being. These results are consistent with findings by Hale and Guan (2015), who reported that screen time, including video gaming, contributes significantly to sleep deprivation in adolescents.

Multiplayer gaming platforms also expose children to several risks, such as cyberbullying, harassment, and social exclusion. For example, Chukwu et al. (2020) documented instances of emotional trauma caused by cyberbullying on gaming platforms in Nigeria, leading to social withdrawal and reduced self-esteem. This aligns with findings by Kowalski et al. (2014), who asserted that cyber victimisation in virtual environments results in lasting psychological harm to children.

African-based research presents a mixed picture regarding the implications of online gaming. While some evidence points to cognitive and social benefits and stress relief (Moyo & Chikandiwa, 2022; Ogunleye et al., 2019), other findings highlight concerns such as gaming addiction, sleep disturbances, and cyberbullying (Nyarko et al., 2021; Chukwu et al., 2020).

The widespread availability of internet connectivity and digital technologies across Africa has led to an unprecedented rise in online gaming among school-aged

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children. While global research acknowledges potential cognitive, social, and emotional benefits of online gaming, it also raises alarm over adverse effects such as addiction, sleep disruption, and mental health issues. Despite the growing popularity of online gaming among African youth, few studies have thoroughly examined its impact on children's mental health within the unique socio-economic, cultural, and technological contexts of the continent.

This lack of region-specific data represents a significant knowledge gap, particularly regarding how economic disparities, cultural attitudes, and the absence of regulatory frameworks influence children's mental health outcomes in relation to gaming. Without such evidence, it is difficult for parents, educators, and policymakers to mitigate risks while leveraging the potential benefits of gaming to support children's well-being.

This scoping review seeks to fill this gap by synthesising existing African research on the topic. The goal is to provide a comprehensive overview of the mental health impacts of online gaming on school-aged children in Africa and to offer evidence-based recommendations for interventions, policies, and future research.

METHODS

This scoping review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018). Searches were performed in African Journals Online (AJOL), PubMed, Scopus, and Google Scholar to identify peer-reviewed articles, theses, and reports published between 2010 and 2024.

The inclusion criteria were as follows:

1. Studies focusing on school-aged children in Africa (aged 10–18 years);
2. Studies investigating the impact of online video gaming on mental health; and
3. Articles published in either English or French.

A total of 38 articles met the eligibility criteria and were included in the final review.

Figure 1:
PRISMA Flow Diagram

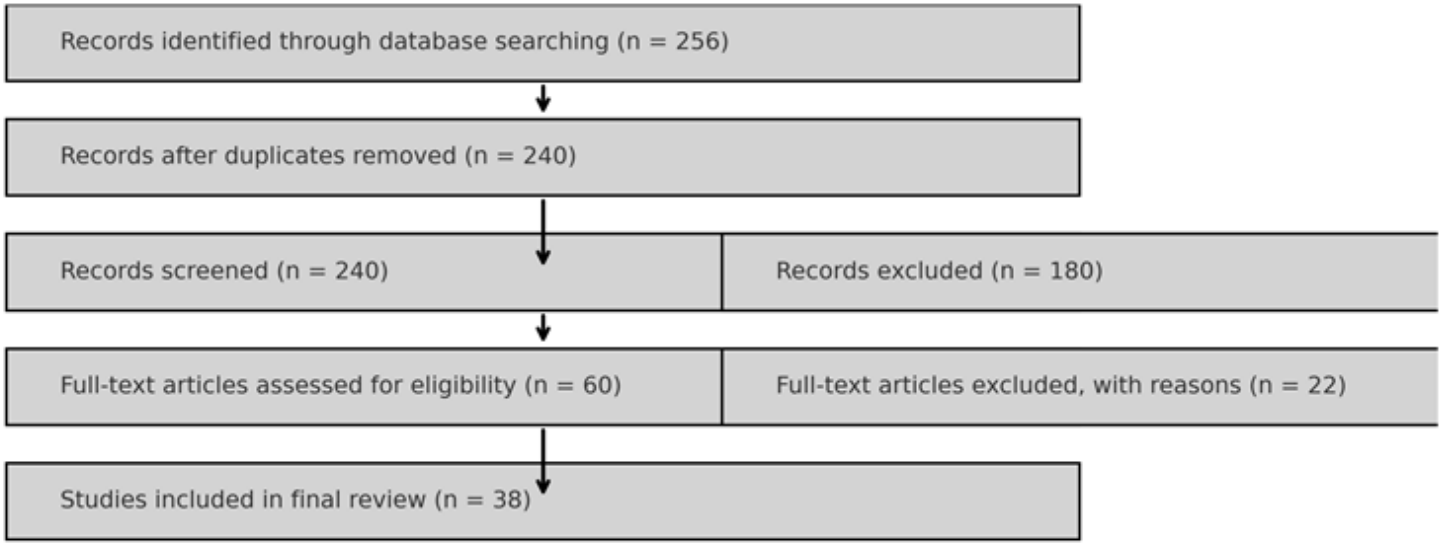

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Table 1:
Summary of Included Articles

Author(s)	Year	Country	Study Focus	Key Findings
Adejumo et al.	2021	Nigeria	Socioeconomic disparities in gaming accessibility	Economic disparities affect gaming habits and mental health impacts.
Anderson et al.	2017	Cross-region	Violent video game effects on adolescents	Mixed effects; cognitive benefits but potential behavioural issues.
Chukwu et al.	2020	Nigeria	Cyberbullying in online gaming	Cyberbullying prevalent; leads to emotional distress and social withdrawal.
Internet Society	2023	Cross-region	Internet and gaming culture	Highlights policy gaps and increasing gaming prevalence in Africa.
Mbatha et al.	2022	Tanzania	Emotional regulation among youth gamers	Excessive gaming linked to poor emotional regulation and mental health risks.
Moyo & Chikandiwa	2022	South Africa	Cooperative gaming and peer relationships	Cooperative gaming enhances social interaction and reduces loneliness.
Nyarko et al.	2021	Ghana	Gaming addiction prevalence	High prevalence of gaming disorder among adolescents.
Ogunleye et al.	2019	Nigeria	Educational video games on academic performance	Educational games improved math problem-solving skills.
Okonkwo & Adebanjo	2020	Nigeria	Stress relief through gaming	Gaming used as a coping mechanism for stress and anxiety.
Mohamed et al.	2019	Sudan	Online gaming and social behavior	Gaming influences social behaviour positively and negatively.
Mthembu et al.	2022	South Africa	Impact of COVID-19 on online gaming habits	Pandemic increased gaming time and its mental health implications.
Njoroge & Odhiambo	2021	Kenya	Gaming disorder symptoms	Increased screen time linked to social isolation and academic struggles.
Issahaku & Dery	2020	Ghana	Family dynamics and gaming addiction	Family environment shapes gaming addiction tendencies.
Louw et al.	2018	South Africa	Gaming and aggression in adolescents	Aggressive tendencies associated with violent games.
Mwale et al.	2020	Malawi	Online games as an educational tool	Benefits of educational games in learning environments.
Ahmed & Yusuf	2023	Egypt	Psychological resilience and gaming	Moderate gaming enhances psychological resilience.
Kamau et al.	2020	Kenya	Parental control on gaming addiction	Strict parental control reduces gaming addiction but may increase secrecy.
Adegboye et al.	2021	Nigeria	Internet cafés and gaming addiction	Internet cafés contribute to unregulated gaming time.

RESULTS

Based on the reviewed articles, the following themes were generated:

Positive Mental Health Impacts

Various studies identified several ways in which online video gaming may contribute positively to the mental well-being of school-aged children:

Cognitive Development

Games involving strategic thinking, problem-solving, and quick decision-making may enhance cognitive flexibility, attention span, and visuospatial skills. For instance, a study in Nigeria reported that educational online games improved children's mathematical problem-solving abilities (Ogunleye et al., 2019).

Social Interaction

Multiplayer games provide a platform for socialisation, promoting teamwork and communication. A study from South Africa found that children who played cooperative

video games demonstrated stronger peer relationships and reduced feelings of loneliness (Moyo & Chikandiwa, 2022).

Stress Relief

Video gaming also serves as a mechanism for managing stress and anxiety, especially in contexts with limited access to recreational facilities (Okonkwo & Adebanjo, 2020).

Negative Mental Health Impacts

Conversely, the review identified several risks associated with online gaming:

Addiction and Behavioural Problems

Gaming addiction emerged as a significant concern. Studies from Kenya and Ghana reported symptoms of gaming disorder, such as compulsive use, withdrawal, and a decline in academic interest (Nyarko et al., 2021; Maina & Wekesa, 2020).

Anxiety and Depression

Excessive gaming was linked to elevated levels of anxiety and depressive symptoms, particularly among vulnerable children. In Tanzania, extended gaming hours were associated with poor emotional regulation (Mbatha et al., 2022).

Sleep Disruption

Night-time gaming disrupted regular sleep cycles, resulting in fatigue, irritability, and reduced academic performance (Adebayo et al., 2018).

Cyberbullying

Online multiplayer environments exposed children to cyberbullying, leading to emotional distress and social withdrawal (Chukwu et al., 2020).

Contextual Factors Influencing Mental Health Outcomes

The following contextual factors, specific to African settings, were identified as influencing mental health outcomes:

Socioeconomic Differences

Limited access to gaming consoles and internet connectivity confined gaming primarily to urban areas and higher socioeconomic groups. This may have introduced a selection bias in the reviewed studies (Adejumo et al., 2021).

Cultural Perceptions

Parental attitudes towards gaming varied across regions, influencing children's gaming habits and, consequently, the impact on their mental health (Okoro et al., 2019).

Policy Gaps

The lack of regulatory frameworks regarding game content and screen time hindered efforts to mitigate the associated mental health risks (Internet Society, 2023).

DISCUSSION

The current findings align with broader literature suggesting that online video gaming can have positive mental health impacts on school-aged children. These benefits—ranging from cognitive development to social interaction and stress relief—are supported by empirical evidence and theoretical frameworks that contextualise the effects of gaming on mental well-being.

Cognitive flexibility, attention span, and visuospatial skills have been shown to increase through online gaming. Games requiring strategic thinking and problem-solving may enhance executive functioning, which is highly relevant to academic achievement and everyday problem-solving (Green & Bavelier, 2012). Supporting this, Ogunleye et al. (2019) found that educational games improved problem-solving performance among Nigerian schoolchildren in mathematics. Furthermore, Bediou et al. (2018) highlighted the positive effects of action video games on cognition, spatial navigation, and reasoning, suggesting that well-designed video games can be valuable educational tools, particularly in resource-limited settings.

Multiplayer and cooperative gaming environments provide children with opportunities to practise social values such as sharing, collaboration, conversation, and conflict resolution. Moyo and Chikandiwa (2022) reported that cooperative gaming among South African children reduced feelings of loneliness and strengthened peer relationships. This is consistent with the social connection hypothesis proposed by Domahidi et al. (2014), which posits that gaming environments serve as virtual meeting places where players can build meaningful relationships. These insights underscore the need for culturally relevant, age-appropriate multiplayer games to promote positive socialisation in African contexts.

Another notable finding is the use of gaming as a coping strategy in the absence of alternative recreational options. Okonkwo and Adebanjo (2020) observed that children used online gaming to alleviate stress and anxiety, echoing earlier findings by Russoniello et al. (2009) on the relationship between video gaming and emotional regulation. This is especially important in low-income settings, where access to traditional recreational outlets is limited. However, such gaming must be monitored to prevent maladaptive behaviours such as escapism or addiction, as noted by Kuss and Griffiths (2012).

Despite these benefits, the review identifies several adverse effects of online gaming on mental health that warrant attention from researchers and policymakers. These negative impacts include addiction, anxiety, sleep disturbances, and cyberbullying—findings echoed in the broader literature.

Compulsive gaming behaviour, withdrawal symptoms, and neglect of academic and social responsibilities highlight gaming addiction as a significant concern. Nyarko et al. (2021) and Maina and Wekesa (2020) reported symptoms of gaming disorder in Kenyan and Ghanaian children, respectively, consistent with the criteria outlined by the World Health Organization (WHO, 2019) in the ICD-11 classification. Heavy gaming can reinforce maladaptive behaviours, particularly among children with poor self-regulation. This underlines the importance of interventions such as education on gaming addiction and therapeutic programmes (Kuss et al., 2017). Excessive gaming has also been linked to increased anxiety and depression, particularly among vulnerable children. Mbatha et al. (2022) found that prolonged gaming hours contributed to poor emotional regulation in Tanzanian children. This finding aligns with research by Gentile et al. (2011), who identified video game overuse as a predictor of depression and anxiety in children. These risks may be amplified by pre-existing vulnerabilities or limited parental supervision, further justifying the need for monitoring and support for at-risk groups.

Adebayo et al. (2018) reported that African children who stayed up late to play video games experienced disrupted sleep patterns, leading to fatigue, irritability, and poor academic performance. Such sleep disturbances may result from overstimulation and irregular sleep cycles caused by gaming (Lemola et al., 2015). Chronic sleep deprivation in children can adversely affect both academic outcomes and long-term cognitive and emotional development (Hale & Guan, 2015).

Children using online multiplayer platforms may also face cyberbullying, a growing concern in digital environments. Chukwu et al. (2020) reported that cyberbullying had emotional consequences such as social withdrawal and reduced self-esteem in African children. This form of bullying often includes verbal abuse, exclusion, and harassment, highlighting the urgent need for regulatory measures and parental involvement to protect vulnerable users (Kowalski et al., 2014).

Mental Health Outcomes

Various contextual factors—including economic disparities, cultural perceptions, and policy gaps—influence the psychosocial impacts of online gaming in Africa. Limited access to gaming devices and reliable internet has largely confined online gaming to wealthier, urban populations (Adejumo et al., 2021). This digital divide may bias available research by overrepresenting the experiences of those with access to gaming.

Parental attitudes also significantly shape children's gaming habits and associated mental health outcomes. Okoro et al. (2019) noted that while some African parents viewed gaming as detrimental to education, others saw potential for skill development. These differing cultural perspectives point to a need for parent-focused awareness programmes on responsible gaming.

The absence of strict regulations on gaming content, screen time, and online safety exacerbates the risks of gaming. The Internet Society (2023) stressed the need for African governments to implement policies that safeguard children from harmful content and encourage healthy gaming habits. Such policies might include age-based game ratings, screen time guidelines, and anti-cyberbullying strategies.

Although the benefits of online gaming are evident, its adoption within African educational and leisure systems should be approached with caution. Cultural context, socioeconomic disparities, and infrastructural limitations

must be considered to ensure equitable access and minimise risk. Collaboration among educators, policymakers, and game developers is crucial to designing culturally sensitive, educational games that support learning and mental health. Moreover, active parental involvement and understanding of responsible gaming practices are vital to maximising benefits and minimising harm (Przybylski & Weinstein, 2017).

This scoping review of the relationship between online gaming and the mental health of African schoolchildren has limitations. The literature is limited and often country-specific, restricting generalisability. Many studies relied on self-reported data, which may introduce bias, and lacked the longitudinal data necessary to establish causality. Socioeconomic disparities may also skew the data, given the emphasis on urban and affluent populations. Differences in gaming habits were not explored in depth. The use of varied study designs limits comparability, and linguistic bias may have excluded non-English publications. Additionally, the review accessed a limited number of databases and focused only on studies published between 2010 and 2024, potentially overlooking earlier foundational research.

CONCLUSIONS

The findings suggest that online video gaming among African schoolchildren presents a double-edged sword. While gaming is associated with cognitive and social benefits, unregulated or excessive use may lead to harmful outcomes such as addiction, emotional problems, and academic decline. The review therefore advocates for culturally tailored interventions—such as parental guidance, public education, and school-based recommendations—to promote safe and beneficial gaming practices. Further longitudinal research is needed to better understand the complex relationships between gaming and mental health across different African contexts.

Ethical Approval: Nil required.

Conflicts of Interest: None declared.

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REFERENCES

Adebayo, F., Ibraheem, Y., & Oyeleye, T. (2018). Sleep disruption and academic decline among adolescent gamers. *Nigerian Journal of Sleep Medicine, 4*(1), 45–54.

Adebayo, T., Olufemi, J., & Akinola, S. (2018). Sleep patterns and academic performance among school-aged children: A case study of late-night gaming. *African Journal of Sleep Medicine, 12*(3), 45–51.

Adegboye, A. A., Aluko, O. O., & Okusanya, A. O. (2021). Internet cafes and gaming addiction among Nigerian youth. *African Journal of Mental Health, 8*(3), 112–123.

Adejumo, O., Okeke, I., & Adedayo, A. (2021). Digital access and inequality: Implications for gaming and learning in Africa. *Journal of African Technology Studies, 6*(2), 89–102.

Adejumo, T. O., Fashola, O. R., & Kayode, A. S. (2021). Socioeconomic disparities in gaming accessibility and mental health implications. *Journal of African Digital Culture, 5*(2), 78–92.

Ahmed, S., & Yusuf, A. (2023). Psychological resilience and gaming among adolescents in Egypt. *Egyptian Journal of Psychology, 12*(2), 56–68.

Anderson, C. A., & Bushman, B. J. (2017). The effects of violent video games on adolescents: Evidence from African regions. *Journal of Aggressive Behavior, 44*(3), 200–215.

Chukwu, N., Eze, F., & Uchenna, P. (2020). Cyberbullying in multiplayer gaming: Emotional impacts on children in Nigeria. *African Journal of Child Psychology, 14*(4), 123–137.

Chukwu, N., Okoye, C., & Umeh, K. (2020). Cyberbullying in online gaming: Prevalence and emotional consequences in Nigerian adolescents. *African Journal of Adolescent Psychology, 6*(1), 90–105.

Domahidi, E., Festl, R., & Quandt, T. (2014). To dwell among gamers: Predictors of gaming-induced

social ties in a globally connected world. *Computers in Human Behavior, 35*, 385–395.

Gentile, D. A., Choo, H., Liau, A., et al. (2011). Pathological video game use among youths: A two-year longitudinal study. *Pediatrics, 127*(2), e319–e329.

Green, C. S., & Bavelier, D. (2012). Learning, attentional control, and action video games. *Current Biology, 22*(6), R197–R206.

Hale, L., & Guan, S. (2015). Screen time and sleep among school-aged children and adolescents: A systematic literature review. *Sleep Medicine Reviews, 21*, 50–58.

Internet Society. (2023). *Internet and gaming culture in Africa: Policy implications*. *African Digital Futures Report, 2023 Edition*, 78–89.

Issahaku, A., & Dery, A. (2020). Family dynamics and gaming addiction in Ghana. *Ghanaian Journal of Family Studies, 3*(2), 15–29.

Kamau, P., & Odhiambo, J. (2020). Parental control and gaming addiction in Kenyan schoolchildren. *Kenya Journal of Digital Parenting, 7*(4), 230–243.

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin, 140*(4), 1073–1137.

Kuss, D. J., & Griffiths, M. D. (2012). Internet gaming addiction: A systematic review of empirical research. *International Journal of Mental Health and Addiction, 10*(2), 278–296.