HEALTH AND SOCIAL IMPACT OF THE INTERNET AND SOCIAL MEDIA ON AFRICAN CHILDREN: A NARRATIVE REVIEW AND A CALL TO ACTION

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ABSTRACT

Background: **Internet and social media are increasingly embedded in children's education, relationships, and leisure. For African children, this expansion is occurring alongside marked inequalities in connectivity, digital literacy, parental mediation, and online protection.**

Aim: **To synthesise evidence on the health and social effects of internet and social media use among African children and derive practical multilevel actions.**

Materials and Methods: **PubMed/MEDLINE, Embase, PubMed Central, Google Scholar, and African Journals Online were searched for literature published from January 2016 to June 2025. African studies and relevant reviews or policy reports involving persons younger than 18 years were narratively synthesised. Findings were mapped to a social ecological framework.**

Results: **Digital technologies support learning, access to information, social connection, and creativity. However, excessive or poorly supervised use is associated with sleep disruption, mental health symptoms, problematic internet use, sedentary behaviour, visual complaints, cyberbullying, exploitation, privacy harms, and academic disruption. Exposure and risk differ substantially by age, sex, residence, household resources, and parental support. Much of the available evidence is cross-sectional and does not establish causality.**

Conclusion: **African responses should protect children without excluding them from digital opportunities. Coordinated action by families, schools, health professionals, communities, governments, and technology companies is required.**

Keywords: African children; Digital media; Internet; Online safety; Social media

INTRODUCTION

The internet and social media now influence how children learn, communicate, play, and form relationships. Their effects are not uniformly beneficial or harmful. Developmental stage, the nature of the content, patterns of use, family relationships, and whether screen use displaces sleep, physical activity, schoolwork, or face-to-face interaction all shape outcomes. The same platform may provide educational support and social connection for one child while exposing another to cyberbullying, exploitation, misinformation, or compulsive use.[1-3]

These questions have particular importance in Africa. Connectivity is expanding, but access remains unequal within and between countries. Many children connect through shared or mobile devices, often with limited adult guidance, weak age-assurance systems, and variable enforcement of child-protection and data-protection laws. Evidence is also uneven: studies are concentrated in a few countries and frequently use cross-sectional, self-reported measures. A balanced social-paediatric approach must therefore consider both digital opportunity and digital harm, while avoiding causal claims that the available evidence cannot support.

This narrative review examines patterns and drivers of internet and social media exposure among African children, their health, developmental, and social effects, and interventions that may promote safe, equitable, and developmentally appropriate digital participation.

MATERIALS AND METHODS

A narrative review was undertaken. PubMed/MEDLINE, Embase, PubMed Central, Google Scholar, and African Journals Online were searched for literature published from January 2016 to June 2025. The search combined terms for the population (child*, adolescent*, or youth*), setting (Africa, sub-Saharan Africa, or the names of individual African countries), exposure (internet, social media, digital media, screen time, smartphone*, or artificial intelligence), and outcome (health, development, education, safety, cyberbullying, addiction, or intervention). Database syntax was adapted as required. Older seminal publications were retained only for definitions, clinical guidance, and the social ecological framework.

Eligible sources were English-language empirical studies, reviews, guidelines, and policy reports that addressed persons younger than 18 years in Africa and reported digital access, patterns of use, opportunities, health or developmental outcomes, social and safety outcomes, or interventions. Adult-only studies, reports without child-specific findings, purely technical articles, conference abstracts without sufficient data, duplicate publications, and sources without clear relevance to African children were excluded. Where African evidence was limited, high-quality international reviews or guidance were used to contextualise findings and were clearly distinguished from African data.

Titles and abstracts were screened for relevance, followed by review of potentially eligible full texts. Data of interest included country and setting, age group, type and duration of digital exposure, access barriers, reported benefits, physical and mental health outcomes, developmental and educational outcomes, online harms, protective factors, and interventions. Findings were synthesised under six themes: access and exposure; drivers of engagement; opportunities; health and developmental effects; social and online-safety consequences; and mitigation strategies. The call to action was derived from this synthesis and mapped to child, family, school and health-service, community, policy, and platform levels using the social ecological framework; it was not based on separate primary research.[26]

Digital exposure and inequality among African children

Continental estimates require cautious interpretation. The International Telecommunication Union reported that 37% of Africa's population used the internet in 2023, but this population-level figure is not an age-disaggregated estimate and should not be used to calculate the number of child users.[1] No continental dataset directly measures the proportion of internet users who are children; age-stratified national data are therefore preferable. The strongest available household evidence demonstrates a pronounced digital divide. In 2020, only 5% of children and young people in West and Central Africa had internet access at home; 95% of school-aged children in West and Central Africa and 88% in Eastern and Southern Africa were unconnected at home.[2] These estimates do not capture all access through schools, shared devices, or mobile networks, but they show why access and exposure cannot be treated as uniform.

Among adolescents who are connected, mobile phones are the dominant point of access. A multicountry sub-Saharan African survey documented wide variation in device availability and use, while child-focused studies in Nigeria similarly show differences by age, school, and household context.[4,5] Cost of data, lack of a suitable device, poor signal, unreliable electricity, rural residence, and restrictions imposed by adults remain important barriers. At the same time, children who have regular access may spend substantial periods online. These contrasting realities mean that African policy must address both digital exclusion and unsafe or excessive use.

Drivers and opportunities

Several interacting factors are increasing children's digital engagement. More affordable smartphones and expanding mobile networks have widened access. The coronavirus disease 2019 pandemic accelerated online schooling, digital entertainment, and remote social contact; pooled international evidence shows a marked rise in screen time during the pandemic.[6] Schools increasingly use digital resources, while busy household routines may encourage the use of screens as unsupervised entertainment. Peer networks, influencers, and platform features that reward repeated checking and continuous scrolling can further extend use. Earlier exposure is also becoming more common, although age at first access varies greatly by country and household.[37]

Parental mediation is a critical modifier. Studies from Ethiopia and Nigeria indicate that parents generally recognise educational benefits but vary in digital literacy, rule-setting, co-use, and monitoring.[8,9] Restrictive surveillance alone may prompt secrecy; active mediation, in which adults discuss content and online conduct with the child, is more likely to build judgement and trust. Children with limited adult support, disabilities, psychosocial difficulties, or social isolation may be particularly vulnerable and should not be managed through one-size-fits-all screen limits.

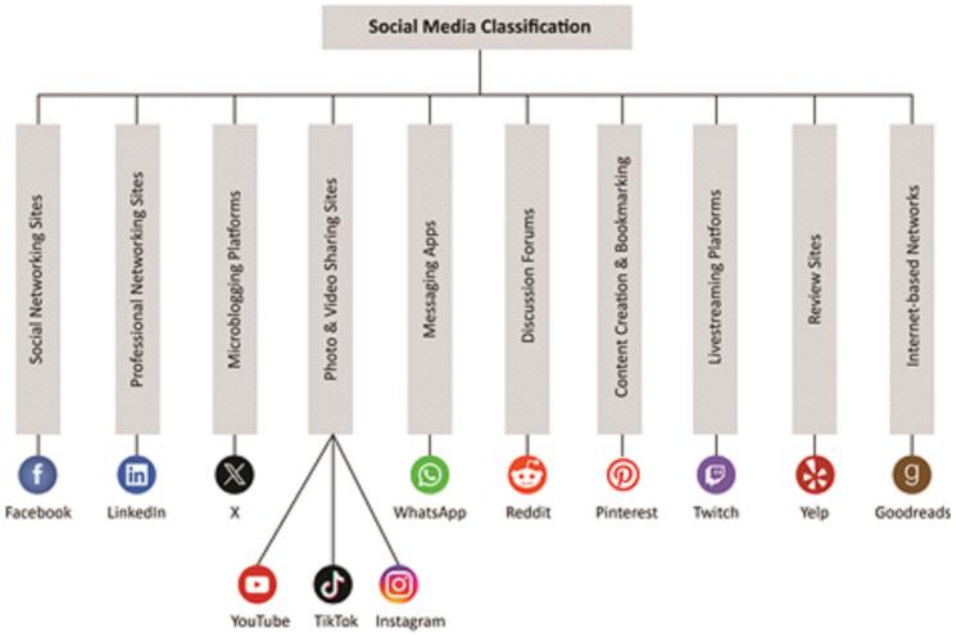


Figure 1: Overview of popular social media platforms

Digital participation also offers substantial benefits. Online resources can extend learning, provide health information, support communication across distance, and create spaces for creativity, civic participation, and peer support. For children in remote or underserved settings, digital tools may reduce geographical barriers to educational materials and specialist advice. Internet-enabled learning and emerging artificial-intelligence applications may support personalised instruction, but they also introduce concerns about inaccurate content, algorithmic bias, privacy, and unequal access. Child-specific African outcome data on these applications remain limited.[3,10] The policy goal should therefore be meaningful and safe access, not digital exclusion.

Health and developmental effects

Mental health findings require careful interpretation. Observational studies and reviews associate high-intensity or problematic social media use with depressive and anxiety symptoms, low self-esteem, body-image concerns, and internalising or externalising problems.[11,12,15-17] Cyberbullying is consistently associated with psychological distress and depression.[14] However, most studies are cross-sectional, exposure measures vary, and directionality is uncertain. A distressed adolescent may use social media more frequently (figure.1), while online experiences may also aggravate pre-existing distress. Content, motive for use, and the quality of online interaction may be more informative than duration alone.

Sleep is one of the most consistent concerns. Bedtime device use may delay sleep through time displacement, emotional arousal, notifications, and light exposure. Longer screen exposure has been associated with later bedtimes, shorter sleep, and poorer sleep quality among adolescents.[18,19] Sleep loss may in turn impair attention, mood, and school performance. Rapid short-form content and frequent task-switching can interrupt sustained learning, but current evidence does not justify attributing neurodevelopmental disorders, including autism, to social media use.

For younger children, prolonged passive screen exposure may displace caregiver interaction, language-rich play, outdoor activity, and sleep. Reviews have reported associations with language and cognitive outcomes, although content quality, co-viewing, and family circumstances are important confounders.[13,18] The World Health Organization recommends avoiding sedentary screen time in infants and limiting it in children aged two to four years, alongside adequate sleep and active play.[34] Guidance for older children should consider developmental needs and what digital use displaces rather than rely on a single universal threshold. Physical effects include sedentary behaviour, reduced physical activity, musculoskeletal discomfort, and digital eye strain.[20,22] Eye strain is related mainly to prolonged near work, reduced blinking, and poor ergonomics; evidence does not support describing blue light as the sole cause. Prolonged use at unsafe listening volumes may also increase the risk of tinnitus or hearing loss.[21] Practical prevention includes regular breaks, appropriate viewing distance and posture, outdoor activity, adequate lighting, and safe listening levels. These effects are generally preventable and should be discussed without alarmist language.

Social and online-safety consequences

The short-term negative social consequences of poorly regulated use include school distraction, reduced face-to-face interaction, social withdrawal, heightened anxiety, and impaired development of interpersonal skills. Curated posts from peers and public figures may promote social comparison, consumerism, and unrealistic expectations. This can influence self-concept and identity formation, particularly during adolescence; these processes are part of the same developmental pathway and are considered together rather than as separate repetitive points.

Online risks include cyberbullying, sexual grooming and exploitation, coercive image-sharing, exposure to violent or sexual content, scams, and misuse of personal data.[14,23,24] A child's digital footprint may persist long after the original post and affect future education, employment, or relationships. Children need practical skills in consent, privacy, blocking and reporting, verification of information, and seeking help. Supportive responses are essential: punitive reactions may discourage disclosure when harm occurs.

Digital spaces can broaden cultural awareness and give children access to supportive communities, but they may also intensify conflict between online norms and family or community values.[25] This is not inherently harmful; the concern is whether children can interpret unfamiliar content, maintain a coherent sense of identity, and discuss tensions with trusted adults. Developmentally grounded interpretation is preferable to named celebrity examples or moralising descriptions of adolescent behaviour.

A social ecological call to action

The evidence supports coordinated action across the environments in which children develop (Fig. 2). The recommendations below were generated from the reviewed literature and organised using the social ecological model; no survey or other primary study was conducted to produce them.[26-30]

Families. Parents and carers should use developmentally appropriate family media plans, agree on device-free times and sleeping areas, model healthy use, and prioritise co-use and discussion over covert surveillance. Rules should consider the child's age, disability, school needs, and psychosocial context. Adults should know how to use privacy settings and reporting tools, recognise cyberbullying or exploitation, and respond calmly when a child discloses harm.[8,9,24]

Schools and health services. Digital literacy, online consent, privacy, misinformation, respectful communication, and help-seeking should be integrated into age-appropriate curricula. Schools require confidential reporting pathways and clear responses to cyberbullying and image-based abuse. Paediatricians and other child-health professionals should ask about sleep, school function, online relationships, distress, and problematic use when clinically relevant, rather than relying only on total screen time. Children with mental health symptoms, exploitation, or compulsive use need timely safeguarding and referral.

Communities. Community and faith leaders, youth organisations, libraries, and civil-society groups can provide parent education, supervised digital-learning

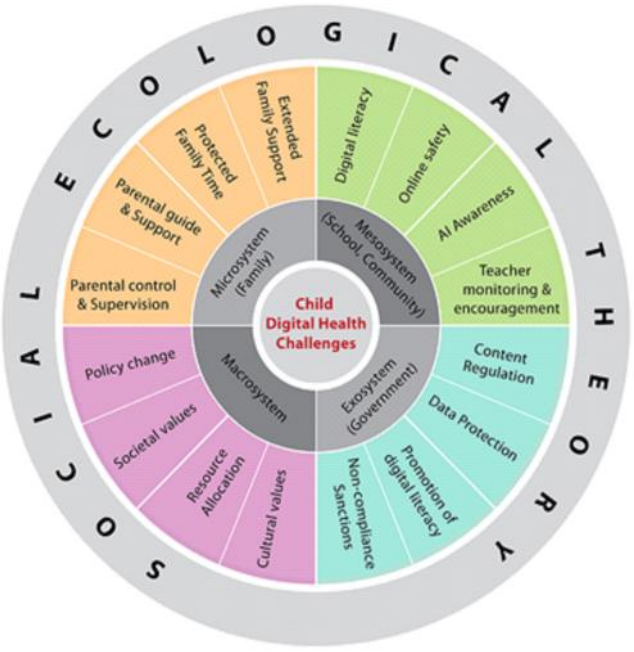


Figure 2: Social ecological model and the promotion of healthy digital habits in children

spaces, safe recreation, and support for children who experience online harm. Adolescents should participate in designing messages and services intended for them. Digital-footprint and media-literacy programmes can improve practical safety skills.[27,38] Health professionals can also use digital platforms responsibly for advocacy and public education.[36]

Governments and technology companies. Child protection should be built into platform design through privacy-by-default settings, accessible reporting, age-appropriate content controls, transparent moderation, and limits on manipulative engagement features. Governments should enforce data-protection, cybercrime, consumer-protection, and child-safeguarding laws while preserving legitimate access to information.[28,31-33] Policies should address affordability, rural connectivity, disability access, and gender inequity so that safety measures do not deepen exclusion. Responsibility should not be shifted to parents alone; platforms and regulators control many of the conditions that shape exposure and risk.

Research. African longitudinal and intervention studies are needed to distinguish correlation from causation and to identify which children benefit or are harmed. Studies should report age, sex, disability, socioeconomic position, rural or urban residence, device access, platform, content, purpose, and context of use. Consistent measures of problematic use, sleep, mental health, educational function, and online harm would improve comparability. Evaluations should include children's perspectives and test feasible family, school, clinical, community, and regulatory interventions.[29,30]

Limitations

This narrative review did not use a preregistered systematic-review protocol or formal risk-of-bias assessment. The English-language restriction, uneven geographical distribution of studies, heterogeneous definitions, and reliance on self-report may have excluded relevant evidence and limit generalisability. Platforms and patterns of use also change faster than the research cycle. Accordingly, reported associations should not be interpreted as proof of causation, and continental estimates should not be assumed to apply uniformly to individual countries or children.

CONCLUSION

Internet and social media use among African children presents a dual challenge: many children remain digitally excluded, while connected children may experience preventable health, developmental, and safety risks. Responses should be proportionate, evidence-based, and centred on children's rights. Families, schools, health professionals, communities, governments, researchers, and technology companies share responsibility for enabling safe and meaningful digital participation.

Declaration

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

All the data for the review are available in the public domain

Competing interests

The authors declare no conflict of interest

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Authors' contributions

Michael Abel Alao: Substantially contributed to the study's conception and design, data acquisition, and interpretation. Drafted and critically revised the manuscript for important intellectual content, provided final approval, and accepts responsibility for the integrity and accuracy of the work.

Fagbohun AO, Ogunbosi BO, Folayan OS, Ashubu OF, Akinseinde JA, Adeniyi FT, Ibeh JN, Fasina KF, Adebayo BE, Akindolire AE, Ademola AD, Tongo OO, Ayede AI, Asinobi AO, Brown BJ, Oladokun RE, Lagunju IA, Falade AG: Contributed significantly to the study's design, data analysis, and interpretation. Critically revised the manuscript, provided final approval, and are accountable for the work's integrity and accuracy.

Akinyinka OO: Contributed significantly to the study design and interpretation and provided mentorship. Critically revised the manuscript, approved the final version, and accepts accountability for the integrity and accuracy of the work.

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