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ABSTRACT

Introduction There is growing public concern and emphasis on the potential negative implications of social media on adolescent mental health and the implementation of social media restrictions, despite limited and mixed evidence that predominantly originates from the Global North. In sub-Saharan Africa (SSA), where adolescent populations are rapidly expanding and adopting technology, research on social media and mental health is limited. This scoping review aims to map and describe the available evidence on social media use and mental health among adolescents in SSA.

Methods and analysis This study employs the scoping review methodology from the Joanna Briggs Institute, following a five-stage process: (1) determining the research question, (2) creating a search strategy, (3) defining inclusion criteria, (4) extracting data, (5) conducting analysis, presentation, and (6) consultations. The search strategy will be applied to databases such as PsycINFO, PubMed (Medline and OVID), Web of Science, LILACS, Scopus, Google Scholar, ProQuest Dissertations and PsycINFO Extra, covering both empirical and grey literature. Articles will be independently assessed for eligibility with data extraction and charting performed using a standardised form. Visualisation tools, such as a heatmap for the prevalence of studies in SSA and a network diagram depicting relationships, will be used.

Ethics and dissemination Ethics approval was not required for this review. Dissemination will occur through a peer-reviewed journal article, academic presentations and online news media in the form of a commentary which will be publicly available.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ Focusing on sub-Saharan Africa, this study highlights an often under-represented region, providing valuable insights that can inform research, policy and practice.
⇒ The review will include consultations with experts in the field to explore their perspectives and understanding of the results.
⇒ In some regions, reliable and comprehensive data on social media use and its impact may be sparse or of variable quality.
⇒ The rapid evolution of social media trends and platforms poses a challenge for the research field to keep pace with, potentially rendering some findings outdated with limited long-term applicability.

INTRODUCTION

Adolescence is marked by significant hormonal, physiological, cognitive and social changes. These changes amplify the impact of an adolescent's social environment on their development, making them more sensitive to social approval, identity formation and self-perception.[1] Consequently, adolescents are particularly attracted to social media platforms, which offer instant validation, social interactions and peer connections, all of which are highly rewarding with minimal effort.[2 3] The rise in social media usage has fundamentally altered how adolescents spend their time, socialise, portray themselves and communicate. Concurrently, there is a global increase in mental disorders among adolescents, with more than half experiencing at least one episode of mental ill-health by age 25.[4] Society often attributes this potential rise in mental health issues to social media use (SMU) among adolescents, leading to widespread concern among parents, teachers and policy makers.[5] Social media offers opportunities for children and adolescents to interact, create and learn, but there is growing public concern and emphasis on the negative implications of social media on adolescent development and the implementation of social media bans,[6] despite limited and mixed evidence that predominantly comes from the Global North.[1]

In sub-Saharan Africa (SSA), adolescent populations are projected to exceed 500 million, constituting a significant 23% of the global adolescent population by 2050, and are maturing amidst large-scale technological changes.[7] Depression and anxiety affect 27% and 30% of adolescents in SSA, respectively.[8] Currently, in this region, the digital landscape is rapidly evolving, characterised by

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increasing internet penetration rates that are narrowing the digital divide.[9] The ownership of mobile phones among individuals in the region reached 54.9% in 2020, with adolescents comprising a substantial proportion of users.[7] South Africans spend the most time on social media compared with the global average.[10] Despite the substantial number of young people using social media platforms in this region, research on SMU and mental health among adolescents remains limited.[11] Furthermore, the findings from high-income countries and the Global North cannot be generalised to the Global South due to differing social contexts.[9 12 13] Specifically, adolescents in SSA, particularly those in lower socioeconomic areas, face unique challenges, including high exposure to violence, trauma, poverty, rapid urbanisation and stigma about mental health.[8] Adolescents in SSA also exemplify a collectivist 'Ubuntu' culture, distinct from many global North countries.[14] These factors may influence their use as well as the beneficial and detrimental consequences of SMU.[11]

While rapid reviews on risks and opportunities associated with social media or digital platforms exist that encompass certain regions in SSA, these were conducted prior to the COVID-19 outbreak.[15–17] During and post-COVID, there has been an exponential increase in the types and accessibility of social media.[18] Furthermore, there remains a paucity of comprehensive reviews focused solely on the SSA region, which provides insight into the nuances of social media in these contexts.[15] Recent scoping reviews of SMU among adolescents may not adequately capture studies in SSA because of their limited search terms, which do not specify the regions within SSA. The geographical bias towards Western countries in these reviews might be a potential consequence of the inclusion criteria requiring articles to be written in English. This approach potentially results in gaps in capturing the full extent of social media usage within the sub-Saharan region.[19]

This scoping review aims to map and describe the available evidence on SMU and mental health among adolescents (aged 13–19 years) in SSA. Specifically, the objective is to (a) summarise and describe the characteristics of the existing literature, (b) describe the nature of the relationship (eg, association, mediation, causation and others) between SMU and mental health and (c) summarise how the literature addresses different subpopulations such as gender, urban–rural settings and socioeconomic position. This review will serve as a starting point for researchers to fill research gaps, formulate theoretical frameworks that are applicable to this region and improve the methodology in this area.

METHODS AND ANALYSIS

Protocol design

This scoping review will be conducted in accordance with Arksey and O'Malley's guiding framework for scoping reviews, which was subsequently refined by Levac *et al*[20 21] and is included within the manual published by the Joanna Briggs Institute for scoping reviews.[22] This protocol and subsequent scoping review are documented in line with the guidelines set forth by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Review (PRISMA-SCR).[23] The framework outlined by Arksey and O'Malley is iterative and reflexive and is based on six methodological stages: (1) identifying the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data, (5) collating, summarising and reporting the results and (6) consultations. This iterative search process ensures comprehensive coverage of both the determinants and outcomes of SMU.

Data sources and search strategy

The following databases were searched: PsycINFO, PubMed (Medline and OVID), Web of Science, LILACS and Scopes. We believe that these databases will provide results relevant to this area of focus. We will also search Google Scholar, ProQuest Dissertations and Theses and PsycInfo Extra to capture any grey literature or additional publications. In addition to the database searches, we will hand-search the reference lists of all relevant published studies that are returned in the search. The electronic database searches will be conducted once the protocol has been accepted. The search terms in box 1 target social media or specific social media platforms, adolescent populations and mental health using the AND operator ((Social media AND Adolescents AND Mental health)) AND Sub-Saharan Africa). To increase broad coverage of the literature, we will further refine our search terms and strategy as our familiarity with the literature increases, as recommended by Daudt and colleagues.[24]

Inclusion and exclusion criteria

The PCC framework, which emphasises population (P), concept (C) and context (C), will be used to guide the inclusion and exclusion criteria for this review.[22] Table 1 summarises these criteria. Adolescents aged 13 years will be selected, as most social media platforms require users to be at least 13 years old to access their services.[25] Studies including broader age ranges (eg, 9–13 or 18–35) will only be included if the results for adolescents (13–19) are explicitly reported or can be extracted separately. This review will focus on SMU among adolescents but will also include perspectives from parents, teachers and healthcare professionals. Social media are defined as online platforms that enable users to create, share content and engage in social networking.[26] We will exclude applications or websites used for health-related services or monitoring, single-transmission content (eg, TV or podcasts) and real-time communication exchanges (eg, Microsoft Teams). Studies in any language will be included with translation support as needed. We will consider empirical studies, conference reports, reports from global agencies (eg, UNICEF, WHO) and dissertations with full-text availability. Systematic reviews and meta-analyses

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Box 1 Initial search terms used to cover the literature

1. Social Media (OR):
"digital", "mobile", "smartphone", "internet", "online", "virtual", "social media", "online social networking", "internet use", "online-community", "online-communities", "social-app", "social-apps", "social-networking-app", "social-networking-apps", "social-networking-site", "social-networking-sites", "Meta", "Artificial intelligence", "Online-game*", "game*" blog, "video game", "computer game", "videogame"
Popular Social Media Websites in Sub-Saharan Africa (Statista, 2021)[28]: "Facebook", "YouTube", "WhatsApp", "Messenger", "Telegram", "Instagram", "Pinterest", "Tumblr", "TikTok", "Snapchat", "X (Twitter)"

2. Child and Adolescent Populations (OR):
"child", "adolescent", "adolescent development", "adolescence", "teen", "teens", "teenager", "teenagers", "youth", "young", "juvenile", "pupil*", "student*", "school", "boy", "girl", "minors", "kids", "young people", "pre-teens", "pre-adolescents", "school-aged children", "young man", "young woman", "young lady"

3. Mental health (OR):

3.1. Psychological Outcomes

Negative Outcomes:
"mental illness", "depress*", "anxiet*", "stress*", "suicidal ideation", "humiliat*", "hurt", "loneliness", "low self-esteem", "body image dissatisfaction", "fear of missing out" (FOMO), "sleep", "insomni*", "emotional distress", "psychological distress", "burnout", "negative self-perception", "emotional exhaustion", "mood disorder*", "screen time", "fatigue", "envy", "emotional dysregulation", "PTSD", "traumatic stress", "psychopatholog*", "mania", "manic", "borderline", "personality"

Positive Outcomes:
"mental health", "well-being", "psychological well-being", "emotional well-being", "mental well-being", "resilienc*", "self-esteem", "self-compassion", "positive self-perception", "stress management", "coping", "awareness", "digital intervention", "therap*", "counselling", "wellness", "personal development", "empowerment", "life satisfaction", "inspiration", "emotional regulation," "crisis intervention", "treatment", "therapy", "quality of life", "happiness", "thrive*", "content*", "welfare"

3.2. Behavioural Outcomes

Negative Outcomes
"behavioral issues", "risky behavior", "substance use", "alcohol consumption", "tobacco use", "sexual risk behavior", "self-harm", "conduct", "sexting", "peer pressure", "violence", "cyberbullying", "digital overuse", "distraction", "attention", "focus", "addiction", "bullying", "cyberharassment", "internet bully", "online radicalization", "poor academic achievement", "exploitation", "harassment", "grooming", "solicitation", "extortion", "assault", "humiliation", "victimization", "aggression", "coercion", "blackmail", "intimidation", "manipulation", "prostitution", "perpetration", "oversharing", "cyberstalking", "validation-seeking", "identity theft", "abuse", "doomscrolling", "doxing", "trolling", "flaming", "hate speech", "phishing", "ghosting", "conflict", "bipolar*", "Schizophren*", "psychotic*", "psychosis*", "psychoses*", "bipolar", "mania", "manic", "anorexi*", "bulimi*", "eating disorder", "borderline", "panic", "obsessive compulsive"

Positive Outcomes
"health behavior", "safe online behavior", "digital literacy", "educational", "online activism", "advocacy", "youth leadership", "learning", "digital citizenship", "positive behavioral change", "safe internet use", "responsible social media use", "self-regulation", "academic achievement", "mindfulness", "protective behavior", "prosocial behavior", "mental health care"

3.3. Social Outcomes

Negative Outcomes
"social isolation", "social withdrawal", "peer rejection", "reduced social interaction", "negative peer influence", "social comparison", "social disconnection", "reduced social skills" "misinformation", "disconnection"

Positive Outcomes
"support", "peer group", "friendship", "online community", "peer networking", "civic engagement", "youth empowerment", "participation", "mentorship", "safe online spaces", "positive social interaction", "inclusive digital space", "cross-cultural exchange", "online friendship", "social connection", "digital storytelling", "belonging", "social capital", "digital inclusion", "self-expression", "identity exploration", "connect", "social justice", "social change", "identity affirmation", "relationship"

4. Sub-Saharan Africa (OR)
"Angola", "Benin", "Botswana", "Burkina Faso", "Cabo Verde", "Cameroon", "Central African Republic", "Chad", "Congo", "Cote D'Ivoire", "Democratic Republic Of The Congo", "Djibouti", "Equatorial Guinea", "Eritrea", "Eswatini", "Ethiopia", "Gabon", "Gambia", "Ghana", "Guinea", "Guinea-Bissau", "Kenya", "Lesotho", "Liberia", "Malawi", "Mali", "Mauritania", "Mozambique", "Namibia", "Niger", "Nigeria", "Rwanda", "Sao Tome And Principe", "Senegal", "Sierra Leone", "Somalia", "South Africa", "South Sudan", "Sudan", "Tanzania", "Togo", "Uganda", "Zambia", "Zimbabwe"

will be reviewed to identify relevant studies. Studies from the past 5 years (January 2021- March 2025) will be included because of the significant impact of the COVID-19 pandemic on SMU and the outdated nature of prior reviews on SSA, typically before 2020. We will not conduct any risk of bias assessments in accordance

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Table 1 Inclusion and exclusion criteria according to the PCC framework

	Inclusion	Exclusion
Participants	Adolescents aged 13–19 years or studies reporting on adolescents from other perspectives	Other populations or adolescents out of this age group
Context	Sub-Saharan Africa	Countries not in sub-Saharan Africa
Concepts	Social media determinants and outcomes of use	Studies not focusing on social media platforms
Sources of evidence	► Empirical studies ► Conference reports ► Reports from studies conducted by global agencies (ie, UNICEF, WHO) dissertations ► Full text ► Any methods	► Commentaries ► Perspectives ► Opinion pieces ► Unavailable full text
Language	Any language	
Time frame	The last 5 years (January 2021- March 2025)	Older than 5 years

with the Joanna Briggs Institute Scoping Review Methods Manual.[22]

Study selection and data extraction

Duplicate screening of the studies will be performed based on the title, abstract and full text. Three independent reviewers will first identify potentially relevant studies by their titles. Abstracts will be read to determine whether a specific study should be included only when the title is inconclusive for assessing potential relevance. All identified and relevant studies will be collated into EndNote (V.X20) for easy management of our references. The studies will then be exported to the Rayyan platform for screening and data extraction.[27] Two authors of the review team will carry out the screening and selection of evidence sources, and this process will be cross-checked by a third author who selects and screens a subset of potentially relevant sources to determine agreement. Any discrepancies that occur during the screening process will be resolved through discussions among the team. Excluded sources will be reported in the final review with reasons for exclusion. The adapted PRISMA-SCR chart will be used to graphically depict the movement or sources from the initial search to the final inclusion of the studies.[23]

We will abstract data based on article characteristics, which will be stored in a table containing the following extractions: author, year of publication, country, population, study design, aims, type of social media and summary of key findings. Two reviewers will carry out data abstraction using two standardised data extraction forms that will be developed a priori and will be pilot tested on a sample of five included papers. Two other reviewers will then check the quality of the extracted data for consistency and accuracy.

Collating, summarising and reporting of the results

In addition to the table of characteristics, a heat map of SSA will be used to demonstrate the prevalence of studies in each region. A network diagram will illustrate the types of relationships, with lines in different colours representing various relationships (median, association, causation) and nodes highlighting the links between mental health and social media. A stacked bar chart will visualise subpopulations (eg, gender, urban–rural settings, socioeconomic position), with the stacked sections indicating the number of studies focused on each group. A descriptive summary will complement the tabulated results, explaining how the findings address the scoping review questions.

Consultations

A list of relevant experts will be compiled from research organisations and institutions, aiming to include researchers and authors from SSA who have worked on adolescents, SMU and/or adolescent mental health. Experts will be invited via email to complete a survey capturing their feedback on the search strategy and preliminary findings as well as their perspectives and understanding of the findings. Their survey will be reviewed, and suggestions will be incorporated into the paper.

ETHICS AND DISSEMINATION

This study did not require ethical approval from a human research ethics committee because of the lack of involvement of human participants or the use of unpublished secondary data. We plan to disseminate the results of this review to a peer-reviewed journal and at relevant conferences.

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Contributors RD conceptualised and designed the study and wrote and critically revised the protocol. LS, CH and WP provided inputs to the methods and revised the search strategy. SAN mentored the authors and provided critical input in the final

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draft of the protocol. RD is responsible for the overall content as guarantor. Co-pilot was used to edit, improve sentence structure and proofread the manuscript.

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