**Title:** Mental health interventions for young people delivered through social media: Protocol for a scoping review

**Background**

Mental health challenges are common among adolescents and young adults; however, few of those young people experiencing mental health symptoms get adequate treatment.[1] Young adults (ages 18-25) are the adult age group with the greatest prevalence of mental health concerns and the lowest rates of general outpatient mental health treatment,[1] and adolescents, ages 12-17, with mental health concerns are underutilizing services, as well.[2] If not treated, mental health symptoms can worsen over time, lead to significant impairments in daily life,[3–6] and exacerbate mental health challenges. A number of barriers affect treatment-seeking including attitudinal barriers (e.g., stigma, cultural barriers, medical mistrust, preferences for self-management) and structural barriers (e.g., financial, access, and institutional barriers). However, attitudinal barriers are far more prevalent than structural barriers among young people. While face-to-face treatment models tend to be preferred by many, they are not always preferred and are not always accessible. Many young people, in particular, report being open to digital mental health treatment options relative to face-to-face individual therapy.[7–9]

Mental health services delivered through online platforms and digital tools would be an ideal avenue for increasing treatment-seeking among adolescents and young adults. Over 90% of American adults have home internet access and 85% go online daily, with about a third saying they are online almost constantly.[10,11] Moreover, nearly all US adolescents (95%) have, and use, a smartphone. About half (45%) saying that they use it almost constantly, largely as a way to pass time.[12] Digital tools, such as social media, are widely accessible and platforms, such as YouTube and Instagram, are popular and used daily by young adults and adolescents. 84% of young adults have reported using a social media platform compared to 43% of older adults, ages 65 and older.[13] Since many young people already spend significant time on social media – e.g., exchanging information, connecting with peers and community – they represent a potent delivery mechanism for mental health prevention and intervention.

While interest in the internet as a place for detecting and disseminating mental health interventions as well as individual, and group-level interventions has grown, few studies have leveraged social media as a primary platform to deliver mental health interventions. The purpose of this review is to identify articles that discuss social media-based interventions for adolescents and young adults experiencing mental health symptoms.

**Objectives**

The objective of this scoping review is to identify and review empirical research on social media-based interventions aimed at improving mental health conditions in adolescents and young adults. Since social media is a consistently evolving term, a secondary objective of this review is to identify the qualities of platforms labeled as social media. We limit the scope of interventions to those that are entirely, or mostly, delivered through social media and to studies examining the intentional implementation of a mental health intervention (excluding naturalistic intervention, peer support).

**Methods**

*Eligibility Criteria:* Study eligibility and inclusion will be based on the below criteria:

***Study design:*** Randomized-controlled trials, clinical trials, and various forms of observational studies including case-control studies, and cohort studies will be included. Studies must have a pre- and post- assessment of mental health outcomes or related/relevant psychological or behavioral targets. Quantitative, qualitative, and mixed-method literature will be included in the search. Registered on-going clinical trials will be included. Review articles, editorials, and book chapters will be excluded. However, reviews will be pulled, and bibliographies will be examined for relevant articles. Conference abstracts will be excluded given limited methodology. All studies must be published in a peer-review journal or conference proceeding and focus on social media-based interventions.

**Participants:** Participants must be adolescents or young adults (10-26 years of age) that meet clinical, or subclinical levels of depression, anxiety, or another mental health condition, as indicated by symptom self-report or a mental health diagnosis. No data limit will be set on the search. Publications available between the start date of each database to the time of the final search date will be included.

**Language:** No language restrictions will be set. Translation will be performed on non-English language studies when able. Studies that cannot be translated into English will be excluded.

**Informational Sources:** Medical subject headings [MESH] and keywords related to definitions of mental health or behavioral health and social media will be used to search for all language articles in PubMed MEDLINE, EMBASE, Cochrane Library, PsycINFO, Web of Science, Scopus, and ACM and IEEE databases. The search for unpublished literature and gray literature will also be conducted in the aforementioned databases as well as clincialtrials.gov, Medarxiv and Psyarxiv. Reference lists will be evaluated for additional articles not identified by the search strategy. The final search results will be exported into EndNote and duplicates will be removed.

**Search Strategy:** The search strategy will be formulated and refined by a health sciences librarian (LO) in collaboration with the research team based on expertise. All preliminary searches were conducted in PubMed and PROSPERO to determine if any systematic or scoping review protocols or publications that address our primary review question have been published. None were found. The search will be initially conducted in PubMed and the search strategy will be modified for the alternate information sources listed above (in 'informational sources'). Citation lists in included articles and key reviews will be reviewed as well to assure all appropriate articles are included.

Specific search terms will target social media, mental health, adolescents/young adults, and intervention/treatment. Examples of *social media-based search terms* will include: Social Media, Social Networking, social network, Facebook, Instagram; Examples of *mental health terms* will include: mental health, depression, emotional disturbance, anxiety; Examples of terms for *adolescents or young adults* will include: Child, adolescent, young, youth, teen. Examples of terms for *intervention* will include: intervention, intervene, support, outreach. An example of the search strategy for one database is included in Appendix 1.

**Study Records:** Study citations will be managed with Covidence. Selected abstracts and full text manuscripts will be accessible by the reviewers based on the citation list created. Covidence will be used to manage titles and abstracts and ultimately assist with data collection.

**Selection Process:** Four authors (KK, KW, JM, DY) will use Covidence to independently screen the titles and abstracts of papers identified through each search using the inclusion criteria. Those papers initially included through the title and abstract review will then be retrieved and undergo a full-text review to determine their eligibility. Differences regarding inclusion/exclusion between the authors will be resolved through discussion and consensus.

**Data collection process:** We will develop a standardized data abstraction form, which will be pilot tested on an initial sample of 3 included studies to ensure agreement between data extractors. The data from included articles will be extracted and mapped independently by two reviewers.

**Data Items:** Article characteristics will be extracted as defined above. Data will additionally be classified on: (1) type of intervention (clinical/theoretical), (2) intervention components, (3) demographics/population studied, (4) intervention duration, (5) primary outcome (mental health condition).

***Data synthesis:*** The characteristics of each study, including frequency of defined outcome, will be recorded in table format. Subgroup analyses will be performed based on participant characteristics and study type. Because we are conducting a scoping review rather than a systematic review, we will not perform a meta-analysis. We will, however, conduct qualitative synthesis to describe the included studies and relationships between these studies.

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**Appendix 1**

("Social Media"[Mesh] OR "Social Networking"[Mesh] OR social network*[tiab] OR social media[tiab] OR facebook[tiab] OR instagram[tiab] OR twitter[tiab] OR Pinterest[tiab] OR Tumblr[tiab] OR reddit[tiab] OR TikTok[tiab] OR youtube[tiab] OR snapchat[tiab] OR myspace[tiab])

AND ("Mental Health"[Mesh] OR "mental health services"[mesh] OR mental health*[ti] OR "Mental Disorders"[Mesh] OR well-being[tiab] OR "Affective Symptoms"[Mesh] OR "Affective Symptom*"[tiab] OR Alexithymia*[tiab] OR "Emotional Disturbance*"[tiab] OR "Depression"[Mesh] OR Depression*[tiab] OR depressive[tiab] OR depressed[tiab] OR "Schizophrenic Language"[Mesh] OR schizophren*[tiab] OR "Self-Injurious Behavior"[Mesh] OR "Self Injurious Behavior*"[tiab] OR "Self Injur*"[tiab] OR "Self-Injur*"[tiab] OR "Self Harm"[tiab] OR "Self-harm"[tiab] OR "Self-Destructive Behavior*"[tiab] OR "Self Destructive Behavior*" OR "Self Mutilation"[MeSH] OR "self-mutilat*"[tiab] OR "self multilat*"[tiab] OR "Suicide"[Mesh] OR suicid*[tiab] OR "Stress, Psychological"[Mesh] OR stress*[tiab] OR "Burnout, Psychological"[Mesh] OR burnout[tiab] OR "burn out"[tiab] OR burn-out[tiab])

AND (child[mesh] OR adolescent[mesh] OR child*[tiab] OR young[tiab] OR youth[tiab] OR adoles*[tiab] OR teen*[tiab] OR college[tiab] OR university[tiab])

AND (Intervention*[tiab] OR intervene*[tiab] OR Support*[tiab] OR Prevention*[tiab] OR Counsel*[tiab] OR Mentor*[tiab] OR Deliver*[tiab] OR outreach[tiab] OR Therap*[tiab] OR reach[tiab] OR promotion*[tiab] OR "social support"[mesh] OR "health promotion"[mesh] OR "therapy" [Subheading] OR "Psychotherapy"[Mesh])