The Role of Social Media in Contributing to Depression, Anxiety, and Psychological Distress Among Adolescents

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Abstract: *Social media platforms, which are increasingly becoming an integral part of our daily existence, have been accused of contributing to the rise in mental health issues among young people. This systematic review compiled findings regarding the impact of social media usage on adolescent depression, anxiety, and psychological distress. Twelve of the thirteen studies recognized by PsycINFO, Medline, Embase, CINAHL, and SSCI through a search were cross-sectional. The results were categorized into four distinct domains pertaining to social media: investment, activity, time invested, and addiction. There were correlations observed across all domains and melancholy, anxiety, and psychological distress. Due to the methodological limitations of cross-sectional design, sampling, and measures, there are, nevertheless, significant caveats. Further investigation into the mechanisms underlying the speculated effects of social media on mental health is warranted via longitudinal cohort studies and qualitative inquiry.*

Keywords: Social media, Adolescents, Depression

I. INTRODUCTION

Children and adolescent mental health

Ten to twenty percent of newborns and adolescents worldwide have mental health disorders, according to the WHO (2017). Mental problems rise from 50% to 75% between 14 and 18. Generalized anxiety disorder is the most common condition in children and adolescents, followed by depression. The Young Health Movement and the Royal Society for Public Health (2017) report a 70% rise in youth anxiety and depression over the previous 25 years. Depression and anxiety negatively affect adolescent development by reducing academic achievement, withdrawing from school, straining social connections, and increasing the risk of substance abuse, mental health issues, and suicide. Over the last decade, self-harm among 13–16-year-old UK girls has grown by 68%, according to Morgan et al. (2017). The reasons of rising youth psychological morbidity are unknown. Mental health awareness education has affected diagnostic activity, according to McCrae (2018). Without stigma, many young people feel comfortable discussing their mental health issues and seeking expert help. The ease of sharing personal experiences online is also important. Unlike in the past, when folks with mental health concerns were alone, younger people may now find support groups and social contact.

Besides raising awareness and helping behavior, doctors may detect and treat mental health issues more often, lowering the diagnostic threshold.

Social media

The phrase'social media' encompasses a range of online platforms that facilitate user-to-user communication through visual and verbal means (Carr & Hayes, 2015). The Pew Research Centre (2015) reports that a minimum of 92% of adolescents engage in social media activity. According to Lenhart, Smith, Anderson, Duggan, and Perrin (2015), the age group of 13–17 is notably saturated with social media users, as 87% of this demographic possesses a computer and 58% a tablet device. Smartphones are utilized by 68% of those aged 13 to 14 and nearly three-quarters of those aged 15 to 17 (Pew Research Centre, 2015).

Impact on mental health

Understanding how social media impacts youngsters is important for mental health (Kim, 2017). Psychological words like 'addiction' describe online issues. Younger people may act weird. Younger social networks standardise selfies, which may look narcissistic (McCrae, 2018). Researchers warn that social media usage may harm children's mental and social development (Greenfield, 2014; Twenge, 2006). Consider social media a 'double-edged sword'. Deters & Mehl (2013), Lenhart et al. (2015), Lilley (2014), O'Keeffe & Clarke-Pearson (2011), and Rosen (2011) found emotional release and social support useful. Mental illness is connected to social media. Social media use and depression in children and adolescents were linked in a 2017 systematic review of 11 studies (McCrae, Gettings, & Purssell). A meta-analysis of 23 studies connected problematic Facebook use to psychological distress in adolescents and young adults (Marino, Gini, Vieno, & Spada, 2018). Other systematic studies relate social media use to depression.

Many factors affect mental health and social media. The Royal Society for Public Health and Young Health Movement (2017) advised poor sleep. Sedentary internet use is unhealthy (Iannotti et al., 2009). Asare (2015) demonstrated in a meta-analysis that sedentary behavior damages adolescent mental health, whereas mental illness may inhibit exercise. Rosen, Whaling, Rab, Carrier, and Cheever (2013) found internet multitasking predicts mental disease. Primack and Escobar-Viera (2017) found high demand generated social media anxiety.

Social support affects mental health and social media. The American Academy of Pediatrics says social media helps teens build and develop relationships, minimizing social isolation and enhancing mental health (O'Keeffe & Clarke-Pearson, 2011). Without family, friend, and neighbor support, sadness, anxiety, and psychological distress are more likely, according to research. In 70 trials, Seabrook, Kern, and Rickard (2016) found positive social media usage decreased anxiety and depression. Teo, Choi, & Valenstein (2013) and Vandervoort (1999) value social support quality above quantity.

Social comparison theory (Festinger, 1954) posits that people compare their skills and ideas to others. Younger children and adults behave differently than adolescents. Comparing teens to social media leaders and losers may harm mental health. Seabrook et al.'s 2016 comprehensive study connected low internet involvement to depression and anxiety. Appel, Gerlach, and Crusius (2016) showed passive Facebook use predicts envy, depression, and social comparison.

Teen identities are shaped by social media (Erikson, 1950). Poor self-regulation and peer pressure may make teens more vulnerable to social media's harmful effects and mental illness. Social media's mental health effects on kids are being studied. Many studies focus on college and university students and teens. The wide population of children, adolescents, and adults or whole mental health, including clinical and subjective outcomes, led to additional study in past systematic reviews.

Method

Protocol and registration

The present systematic review investigated the available evidence regarding the impact of social media usage on adolescent melancholy, anxiety, and psychological distress. In addition to guiding policy and practice, the purpose was to suggest areas for additional research on this subject.

Eligibility criteria

In order to be considered for this review, studies had to satisfy the subsequent eligibility criteria:

- Participants: aged 13 to 18
- Exposure: measurement of social media use
- Outcome: depression, anxiety or psychological distress, assessed by validated instruments
- Research articles published in peer-reviewed journals as complete texts in the English language

Research articles were omitted from consideration if they exceeded the age range. Excluded were studies that assessed exposure to internet activities other than video gaming, unless those studies also measured social media usage. The researchers refrained from including outcomes related to substance misuse, eating disorders, well-being, life satisfaction, self-esteem, body image problems, conduct disorders, loneliness, or tension, unless they were also assessed by the researchers for those particular outcomes.

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558

Search strategy

A systematic search was conducted in May 2018 across the following databases: Medline, Embase, PsychINFO, Cumulative Index to Nursing and Allied Health (CINAHL), and Social Sciences Citation Index (SSCI). As shown in Table 1, a set of search terms was generated utilizing truncations, Medical Subject Headings (MESH), and Boolean operators.

Data extraction

Using the Mendeley reference management system, every article retrieved from the automated database searches was compiled. Once the duplicates had been eliminated, a vetting process was initiated to verify that the studies met the eligibility criteria. The titles and abstracts of the papers were evaluated in a three-stage process (by BK), and the full texts of the remaining papers were evaluated (by BK, NM, and AG). Systematically extracted and tabulated key information pertinent to the research question was utilized to facilitate the synthesis and comparison of the studies. Authors, publication date, country of origin, study design and data analysis method, pertinent outcome measures, sample size, demographic information, and results were included in these records. BK and AG oversaw the extraction procedure, and any discrepancies were resolved in consultation with NM.

Assessment of quality

Using the National Institutes of Health Quality Assessment instrument for Observational Cohort and Cross-Sectional Studies (NIH, 2014), which evaluates design, selection bias, data collection, confounding, blinding, and attrition, the quality of eligible studies was determined. Each study was categorized as "good," "fair," or "poor" in terms of its overall quality. BK and AG evaluated each study independently, and any discrepancies were resolved via consultation with NM.

Data analysis

The lack of consistency in outcome measures among the studies prevented us from conducting a meta-analysis. Conversely, a narrative synthesis was performed. This facilitated the examination of mediating, moderating, and confounding variables, which are frequently overlooked in meta-analyses (Popay et al., 1995). A description of each study was succeeded by a synthesis and comparative analysis.

Results

A comprehensive literature search across five databases produced 6598 articles. Following the elimination of duplicates in 1818, sifting by title excluded 4206 of the 4780 unique documents. Abstracts were used to evaluate the remaining 574 articles; 475 were eliminated, leaving 99 papers. Reading the full texts of 86 papers revealed that they were ineligible, with age range being the most frequent reason cited. The flowchart (Figure 1) of the PRISMA (Moher, Liberati, Tetzlaff, & Altman; The PRISMA Group, 2009b) provides additional information regarding the grounds for exclusion. Thirteen documents were ultimately deemed suitable for the evaluation process.

Table 1: Search terms and linkage (Medline).

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Participants	exp Adolescent/or adolescen* OR teen* OR youth* OR young OR juvenile OR 'high school student*' OR 'secondary school student*'
AND	
Exposure	social network* or exp Social Networking/or exp Social Media/OR Facebook OR Instagram OR twitter
AND	
Outcomes	exp Mental Health/OR 'psychological well-being' OR exp Mental Disorders/or exp Mood Disorders/or exp Depression/or affective disorder* or exp Affective Symptoms/or exp Depressive Disorder/OR psych* OR exp anxiety/or exp anxiety disorders/OR exp Stress, Psychological/or 'psychological distress*'
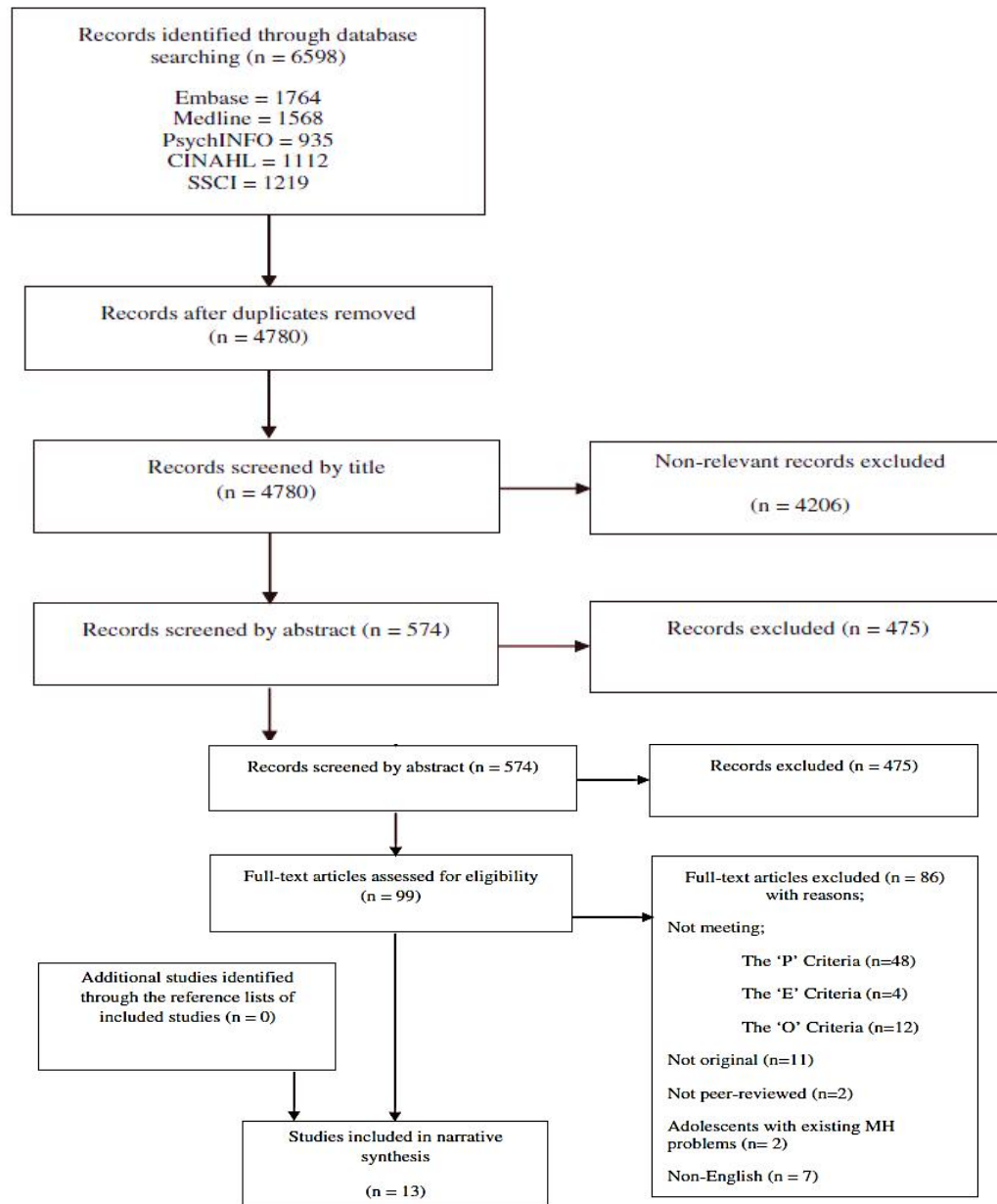
Figure 1: PRISMA 2009 flow diagram.

Analysis of results

The research found four primary social media exposure domains: investment, activity, time spent, and addiction. Time invested demonstrates social media users' platform use. Activity is users' engagement and conversation with social media networks and each other. Addiction is being reliant on social media, whereas investment is spending time and effort on it. Each category is compared to psychological discomfort, anxiety, and depression, taking into account mediating, moderating, and confounding factors.

Time spent

The research found conflicting results on social media use and mental health. O'Dea and Campbell (2011) observed an inverse connection between social media usage and psychological distress in an Australian sample. Neira and Barber

(2014) and Banjanin et al. (2015) found no such link. In contrast, Sampasa-Kanyinga and Lewis (2015) in Canada showed that daily social media usage above two hours caused psychological discomfort. Tsitsika et al. (2014) found a positive correlation between excessive social media usage and depression and anxiety among 10,930 teenagers from six European nations. Yan et al. (2017) observed that Chinese teenagers' social media use increased anxiety.

Activity

Frison and Eggermont (2016) discovered a correlation between active and inert Facebook usage and a higher incidence of depressive mood among a sample of Belgian high school students. Barry et al. (2017) discovered, in a study of 113 adolescent-parent dyads, that parental data indicated a correlation between anxiety and melancholy and adolescents' social media activities (e.g., number of accounts, frequency of monitoring for messages). Banjanin et al. (2015), on the other hand, discovered no correlation between social media usage (as measured by the number of "seleces") and depression among high school students in Serbia.

Investment

Dumitrache et al. (2012) found a link between Facebook profiles' identity-related material and teenage depression. Vernon et al. (2017) and Neira and Barber (2014) examined social media investment and depression using secondary data from the Youth Activity Participation Study of Western Australia. In a cross-sectional research by Neira and Barber (2014), social media investment was linked to depression. Vernon et al. (2017) found a longterm link between problematic social media use and depression, with sleep disruption as a mediator.

Addiction

Three studies examined addiction. Hanprathet et al. (2015) discovered a link between Facebook addiction and depression among 972 Thai high school students from affluent neighborhoods. Li et al. (2017) found that sleeplessness mediates the significant link between social media addiction and depression in Chinese secondary school students. In another Chinese research, Wang et al. (2018) showed that social media addiction was positively related with depression. Rumination mediated this association, whereas self-esteem reduced it. Thus, poor self-esteem exacerbated sadness from addiction via ruminating.

Confounding factors

Four studies evaluated how gender influences mental health and social media. Neira and Barber (2014) found that social media may benefit guys but hurt girls. Frison and Eggermont (2016) found that passive Facebook users and public Facebook users were more likely to be adversely affected. Banjanin et al. (2015) found no gender effect on depression and social media usage. Social media use did not affect sadness or anxiety after gender control, according to Barry et al. (2017).

Researchers studied age in two investigations. Tsitsika et al. (2014) found that younger social media users are more likely to suffer negative internalizing symptoms (anxious/depressed, withdrawn/depressed). Banjanin et al. (2015) observed no age effect on depression and social media usage.

Discussion

This comprehensive study studied teenage mental health and social media usage. Depression predominated in 13 trials. This study found that social media usage, frequent message checking, personal interaction, and addicted or problematic use were significant risk factors for depression, anxiety, and psychological distress.

This research related social media usage to mental health issues, albeit the data was inconsistent. The connection is too intricate for simple statements, according to most analysts. Some research explored mediating and moderating variables, but few examined this intricacy. Social media usage and depression were often mediated by insomnia and other sleep variables (Li et al., 2017; Vernon et al., 2017). Mediators included rumination and perceived social support (Frison & Eggermont, 2016). Studying personal qualities, socio-cultural aspects, contextual factors, social media motives, and peer feedback is recommended. Some study linked social media to depression, others disagree. Banjanin et al. (2015) found no relationship between social media use and sadness or friend counts or selfies. Neira and Barber (2014) showed that active social media usage predicted teenage depression but not frequency. Confounders, mediators, and moderators may create mixed results.

This systematic review indicates gender and age impacts. These characteristics may not impact social media usage and mental health, but evidence shows that girls and younger teenagers are more depressed and anxious. Age and gender impacts require further research.

Limitations

This comprehensive research examined depressive symptoms, anxiety, and psychological distress in youth at risk of anxiety and depression to improve social media's mental health consequences. Inclusion research and evaluation technique reveal limitations. Twelve of thirteen cross-sectional studies failed to establish a causal relationship between the variables of interest, hence they did not address the review question. Cross-sectional studies cannot tell whether social media causes depression, anxiety, and psychological distress or if individuals with these conditions use it more, interact poorly, invest in it, and use it addictively. The longitudinal study Vernon et al. (2017) found a link between problematic social media use and depressed mood in teens, however it did not establish media causes depression. No control or comparison group separated social media users. Whether social media causes depression is unknown.

Second, convenience sampling and small sample sizes hampered study application. Third, all research in this study uses self-report evaluations, which may be biased and inaccurate. Over- or under-reporting social media and mental health for self-esteem may cause information, report-ing, and social desirability bias. Biased Facebook study limited its use on other social media platforms. Few studies addressed mediating factors that may complicate the relationship between social media, depression, anxiety, and psychological discomfort. More study is needed to discover why social media harms some youngsters' mental health but not others.

II. CONCLUSION

This review reveals social media use affects adolescent depression, anxiety, and psychological distress in several ways. Differentiating connecting phrases is key. Social media and mental health have a 'association' given this socially produced reality. This may not be scientific. Objective researchers seek connections, not social data. Not phenom, correlation is statistical. Third, causation must have direction. We must infer that the link is correlational but not causal because the latter has not been adequately studied.

Research classified social media exposure as time spent, activity, investment, and addiction. All these characteristics were associated to depression, anxiety, and psychological distress, highlighting their complexity. Understudied mediators and moderators may explain the direction of the theorized relationship, despite studies on their effects. Methodologies, study design, and sample were lacking in literature. Most studies were cross-sectional and the cohort study had no reference group, making causation questionable. Many more quantitative studies are published than qualitative ones. This systematic review seeks to bridge data gaps and improve awareness of social media's mental health consequences on teens.

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