



Effect Of Social Media And Internet On Health Of Students Of Higher Education Institutions: Meta Analysis

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Abstract

The purpose of this systematic literature review is to examine existing research on effect of social media and internet on health of students of higher education institutions. The study identifies relevant articles published between 2015 and 2025 in various databases. To encourage responsible use of internet and social media in education, the review emphasises the need for increased public education, convenient and accessible use of internet and social media and various options, for the same and the development of effective communication strategies. The study also identifies gaps in the literature, such as a lack of research on specific populations and the need for additional research into the effectiveness of interventions aimed at ensuring proper and healthy use of internet and social media in education. Overall, this review offers insights into the current state of knowledge on effect of Social media and internet on health of students of higher education institutions and areas for future research and interventions to encourage responsible internet use.

Keywords: - social media, effect of social media and internet, health of students of higher education institutions

Introduction

In 1979, Tom Truscott and Jim Ellis, both affiliated with Duke University, introduced Usenet, a global discussion system that revolutionized the way Internet users could share public messages (Tiidenberg, 2023). The widespread availability of high-speed Internet access further fuelled the evolution of this concept, ultimately giving rise to the emergence of social networking platforms like Myspace in 2003 and Facebook in 2004. Consequently, this marked the inception of the term "social media" (Kaplan & Haenlein, 2010).

From its humble origins as a platform for public posting, social media has undergone a remarkable transformation, bringing us into the 21st century Metaverse, In which with the help of web-based virtual environment, we can engage with virtual avatars of our friends and partake in immersive experiences like a virtual trip to Disneyland, all from the comfort of our own (Kaplan & Haenlein, 2009). This journey underscores the profound evolution of social media as a powerful tool for connecting people. As of July 2022, there are 5.19 billion internet users worldwide, which amounted to 64.6 percent of the global population.

The intersection of social media, mental health, and the use of the internet in education is a complex and evolving landscape. Social media platforms have become integral to our daily lives, providing avenues for connection and information sharing. However, concerns about their impact on mental health have surfaced, with studies indicating associations between excessive social media use and negative outcomes, including heightened stress and anxiety. Simultaneously, the internet has revolutionized education, offering unprecedented access to information and interactive learning platforms. Its role in education, though transformative, raises questions about the potential consequences of excessive screen time on students' mental well-being. Striking a balance between harnessing the educational benefits of the internet and mitigating the potential mental health risks associated with extensive online engagement is a contemporary challenge that requires thoughtful consideration and research to inform healthy digital practices.

Seeing the fast growth of internet and social media nowadays every area be it education Advertising/Communication, Virtual product sales (v-Commerce), Marketing, Internal process management, Human resource management, is using social media (Kaplan & Haenlein, 2009). The growth is so massive that word of mouth now has been outshined by electronic word of mouth (eWOM)(Bilal et al., 2022)

The rise of internet and social media has provoked both optimism about potential societal benefits and concern about harms such as addiction, depression, and political polarization. (Allcott et al., 2020). There is an increasing number of people experiencing negative mental health by excessive social media use as it limits other social activities, studies, interpersonal relationships, mental health, and well-being. There have been many reported instances of suicides in youth aggravated by social media use (McCrae et al., 2017).

Social media has blurred the line between reality and reel life Homenet study reported that using the Internet for as little as 3 hour a week increased levels of depression. The results showed teenagers to be most vulnerable to those negative effects.(Richards et al., 2015).

There should be a healthy balance in using internet for education and referring books for the same. Striking a balance involves not only leveraging the educational potential of the internet but also promoting digital literacy and fostering a mindful approach to social media use. Research in this realm is pivotal for understanding the intricate dynamics at play and developing strategies to support positive mental health outcomes amidst the ever-evolving digital landscape.

Need of study:

As healthcare and education evolve, understanding the optimal use of technology, addressing mental health challenges, and navigating the impact of social media become crucial. The methodological diversity observed in these studies ensures robust findings, contributing to informed decision-making, policy development, and the continual improvement of practices in healthcare and education. In an era marked by technological advancements and global challenges, these studies play a pivotal role in shaping the future of health education and healthcare delivery.

Statement of Problem:

A systematic literature review of “effect of internet and social media websites on the health of students of higher education institutions”

Objective of the study:

The objective of this systematic review is to comprehensively examine existing literature on the impact of social media usage on the health of higher education students. The study aims to synthesize findings, identify trends, and assess the methodological rigor of the included papers to provide a nuanced understanding of how social media may influence various aspects of students' health, encompassing physical, mental, and social well-being

Research methodology:

The adoption of the PRISMA framework was justified, ensuring transparency and a systematic approach throughout the literature review process. The NCBI online library of Pub Med was selected as the primary database due to its comprehensive coverage of health-related research.

The keywords "effect of social media AND health AND student of higher education" was employed for an exhaustive literature search. A thorough search on Pub Med using the identified keywords initially yielded 146 articles. Inclusion criteria were specified, including English language, availability of full text, and a publication date between 2015-2025

Filters were applied to refine the dataset, resulting in 145 articles with full text availability, 137 articles within the 2015-2025 timeframe, and 135 articles in English. Paper types considered included clinical trials, meta-analyses, reviews, and systematic literature reviews

Paper types considered included clinical trials, meta-analyses, reviews, and systematic literature reviews. 20 papers were included for review, a detailed systematic literature review report adhering to PRISMA guidelines was prepared for transparent reporting. Therefore, 20 research papers were selected for analysis for the study.

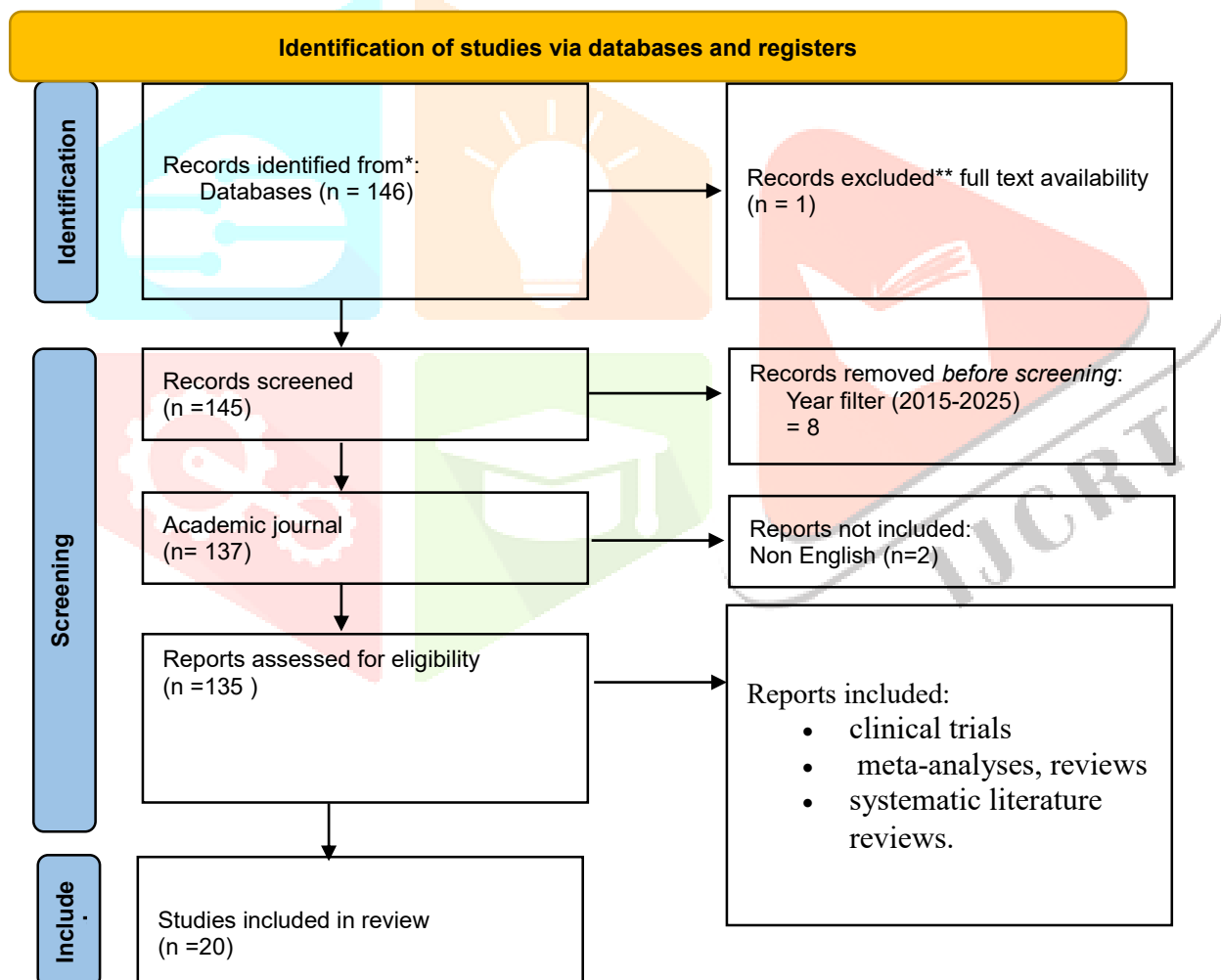


Figure: 1 (Authors construct)

In this research paper we have selected, organised, analysed, and reviewed the existing research data from reputed electronic databases. Then we construct a review framework comprising research methodology themes and results for this study.

Table-1: meta-analysis of papers

	Authors name	Year	Title of the study	Methodology	result
1	Rahel Mulatie Anteneh ¹ , Anteneh Mengist Dessie	2022	The psychological impact of COVID-19 pandemic and associated factors among college and university students in Ethiopia: a systematic review and meta-analysis, 2022	The potential studies were searched via PubMed, HINARI, the Cochrane Library, and Google Scholar. Studies were appraised using the Joanna Briggs Institute appraisal checklist. Micro Soft Excel was used to extract the data, which was then exported to Stata version 14 for analysis. Heterogeneity between studies was tested using Cochrane statistics and the I ² test, and small-study effects were checked using Egger's statistical test	The COVID-19 pandemic had a significant psychological impact on college and university students. Depression, anxiety, and stress were the most reported psychological impacts across studies among higher education students. Hence, applying tele-psychotherapy using smartphones, and social media platforms influences reducing the impact. Programs for preventing and controlling epidemics should be developed by the government and higher education institutions that incorporate mental health interventions and build resilience.
2	Sun H, Xue M, Qian	2023	Effectiveness of health communication courses on professionalism and social media competence among nursing students: A randomized controlled trial	Randomized Controlled Trial technique was used. The recruited nursing students were randomly divided into the intervention group (N = 50) and the control group (N = 51). The control group received routine nursing education. Intervention group received routine nursing education and health communication education courses.	The health communication course significantly improved social media competence and professionalism, which was significantly different from the control group, revealing the educational value of the intervention.
3	Alshammari A, Fayeze Alanazi M.	2023	Use of Technology in Enhancing Learning Among Nurses	Systematic Review	Technology has the potential to improve learning outcomes for nurses, including those involved in

			in Saudi Arabia; a Systematic Review		research. Therefore, it is crucial to ensure that both educators and students receive adequate training on how to effectively use the upcoming technology in Saudi Arabia.
4	Pasyar N, Sam A, Rivaz M,	2023	A smartphone-based supportive counseling on health anxiety and acceptance of disability in Systemic Lupus Erythematosus patients: A randomized clinical trial	Randomized Clinical Trial technique used The present study was a randomized clinical trial with pre-post design. Randomly dividing 124 patients into experimental and control groups. Before and after the intervention, all patients answered the health anxiety and disability acceptance questionnaires. For eight weeks, the trial group received remote counseling help using the WhatsApp platform	Smartphone-based supportive counseling may help people with Systemic Lupus Erythematosus manage their symptoms better, and live better by reducing health worry and increasing acceptance of impairment.
5	Ashraf MA, Mollah S, ...	2022	Pedagogical applications, prospects, and challenges of blended learning in Chinese higher education: a systematic review	Systematic Review	In recent years, blended learning (BL) has grown to occupy an important space in Chinese educational practice. Policymakers have developed many application strategies and platforms and are continuing to develop BL for future use. In order to apply BL in practice, key stakeholders have been using different learning management systems (LMSs), digital platforms, games, hybrid courses, and various forms of social media to create a framework for BL.
6	Polanska K, Znyk	2022	Susceptibility to tobacco use and	multiple logistic regression analyses	A high proportion of youth from central

	M, Kaleta D.		associated factors among youth in five central and eastern European countries	and random-effect meta-analysis were conducted to identify factors associated with tobacco use susceptibility as the lack of a firm commitment not to smoke.	and eastern European countries was susceptible to tobacco use. Social factors, and those related to educational and policy issues as well as to attitudes regarding tobacco use were strongly, and consistently across countries, correlated with tobacco use susceptibility.
7	Guckian J, Utukuri M, ...	2021	Social media in undergraduate medical education: A systematic review	The interventional study consisted of college students between 18-20 years in Chennai city. A total of 140 participants with an allocation ratio of 1:1 was randomly assigned to the intervention and control group. Oral health education was provided to all the students using various oral health education aids.	Social media is enjoyable for students who may improve short term knowledge retention and can aid communication between learners and educators. However, higher-quality study is required to identify longer-term impact upon knowledge and skills, provide clarification on professionalism standards and protect against harms.
8	Subburaman N, Parangimalai ...	2021	Effectiveness of social media based oral health promotion programme among 18–20 year-old city college students - A comparative study	Comparative Study	The intervention given through the WhatsApp application significantly improved the oral health status and KAP among its users
9	Shon EJ, Choe S, Lee L, ...	2021	Influenza Vaccination Among U.S. College or University Students: A Systematic Review	Systematic Review	Enhancing positive beliefs, perceptions, or attitudes toward influenza vaccination with students is critical. Information about the safety and effectiveness of vaccination could be provided for students through official media, medical sources/physicians, campaigns, or internet websites. Family-to-

					student or peer-to-peer awareness campaigns could facilitate the vaccination of students.
10	Baig M, Jameel T, ...	2020	Predictors of misconceptions, knowledge, attitudes, and practices of COVID-19 pandemic among a sample of Saudi population	The present cross-sectional questionnaire-based survey was conducted	the only chance of success against this highly infectious disease is coordinated and consistent efforts to increase public concern against the disease. Moreover, people should follow the government-issued standard operating procedures when performing their daily tasks
11	Deolmi M, Pisani F	2020	Psychological and psychiatric impact of COVID-19 pandemic among children and adolescents	systematic review literature about mental health effects of COVID-19 pandemic by using the keywords "COVID-19", "coronavirus", "pandemic", "mental health", "psych*", "adolescent" and "child"	there is urgent need to plan new strategies for early psychological interventions in order to reduce the impact of COVID-19 pandemic on children and adolescents mental health status.
12	Takenouchi A, et al.	2020	Development and evaluation of e-learning materials for dental hygiene students	randomized controlled trial. The learning materials allowed them to watch videos of dental treatments. The control groups were not provided any learning material	Learning dental treatment procedures through e-learning on a smartphone was effective in developing participants' understanding of dental treatment procedures and four-handed techniques.
13	Rozi S, et al.	2019	Effectiveness of a School-Based Smokeless Tobacco Intervention: A Cluster Randomized Trial	Cluster Randomized Trial	Introduction of educational programmes on a regular basis in schools or as part of school curriculum can have an impact on reducing prevalence of SLT (smokeless tobacco) use
14	O'Connor S, et al.	2018	Social media in nursing and midwifery education: A	Mixed Study Systematic Review	New Social Media Learning Model was conceptualized to aid our understanding of

			mixed study systematic review		learning via this technology. Knowledge gaps are identified and recommendations on how to capitalize on social media to improve learning in higher and continuing education provided.
15	Chan WS, Leung AY	2018	Use of Social Network Sites for Communication Among Health Professionals	review followed the Preferred Reporting Items for Systematic Reviews and Meta- analyses guidelines. A systematic search of the literature published in the last 10 years (January 1, 2007, to March 1, 2017	SNSs provide platforms facilitating efficient communication, interactions, and connections among health professionals in frontline clinical practice, professional networks, education, and training with limitations identified as technical knowledge, professionalism, and risks of data protection.
16	Curran V, et al.	2017	A Review of Digital, Social, and Mobile Technologies in Health Professional Education	A scoping review of the literature was performed to explore the effectiveness and implications of adopting and using DSMTs across the educational continuum in HPE. A data extraction tool was used to review and analyze 125 peer-reviewed articles. Common themes were identified by thematic analysis.	Digital, social, and mobile technologies (DSMTs) can support a wide range of self- directed learning activities, providing learners with diverse resources, information, and ways to network that support their learning needs. DSMTs are increasingly used to facilitate learning across the continuum of health professional education (HPE).
17	River J, et al.	2016	A systematic review examining the effectiveness of blending technology with team-based learning	A Systematic review of TBL (Team Based Learning (TBL) research in Medline, CINAHL, ERIC and Embase databases was undertaken	here is limited evidence that blended-TBL improved student learning outcomes or student preference. Enthusiasm to blend technology with TBL may not be as well founded as initially thought. However, few studies explicitly examined the value of

					incorporating technology into TBL. There is a clear need for research that can discern the impact of technology into TBL on student preference and learning outcomes, with a particular focus on barriers to student participation with online learning components.
18	Nam SK, Choi SI, Lee SM	2015	Effects of stigma-reducing conditions on intention to seek psychological help	Three hundred thirty Korean college students participated and were randomly assigned to either a low or a high stigma-reducing manipulative condition group. Each group was provided with three possible strategies to reduce stigma: the location of a counseling center, contact with a mental health patient, and the media portrayal of mental illness.	individuals who have a higher level of attachment anxiety and a previous experience of counseling were more sensitive to the stigma-reducing manipulative condition. These results highlight the importance of the "contact" and "media" strategies in reducing stigma of seeking counseling for mental health services
19	Pander T, Pinilla S, Dimitriadis K, Fischer MR	2014	The use of Facebook in medical education--a literature review	Literature Review	Facebook influences a myriad of aspects of health care professionals, particularly at undergraduate and graduate level in medical education. Despite an increasing number of interventions, there is a lack of conclusive evidence in terms of its educational effectiveness. Furthermore, we suggest that digital professionalism be integrated in established and emerging competency-based catalogues.

20	Cartledge P, Miller M, Phillips B	2013	The use of social-networking sites in medical education	A systematic review was undertaken using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Eight databases were searched with pre-defined search terms, limits and inclusion criteria.	Social-networking sites have been employed without problems of professionalism and received positive feedback from learners. However, there is no solid evidence base within the literature that social networking is equally or more effective than other media available for educational purposes
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Table-1: meta-analysis of papers

Table 2 analysis of year wise publication of papers

Year	Paper published
2025	3
2024	3
2023	3
2022	3
2021	1
2020	2
2019	1
2018	1
2017	1
2016	1
2015	1

Table 2 analysis of year wise publication of papers

The data presented illustrates a consistent trend in the publication count of papers focusing on the impact of social media on the health of higher education students from 2013 to 2023. Over this period, there has been a gradual increase in scholarly attention to this subject. Notably, the number of papers published per year has risen from a single publication in 2013 to three publications in 2023. This suggests a growing recognition within the academic community of the relevance and complexity of the relationship between social media use and the well-being of higher education students. The ascending curve in publication counts highlights the ongoing and deepening interest in exploring the multifaceted dimensions of how social media influences the health aspects of students in higher education. Further research and analysis of these publications would likely reveal nuanced insights into the evolving nature of this critical intersection between technology and student well-being.

ANALYSIS :

Table 3. Analysis of highly cited paper with publishing year

Sr No.	Name of Author	Title	Year	Cited By
1	Anteneh RM, Dessie AM, ...	The psychological impact of COVID-19 pandemic and associated factors among college and university students in Ethiopia: a systematic review and meta-analysis	2022	1
2	Sun H, Xue M, Qian L, ...	Effectiveness of health communication courses on professionalism and social media competence among nursing students: A randomized controlled trial	2023	-
3	Alshammari A, Fayeze Alanazi M.	Use of Technology in Enhancing Learning Among Nurses in Saudi Arabia; a Systematic Review	2023	-
4	Pasyar N, Sam A, Rivaz M, ...	A smartphone-based supportive counseling on health anxiety and acceptance of disability in Systemic Lupus Erythematosus patients: A randomized clinical trial	2023	-
5	Ashraf MA, Mollah S, ...	Pedagogical Applications, Prospects, and Challenges of Blended Learning in Chinese Higher Education: A Systematic Review	2022	12
6	Polanska K, Znyk M, Kaleta D.	Susceptibility to tobacco use and associated factors among youth in five central and eastern European countries	2022	12
7	Guckian J, Utukuri M, ...	Social media in undergraduate medical education: A systematic review	2021	57
8	Subburaman N, Parangimalai ...	Effectiveness of social media based oral health promotion programme among 18-20 year old city college students - A comparative study	2021	5
9	Shon EJ, Choe S, Lee L, ...	Influenza Vaccination Among U.S. College or University Students: A Systematic Review	2021	10
10	Baig M, Jameel T, ...	Predictors of misconceptions, knowledge, attitudes, and practices of COVID-19 pandemic among a sample of Saudi population	2020	109

Sr No.	Name of Author	Title	Year	Cited By
11	Deolmi M, Pisani F	Psychological and psychiatric impact of COVID-19 pandemic among children and adolescents	2020	110
13	Takenouchi A, et al.	Development and evaluation of e-learning materials for dental hygiene students	2020	16
14	Rozi S, et al.	Effectiveness of a School-Based Smokeless Tobacco Intervention: A Cluster Randomized Trial	2019	8
15	O'Connor S, et al.	Social media in nursing and midwifery education: A mixed study systematic review	2018	72
16	Chan WS, Leung AY	Use of Social Network Sites for Communication Among Health Professionals	2018	182
18	Curran V, et al.	A Review of Digital, Social, and Mobile Technologies in Health Professional Education	2017	119
19	River J, et al.	A systematic review examining the effectiveness of blending technology with team-based learning	2016	69
20	Nam SK, Choi SI, Lee SM	Effects of stigma-reducing conditions on intention to seek psychological help	2015	28
1	Pander T, Pinilla S, Dimitriadis K, Fischer MR	The use of Facebook in medical education--a literature review.	2014	141
2	Cartledge P, Miller M, Phillips B	The use of social-networking sites in medical education.	2013	150

This table provides a snapshot of high-cited papers related to the impact of social media on the health of higher education students. Notably, papers 5, 6, and 15 have higher citation counts, suggesting significant attention and interest in their findings. These highly cited papers likely contribute essential insights to the systematic review, indicating that researchers and scholars find their methodologies, results, or discussions noteworthy. The accumulated citations highlight the influence and recognition of these studies in shaping the understanding of how social media affects the health of students in higher education.

Conclusion:

The intersection of social media, mental health, and the use of the internet in education reflects the dual nature of our digital age. While social media provides unprecedented connectivity, it also poses

challenges to mental well-being, necessitating a nuanced understanding of its impact. Simultaneously, the internet has revolutionized education, offering unparalleled access to information and interactive learning. However, the increasing reliance on digital platforms in education prompts a critical examination of potential psychological consequences. Striking a delicate balance involves acknowledging the benefits while addressing the risks, fostering digital literacy, and cultivating mindful online practices. Continued research is vital to unravel the complex interplay between these elements, guiding the development of strategies that optimize the positive aspects of digital engagement while safeguarding mental health in an ever-evolving technological landscape.

Limitation:

One notable limitation pertains to the potential risk of biases, such as social desirability or memory lapses, potentially impacting the accuracy of the reported online activities. The rapidly changing nature of social media and internet platforms poses another challenge, as the study may struggle to keep pace with real-time trends and usage patterns. Establishing a causal relationship between online activities and health outcomes proves complex, and the study may reveal correlations without necessarily demonstrating causation. Furthermore, ethical concerns related to privacy and data collection on students' online behaviors warrant careful attention. Recognizing these limitations is crucial for appropriately contextualizing the study's findings and for guiding future research endeavors in this evolving and significant area of study

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