

UNPACKING THE COMPLEX RELATIONSHIP BETWEEN SOCIAL MEDIA AND YOUTH MENTAL HEALTH: A BIBLIOMETRIC REVIEW

Nurul Amira Azmi^{1*}

Norfaizah Md Nasir²

Jefry Elias³

Mohamad Hanif Abu Hassan⁴

¹Faculty of Business and Management, Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, 08400 Merbok, Kedah, Malaysia, (E-mail: amiraazmi@uitm.edu.my)

²Faculty of Business and Management, Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, 08400 Merbok, Kedah, Malaysia, (E-mail: norfa302@uitm.edu.my)

³Faculty of Business and Management, Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, 08400 Merbok, Kedah, Malaysia, (E-mail: jefryelias@uitm.edu.my)

⁴Faculty of Business and Management, Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, 08400 Merbok, Kedah, Malaysia, (E-mail: hanifab@uitm.edu.my)

* Corresponding author: amiraazmi@uitm.edu.my

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Abstract: *This bibliometric study aimed to investigate the current state of research on the relationship between social media and youth mental health. The researchers analyzed publications from the Scopus database between 2012 and 2022 and examined trends in the number of publications, areas of contribution, contributing countries, influential institutions, and highly cited articles. To obtain comprehensive and reliable results, the researchers used various analytical tools, including exclusion criteria to refine the search, Microsoft Excel to calculate the frequency and percentage of published materials, OpenRefine software to standardize keywords, Harzing's Publish and Perish software to calculate citation metrics, and VOSviewer and WordArt tools to create bibliometric networks and visualizations. The study found that the majority of the 89 publications analyzed were from 2020 and 2022 and were mostly under the subject area of Medicine. The United States contributed the most publications, followed by the United Kingdom, Canada, Australia, and the Netherlands. The top four influential institutions with the same number of publications and percentage of 4.49% were Ruhr-Universitat Bochum, Universiteit Utrecht, University of Michigan, Ann Arbor, and the University of Melbourne. The top 20 highly cited articles covered various topics such as the relationship between social media use and psychiatric disorders and poor psychological functioning among children and adolescents. Overall, this study provides a comprehensive overview of the current state of research on the relationship between social media and youth mental health. The study's findings provide a comprehensive overview of the current state of research on the topic and offer insights for future studies.*

Keywords: *Bibliometric, Social Media, Youth, Mental Health*

Introduction

Social media refers to online platforms that allow users to create and share content, as well as connect with others. Social media has become an integral part of modern communication and has transformed the way people interact with each other and with information. There are many types of social media platforms, each with its unique features and characteristics. One of the most popular types of social media is social networking sites, which allow users to create profiles, connect with friends, and share content such as photos, videos, and status updates. Examples of social networking sites include Facebook, Twitter, and LinkedIn (Boyd & Ellison, 2008). Another type of social media is microblogging, which involves sharing short, frequent updates with followers. Twitter is a popular microblogging platform that allows users to post tweets of up to 280 characters (Java et al., 2007). Video-sharing platforms such as YouTube and TikTok have become increasingly popular, allowing users to create, share, and discover videos on a variety of topics. Live-streaming platforms such as Twitch and Instagram Live have also gained popularity, allowing users to broadcast live video content to their followers.

Current trends in social media include the increasing importance of visual content, the rise of messaging apps, and the growing influence of social media influencers (Kietzmann et al., 2011). Social media platforms are also increasingly integrating artificial intelligence and machine learning technologies to improve user experiences and provide more personalized content. A study conducted in 2018 found that 95% of teens in the United States have access to a smartphone, and 45% of them reported being online almost constantly (Anderson & Jiang, 2018). This trend is not limited to the United States, with research indicating that social media use is high among youth worldwide. While social media has many benefits, such as facilitating communication and connection, there is growing concern about its impact on mental health, particularly among young people.

Several studies have found a positive correlation between social media use and poor mental health outcomes, including anxiety, depression, and poor sleep quality (Kross et al., 2013; Levenson et al., 2017; Lin et al., 2016). Social media can lead to the development of unrealistic expectations and a negative self-image among youth. Social media platforms are often filled with images of edited and filtered images, presenting an idealized version of reality that can lead to social comparison and a sense of inadequacy (Perloff, 2014). This can contribute to the development of body dissatisfaction, low self-esteem, and depression among youth. Other than that, social media use can lead to the development of addiction-like symptoms among youth. The constant need to check notifications, respond to messages, and stay updated with social media feeds can increase stress and anxiety. This can lead to a cycle of social media use, leading to negative mental health outcomes (Andreassen et al., 2017).

The evidence on the relationship between social media use and mental health is complex and mixed, with some studies suggesting that social media use can have positive effects on mental health as well. This study aims to use bibliometric analysis to explore the existing literature on the impact of social media use on mental health in youth, to identify trends, gaps, and future research directions.

The study sought to accomplish the objectives which are to discover:

1. The trend of social media and youth mental health publications is based on the number of publications per year.
2. The areas or disciplines that contribute to social media and youth mental health.

3. The countries of authors that contribute the most to the publication in social media and youth mental health.
4. The most influential institutions that contribute to the publication in social media and youth mental health research.
5. The most cited articles that contribute to social media and youth mental health research.

This study takes on a different perspective by examining the publications' trends, their contributions and future research directions. In addition to this, this study is structured as follows: The second section describes the methodology used in this study. Section 3 discusses the result, and Section 4 summarizes the study's main findings. Section 5 discusses the contributions and concludes with future research recommendations for researchers.

Methodology

Data Source

This bibliometric study utilized the scientific database Scopus to analyse publications containing the terms "social media" OR "social networking" AND "youth" OR "teenager" OR "Adolescent" AND "mental health" OR "Psychological wellbeing" OR "Mental wellness" in the title, abstract, or keywords. The study examined all types of papers published in the Scopus database between 2012 and 2022 to provide a comprehensive perspective on the world's research output. Scopus is widely regarded as one of the primary sources of relevant information in the international scientific community, given its status as one of the most important sources of essential data. The study employed bibliometric analysis, which according to Zupic and Cater (2015), involves a quantitative and statistical evaluation of published studies, and is commonly used as a method of conducting a literature review.

Defining keywords

This research was performed on March 19, 2023, using keywords in the form of search strings relevant to social media and youth mental health where keywords are searched based on the title, keywords, and abstract of the article as follows: TITLE-ABS-KEY ("social media" OR "social networking" AND "youth" OR "teenager" OR "Adolescent" AND "mental health" OR "Psychological wellbeing" OR "Mental wellness") AND (EXCLUDE (PUBYEAR , 2023)) AND (LIMIT-TO (DOCTYPE , "ar"))

Search strategy

This study gathers a collection of materials published in social media and youth mental health using the online Scopus database. Due to its reputation as the largest citation and abstract database in technology, social science, business, and management, Scopus online database was chosen for this study.

Refinement of Search Result

After obtaining the initial results, the researchers conducted a screening of all articles based on the exclusion criteria determined in this research. There are two (4) exclusion criteria used to screen the search results: (i) cyberbullying (ii) smartphone (iii) digital media (iii) screen time. The frequency and percentage of the published materials were calculated using Microsoft Excel to produce the pertinent tables and graphs; the bibliometric networks were created and visualized using VOSviewer (version 1.6.15); and the citation metrics were calculated using Harzing's Publish and Perish software. To harmonize the keywords, researchers used OpenRefine software, which is a powerful tool for cleaning and standardizing data. Researchers

input the author keywords from each publication into OpenRefine and used its clustering and text-faceting features to identify and merge similar keywords, resulting in a more coherent and consistent set of keywords for analysis. This process helps to improve the accuracy and consistency of the analysis and ensures that the results are more meaningful and reliable. To visualize the author's keywords, researchers used a WordArt tool, which generates a graphic representation of the most frequently occurring words in a text. researchers input the author keywords from each publication into the WordArt tool and used the resulting visualizations to gain a better understanding of the key themes and topics in the literature.

Table 1 summarizes the amount of all articles obtained after the refinement process.

Table 1. Refinement of Search Result

Search Keyword	Number of Scopus documents
TITLE-ABS-KEY ("social media" OR "social networking" AND "youth" OR "teenager" OR "Adolescent" AND "mental health" OR "Psychological wellbeing" OR "Mental wellness") AND (EXCLUDE (PUBYEAR , 2023)) AND (LIMIT-TO (DOCTYPE , "ar"))	356

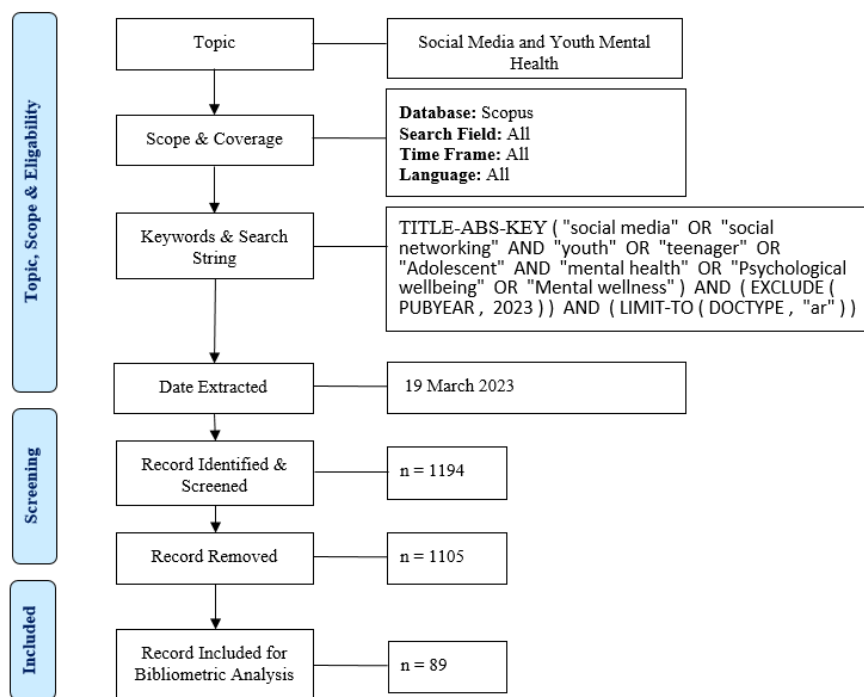


Figure 1: PRISMA Flow Diagram

Result

The analysis for the extracted academic work in the search process was based on the following attributes: document and source types, year of publications, languages of publication, subject area, most active source titles, top keywords, keywords analysis, top 20 countries contributed to the publication, most productive authors, most influential institutions, citation metrics, and top 20 highly cited articles.

Document and Source Types

Table 2 presents data on the distribution of publications by document type. The table shows that all the publications included in the dataset are articles, with a total of 89 publications representing 100% of the total.

Table 2: Document Type

Document Type	Total Publications (TP)	Percentage (%)
Article	89	100.00
Total	89	100.00

Table 3 displays the total number of publications and their corresponding percentages for the source type of the research articles analyzed. The data indicate that all 89 publications included in the study were published in academic journals.

Table 3: Source Type

Source Type	Total Publications (TP)	Percentage (%)
Journal	89	100.00
Total	89	100.00

Year of Publications/Evolution of Published Studies

Table 4 displays the distribution of academic publications based on their year of publication. A total of 89 publications were included in the analysis. The majority of the publications were from the years 2020 and 2022, with 23.60% of the publications being published in each of these years. The year 2021 followed closely behind, accounting for 19.10% of the total publications. In contrast, the years 2016 and 2012 had the lowest representation, with only 2.25% and 1.12% of publications respectively.

The distribution of publications over the years indicates a recent trend towards more current research, with the highest number of publications in the last two years. This suggests a potential focus on contemporary issues and topics of relevance in the field of study. However, the presence of publications from earlier years may indicate an ongoing relevance of older research and sustained interest in established themes or ideas.

Table 4: Year of Publications

Year	Total Publications	Percentage (%)
2022	21	23.60
2021	17	19.10
2020	21	23.60
2019	7	7.87
2018	8	8.99
2017	4	4.49
2016	2	2.25
2015	4	4.49
2014	4	4.49
2012	1	1.12
Total	89	100.00

Documents by year

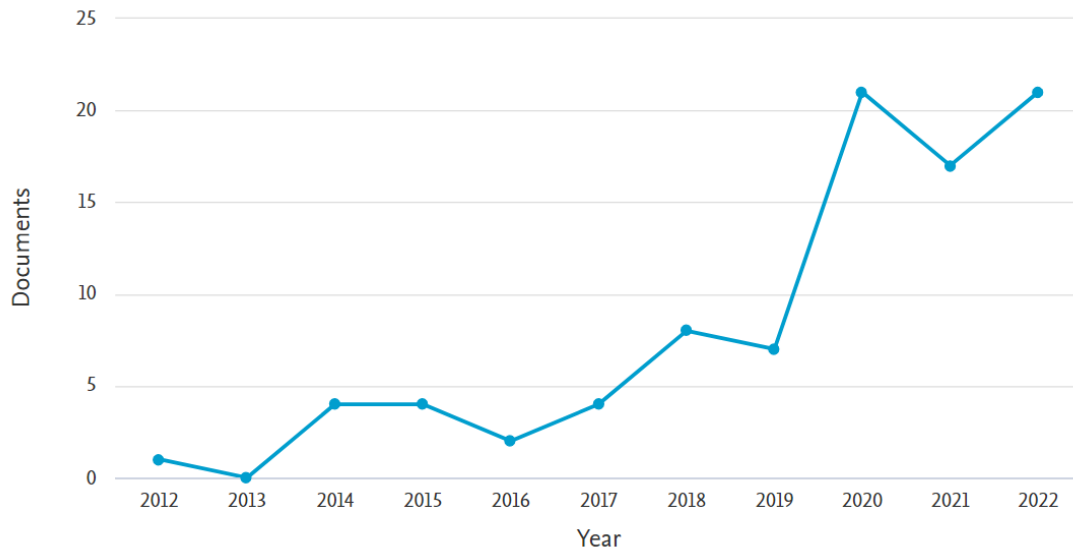


Figure 2: Document by Year

Languages of Documents

Table 5 presents the distribution of languages used in academic publications within the scope of this study. The table reports a total of 90 publications, with 87 of them (96.67%) written in English, making it the dominant language in this area of research. One document was prepared in dual languages, and the remaining three publications (1.11% each) were written in Persian, Russian, and Spanish, respectively.

The prevalence of English-language publications is consistent with the trend in many academic fields toward using English as a primary language of communication. This may reflect the global reach of academic research and the importance of English as an international language of academia. The presence of publications in other languages may indicate a regional or cultural focus of the research. However, the small number of non-English publications suggests a potential bias toward English-language research in this area.

Table 5: Languages of Publications

Language	Total Publications*	Percentage (%)
English	87	96.67%
Persian	1	1.11%
Russian	1	1.11%
Spanish	1	1.11%

*one document has been prepared in dual languages

Subject Area

Table 6 displays the distribution of academic publications by subject area. A total of 89 publications were included in this analysis, with the majority of the publications (66%) falling under the subject area of Medicine. Psychology followed with 36% of the publications, and Social Sciences with 20%. The remaining subject areas, including Computer Science, Arts and Humanities, Neuroscience, Environmental Science, Multidisciplinary, Biochemistry, Genetics and Molecular Biology, Business, Management and Accounting, Agricultural and Biological

Sciences, Dentistry, Economics, Econometrics and Finance, Engineering, Immunology and Microbiology, Nursing, and Pharmacology, Toxicology, and Pharmaceutics, had a lower representation, each accounting for 2% or less of the publications.

The dominance of Medicine and Psychology publications suggests a strong focus on health and mental health research in this field. The representation of Social Sciences indicates the relevance of social and behavioral factors in this research. The presence of publications in other subject areas suggests a multidisciplinary approach to addressing research questions in this field.

Table 6: Subject Area

Subject Area	Total Publications	Percentage (%)
Medicine	59	0.66
Psychology	32	0.36
Social Sciences	18	0.20
Computer Science	8	0.09
Arts and Humanities	7	0.08
Neuroscience	4	0.04
Environmental Science	3	0.03
Multidisciplinary	3	0.03
Biochemistry, Genetics, and Molecular Biology	2	0.02
Business, Management, and Accounting	2	0.02
Agricultural and Biological Sciences	1	0.01
Dentistry	1	0.01
Economics, Econometrics, and Finance	1	0.01
Engineering	1	0.01
Immunology and Microbiology	1	0.01
Nursing	1	0.01
Pharmacology, Toxicology, and Pharmaceutics	1	0.01

Most Active Source Titles

Table 7 displays the most active source titles in terms of publications in the analyzed dataset. The Journal of Adolescent Health ranked first with 5 publications, accounting for 5.62% of the total publications. Cyberpsychology Behavior and Social Networking followed with 4 publications, and Children and Youth Services Review, Computers in Human Behavior, International Journal of Environmental Research and Public Health, Journal of Adolescence, and Plos One each had 3 publications. The remaining source titles had 2 publications or fewer.

The dominance of the Journal of Adolescent Health and Cyberpsychology Behavior and Social Networking suggests a strong focus on adolescent health and mental health research in this field. The presence of other source titles, such as Children and Youth Services Review and Plos One, indicates a multidisciplinary approach to addressing research questions related to children and youth.

Table 6: Most Active Source Titles

Source Title	Total Publications	Percentage (%)
Journal Of Adolescent Health	5	5.62%
Cyberpsychology Behavior, And Social Networking	4	4.49%
Children And Youth Services Review	3	3.37%
Computers In Human Behavior	3	3.37%
International Journal Of Environmental Research And Public Health	3	3.37%
Journal Of Adolescence	3	3.37%
Plos One	3	3.37%
European Psychiatry	2	2.25%
Frontiers In Public Health	2	2.25%
Journal Of Affective Disorders	2	2.25%
Journal Of Mental Health	2	2.25%
Journal Of Research On Adolescence	2	2.25%
Acta Colombiana De Psicologia	1	1.12%
Acta Neuropsychological	1	1.12%
Acta Psychologica	1	1.12%
Adolescent Medicine State Of The Art Reviews	1	1.12%
Archives Of Psychiatry And Psychotherapy	1	1.12%
Asian Journal Of Psychiatry	1	1.12%
BMC Psychiatry	1	1.12%
BMC Public Health	1	1.12%
CMAJ	1	1.12%
Canadian Review Of Sociology	1	1.12%
Clinical Child And Family Psychology Review	1	1.12%
Clinical Child Psychology And Psychiatry	1	1.12%
Clinical Epidemiology And Global Health	1	1.12%
Clinical Neuropsychiatry	1	1.12%
Counseling Psychology And Psychotherapy	1	1.12%
Depression And Anxiety	1	1.12%
Eclinicalmedicine	1	1.12%
Economics And Human Biology	1	1.12%
Enfermeria Global	1	1.12%
F1000research	1	1.12%

Keywords Analysis

Table 8 displays the top keywords in the field of research related to adolescent mental health and social media. The table lists the frequency and percentage of occurrence for each keyword in a total of 89 publications. The most frequent author keywords identified are Adolescent, Mental Health, Social Media, Human, and Humans. These keywords are mentioned in more than 67% of the publications.

Other frequent keywords include Female, Article, Male, Depression, and Adult, all of which are mentioned in at least 30% of the publications. Major Clinical Study, Controlled Study, and Psychology are mentioned in around 25-30% of the publications, while Anxiety, Child, and Young Adult are mentioned in approximately 20-25% of the publications.

The table also shows that some keywords are less commonly mentioned in the publications, such as epidemiology, self esteem, and social interaction. Keywords related to addictive behaviors, such as Social Media Addiction and Internet Addiction, appear in the top 30 keywords.

Overall, this table highlights the prominent role of Adolescent and Mental Health-related keywords in the research on social media and mental health. The results suggest that social media and its effects on mental health, particularly among adolescents, are a topic of significant interest in the research community.

Table 8: Top Keywords

Author Keywords	Total Publications	Percentage (%)
Adolescent	72	80.90%
Mental Health	71	79.78%
Social Media	71	79.78%
Human	71	79.78%
Humans	60	67.42%
Female	59	66.29%
Article	54	60.67%
Male	52	58.43%
Depression	34	38.20%
Adult	33	37.08%
Major Clinical Study	29	32.58%
Controlled Study	25	28.09%
Psychology	25	28.09%
Anxiety	23	25.84%
Child	22	24.72%
Young Adult	21	23.60%
Social Network	19	21.35%
Adolescents	18	20.22%
Cross-sectional Study	18	20.22%
Questionnaire	18	20.22%
Social Networking	16	17.98%
Cross-Sectional Studies	14	15.73%
Mental Disease	14	15.73%
Adolescent Behavior	13	14.61%
Priority Journal	11	12.36%
Surveys And Questionnaires	11	12.36%
Behavior, Addictive	10	11.24%
Internet Addiction	10	11.24%
Sex Difference	10	11.24%
Students	10	11.24%
Disease Association	9	10.11%
Human Experiment	9	10.11%
Internet	9	10.11%
Longitudinal Study	9	10.11%
Social Media Addiction	9	10.11%

Social Support	9	10.11%
Student	9	10.11%
Adolescence	8	8.99%
Anxiety Disorder	8	8.99%
Epidemiology	8	8.99%
Psychological Well-being	8	8.99%
Suicidal Ideation	8	8.99%
Wellbeing	8	8.99%
Addiction	7	7.87%
Health Survey	7	7.87%
Middle Aged	7	7.87%
Self Esteem	7	7.87%
Self Report	7	7.87%
Sleep	7	7.87%
Suicide	7	7.87%
Cohort Analysis	6	6.74%
Longitudinal Studies	6	6.74%
Problematic Social Media Use	6	6.74%
Quality Of Life	6	6.74%
Risk Factor	6	6.74%
Self Concept	6	6.74%
Sleep Disorder	6	6.74%
Social Interaction	6	6.74%
United States	6	6.74%
Adolescent Health	5	5.62%
Aged	5	5.62%
Automutilation	5	5.62%
Depressive Symptoms	5	5.62%
Facebook	5	5.62%
Friend	5	5.62%
Loneliness	5	5.62%
Mental Disorders	5	5.62%
Mental Stress	5	5.62%
Pandemic	5	5.62%
Social Behavior	5	5.62%
Symptom	5	5.62%
Youth	5	5.62%
COVID-19	4	4.49%
China	4	4.49%
Correlation Analysis	4	4.49%
Distress Syndrome	4	4.49%
Emotion	4	4.49%
Gender	4	4.49%
High School Student	4	4.49%
Insomnia	4	4.49%
Interpersonal Communication	4	4.49%
Online Social Network	4	4.49%

Singapore	3	3.37%
Bangladesh	2	2.25%
Belgium	2	2.25%
Estonia	2	2.25%
Hong Kong	2	2.25%
India	2	2.25%
Indonesia	2	2.25%
Iran	2	2.25%
Norway	2	2.25%
Russian Federation	2	2.25%

Authorship

Table 10 displays the most productive authors who have contributed to the field of mental health among adolescents. The table includes the author's name, the number of documents they have published in this field, and their percentage of contribution to the field. The results show that Brailovskaia and Margraf are the most productive authors with 4 publications each, representing 4.49% of the total documents. Pantic follows with 3 publications, representing 3.37% of the total documents. The rest of the authors on the list have published 1-2 documents each, with a percentage of contribution ranging from 1.12% to 2.25%.

Table 10: Most Productive Authors

Author's Name	No. of Documents	Percentage (%)
Brailovskaia, J.	4	4.49%
Margraf, J.	4	4.49%
Pantic, I.	3	3.37%
Best, P.	2	2.25%
Boer, M.	2	2.25%
Maddock, A.	2	2.25%
Nesi, J.	2	2.25%
O'Reilly, M.	2	2.25%
Patton, G.C.	2	2.25%
Raudsepp, L.	2	2.25%
Sampasa-Kanyinga, H.	2	2.25%
Sawyer, S.M.	2	2.25%
Stevens, G.W.J.M.	2	2.25%
Wiguna, T.	2	2.25%
van den Eijnden, R.J.J.M.	2	2.25%
Aasan, B.E.V.	1	1.12%
Abi-Jaoude, E.	1	1.12%
Aboussaleh, Y.	1	1.12%
Adorjan, M.	1	1.12%
Ahami, A.	1	1.12%
Akter, S.	1	1.12%
Aliverdi, F.	1	1.12%
Allegrante, J.P.	1	1.12%
Allen, N.B.	1	1.12%
Alsunni, A.A.	1	1.12%
Alvarez-Jimenez, M.	1	1.12%

Andersson, F.	1	1.12%
Andreassen, C.S.	1	1.12%
Ansariadi, A.	1	1.12%
Apoorva, A.	1	1.12%
Ariati, J.	1	1.12%
Aswathikutty-Gireesh, A.	1	1.12%

Figure 5 displays a network visualization map of co-authorship relationships among authors in the analyzed literature, with the unit of analysis being individual authors. The counting method used is fractional counting, where authors receive a fraction of credit for a publication based on the number of authors of that publication. The minimum number of documents an author had to have published to be included in the network was one, and the minimum number of citations an author had to have received was two.

The visualization shows nodes (circles) representing authors and edges (lines) representing co-authorship relationships between authors. The size of the nodes is proportional to the number of publications authored by that author, while the thickness of the edges is proportional to the strength of the co-authorship relationship between the two authors. Clusters of authors with strong co-authorship relationships are visible on the map.

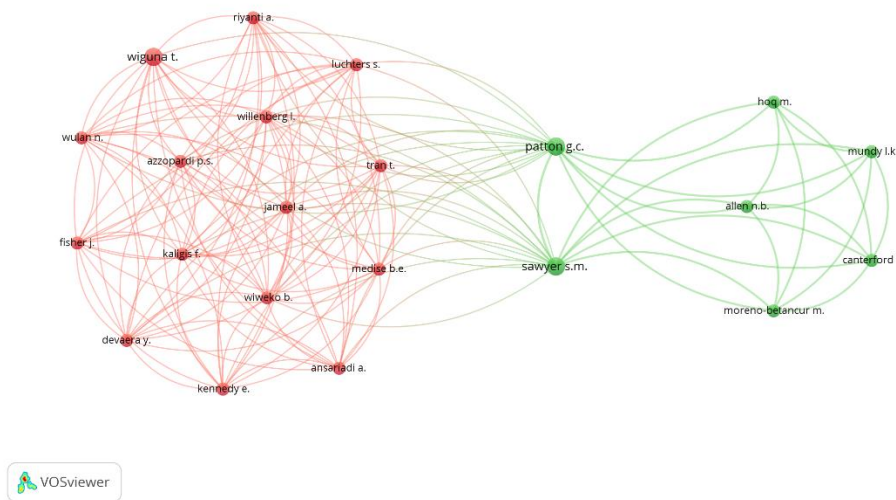


Fig. 5: Network Visualization Map of The Co-Authorship

Unit of analysis = Authors

Counting method: Fractional counting

Minimum number of documents of an author = 1

Minimum number of citations of an author = 2

Most Influential Institutions

Table 11 presents a list of the most influential institutions based on their number of publications with a minimum threshold of two publications. The table displays the name of the institution, the total number of publications, and the percentage of publications with respect to the total number of publications. The data reveals that Ruhr-Universitat Bochum, Universiteit Utrecht, University of Michigan, Ann Arbor, and the University of Melbourne are the top four institutions with the same number of publications and a percentage of 4.49%. The remaining

institutions, including the University of Toronto, University College London, University of Belgrade, and others, have a lower percentage of publications.

Table 11: Most Influential Institutions with Minimum of Two Publications

Institution	Total Publications	Percentage (%)
Ruhr-Universität Bochum	4	4.49%
Universiteit Utrecht	4	4.49%
University of Michigan, Ann Arbor	4	4.49%
University of Melbourne	4	4.49%
University of Toronto	3	3.37%
University College London	3	3.37%
University of Belgrade	3	3.37%
ORYGEN Youth Health	2	2.25%
Nottingham Trent University	2	2.25%
Brigham Young University	2	2.25%
Vrije Universiteit Amsterdam	2	2.25%
Murdoch Children's Research Institute	2	2.25%
Harvard University	2	2.25%
Brown University	2	2.25%
Mailman School of Public Health	2	2.25%
University of Pittsburgh	2	2.25%
Centre for Adolescent Health	2	2.25%
National University of Singapore	2	2.25%
Rhode Island Hospital	2	2.25%
Universiteit Maastricht	2	2.25%
University of Bristol	2	2.25%
West Virginia University	2	2.25%
Katolicki Uniwersytet Lubelski Jana Pawła II	2	2.25%
Queen's University Belfast	2	2.25%
Columbia University	2	2.25%
University of Leicester	2	2.25%
Belgrade University School of Medicine	2	2.25%
Tartu Ülikool	2	2.25%
Universitas Indonesia	2	2.25%
Centre for Youth Mental Health	2	2.25%
Rutgers University–New Brunswick	2	2.25%

Citation Analysis

Table 12 reports various citation metrics of the articles included in this study. The data covers a period of 11 years from 2012 to 2022, during which a total of 89 papers were published, receiving a total of 5298 citations. The average number of citations per year is 481.64, while the average number of citations per paper is 59.53. The average number of citations per author is relatively high at 1454.77, indicating that the authors of these papers are highly cited in their respective fields. On average, each author contributed to 30.04 papers. The h-index, a commonly used metric to evaluate the productivity and impact of a researcher, is 29, indicating that at least 29 papers have been cited 29 times or more. The g-index, another commonly used metric, takes into account not only the number of highly cited papers but also the distribution

of citations across all papers. The g-index in this study is 72, suggesting that the distribution of citations across the papers is relatively even.

Table 12: Citations Metrics

Metrics	Data
Publication years	2012-2022
Citation years	11 (2012-2022)
Papers	89
Citations	5298
Citations/year	481.64
Citations/paper	59.53
Citations/author	1454.77
Papers/author	30.04
h-index	29
g-index	72

Table 13 provides a list of the top 20 highly cited articles related to social media use and mental health. The articles are ordered by the number of citations they have received, and they cover a range of topics, including the relationship between social media use and psychiatric disorders, depression, and poor psychological functioning among children and adolescents. The articles were published between 2012 and 2020, with the majority published in the last five years.

One of the most highly cited articles, with 1384 citations, is titled "Mental health problems and social media exposure during COVID-19 outbreak" and was published in 2020 by J. Gao et al. This article discusses the impact of social media exposure on mental health during the COVID-19 outbreak. The authors found that exposure to COVID-19-related information on social media was associated with increased levels of anxiety, depression, and stress.

Another highly cited article, published in 2016 by C.S. Andreassen et al., examines the relationship between the addictive use of social media and video games and symptoms of psychiatric disorders. This large-scale cross-sectional study found that addictive use of social media and video games was significantly associated with symptoms of anxiety, depression, and attention-deficit/hyperactivity disorder (ADHD).

Other highly cited articles in the list discuss the association between social media use and depression among high school students, the impact of social media use on adolescent mental and health, the differential effects of social networking site addiction and internet gaming disorder on psychological health.

Table 13: Top 20 Highly Cited Articles

No.	Authors	Title	Year	Cites	Cites per Year
1.	J. Gao, P. Zheng, Y. Jia, H. Chen, Y. Mao, S. Chen, Y. Wang, H. Fu, J. Dai	Mental health problems and social media exposure during COVID-19 outbreak	2020	1384	461.33
2.	C.S. Andreassen, J. Billieux, M.D.	The relationship between addictive use of social media and	2016	688	98.29

	Griffiths, D.J. Kuss, Z. Demetrovics, E. Mazzoni, S. Pallesen	video games and symptoms of psychiatric disorders: A large-scale cross-sectional study			
3.	Y. Kelly, A. Zilanawala, C. Booker, A. Sacker	Social Media Use and Adolescent Mental Health: Findings From the UK Millennium Cohort Study	2018	228	45.6
4.	I. Pantic	Online social networking and mental health	2014	222	24.67
5.	I. Pantic, A. Damjanovic, J. Todorovic, D. Topalovic, D. Bojovic-Jovic, S. Ristic, S. Pantic	Association between online social networking and depression in high school students: Behavioral physiology viewpoint	2012	204	18.55
6.	H. Sampasa-Kanyinga, R.F. Lewis	Frequent Use of Social Networking Sites is Associated with Poor Psychological Functioning among Children and Adolescents	2015	202	25.25
7.	S.M. Coyne, A.A. Rogers, J.D. Zurcher, L. Stockdale, M. Booth	Does time spent using social media impact mental health?: An eight year longitudinal study	2020	191	63.67
8.	C.T. Barry, C.L. Sidoti, S.M. Briggs, S.R. Reiter, R.A. Lindsey	Adolescent social media use and mental health from adolescent and parent perspectives	2017	168	28
9.	C. Berryman, C.J. Ferguson, C. Negy	Social Media Use and Mental Health among Young Adults	2018	165	33
10.	C.G. Escobar-Viera, A. Shensa, N.D. Bowman, J.E. Sidani, J. Knight, A.E. James, B.A. Primack	Passive and Active Social Media Use and Depressive Symptoms among United States Adults	2018	128	25.6
11.	H.M. Pontes	Investigating the differential effects of social networking site addiction and Internet gaming disorder on psychological health	2017	119	19.83
12.	A. BÅ,achnio, A. PrzepiÅ³rka, I. Pantic	Internet use, Facebook intrusion, and depression: Results of a cross-sectional study	2015	116	14.5
13.	R.M. Viner, A. Aswathikutty-Gireesh, N. Stiglic, L.D. Hudson, A.-L. Goddings, J.L. Ward, D.E. Nicholls	Roles of cyberbullying, sleep, and physical activity in mediating the effects of social media use on mental health and wellbeing among young people in England: a secondary analysis of longitudinal data	2019	114	28.5
14.	E. Abi-Jaoude, K.T. Naylor, A. Pignatiello	Smartphones, social media use and youth mental health	2020	109	36.33

15.	M. Boer, R.J.J.M. van den Eijnden, M. Boniel-Nissim, S.-L. Wong, J.C. Inchley, P. Badura, W.M. Craig, I. Gobina, D. Kleszczewska, H.J. KlanÅ;Ä• ek, G.W.J.M. Stevens	Adolescents' Intense and Problematic Social Media Use and Their Well-Being in 29 Countries	2020	90	30
16.	M. Oâ€™Reilly, N. Dogra, N. Whiteman, J. Hughes, S. Eruyar, P. Reilly	Is social media bad for mental health and wellbeing? Exploring the perspectives of adolescents	2018	84	16.8
17.	S.Y.M. MÃ©relle, A.M. Kleiboer, M. Schotanus, T.L.M. Cluitmans, C.M. Waardenburg, D. Kramer, D. van de Mheen, A.J. van Rooij	Which health-related problems are associated with problematic video-gaming or social media use in adolescents? A large-scale cross-sectional study	2017	74	12.33
18.	T.E. Simoncic, K.R. Kuhlman, I. Vargas, S. Houchins, N.L. Lopez-Duran	Facebook use and depressive symptomatology: Investigating the role of neuroticism and extraversion in youth	2014	74	8.22
19.	M.A. Bekalu, R.F. McCloud, K. Viswanath	Association of Social Media Use With Social Well-Being, Positive Mental Health, and Self-Rated Health: Disentangling Routine Use From Emotional Connection to Use	2019	68	17
20.	J. Brailovskaia, J. Margraf	Comparing Facebook users and Facebook non-users: Relationship between personality traits and mental health variables - An exploratory study	2016	63	9

Discussion

The analysis of the research objectives aimed to provide insights into the current state of research on social media and youth mental health. One key finding was the distribution of publications over the years, indicating a recent trend towards more current research. This may reflect a focus on contemporary issues and topics of relevance in the field of study. However, the presence of publications from earlier years suggests the ongoing relevance of older research and sustained interest in established themes or ideas.

The subject areas contributing to the publications were predominantly Medicine, Psychology, and Social Sciences, indicating the interdisciplinary nature of research on adolescent mental health. This highlights the need for collaboration across different subject areas to address the complex relationships between social media use and mental health outcomes. Future research

could explore potential interdisciplinary collaborations and the implications of research findings across different subject areas.

The global nature of research on mental health and social media use in adolescents is highlighted by the diversity of countries represented in the publication output. The dominance of the United States and the United Kingdom is not surprising, given their status as major contributors to scientific research. These countries have well-established academic institutions, extensive research funding, and a culture of academic excellence that encourages scientific inquiry. As such, it is expected that they would produce a significant portion of the literature on this topic.

The analysis of the most influential institutions that contribute to social media and youth mental health research revealed a diverse range of institutions from different countries. This reflects the collaborative nature of research in this field, with contributions from researchers based in various institutions worldwide. Policymakers, educators, and researchers could benefit from this information when identifying leading institutions in the field of adolescent mental health research.

Finally, the most cited articles in this analysis indicate that while social media can provide a platform for social support and connection, excessive use can be associated with negative mental health outcomes. These outcomes include depression, anxiety, and poor psychological functioning. The complex relationship between social media use and mental health highlights the need for further research to identify the underlying mechanisms and potential interventions to mitigate any negative effects of social media use on mental health.

Conclusion

In conclusion, this study aimed to provide insights into the current state of research on the relationship between social media use and youth mental health. The analysis revealed a recent trend towards more current research, highlighting a focus on contemporary issues and topics of relevance in the field. The interdisciplinary nature of research on adolescent mental health was demonstrated, indicating the need for collaboration across different subject areas to address the complex relationships between social media use and mental health outcomes. Additionally, the diversity of countries represented in the publication output demonstrated the global nature of research on this topic.

However, this study has some limitations, particularly in the use of data solely from Scopus. While Scopus is a reputable database, it may not encompass all relevant publications on the topic. Additionally, the analysis did not explore the quality or rigor of the publications, which could affect the findings.

For future research, it is recommended that scholars continue to investigate the complex relationships between social media use and mental health outcomes. This includes identifying the underlying mechanisms and potential interventions to mitigate any negative effects of social media use on mental health. Furthermore, exploring potential interdisciplinary collaborations and the implications of research findings across different subject areas could provide a more comprehensive understanding of the issue. Finally, it is suggested that future research should explore other databases and sources to capture a more comprehensive overview of the literature.

Overall, this study has contributed to the understanding of the current state of research on social media use and youth mental health, demonstrating the need for further investigation and interdisciplinary collaboration in this field.

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