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Cyberbullying and digital ethics: A bibliometric analysis from a communication research perspective

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Abstract

This study examines the phenomenon of cyberbullying and digital ethics through a bibliometric approach using the Biblioshiny application in the R programming environment. The dataset, sourced from Scopus between 2014 and 2024, comprises 73 scientific articles that were systematically extracted and analyzed. The findings indicate a rising trend in cyberbullying, particularly its impact on adolescent mental health. Furthermore, the study highlights the critical role of digital ethics education and the practice of forgiveness as potential solutions for fostering a positive and supportive digital environment. This research uses bibliometric analysis to evaluate various aspects of the research, including an overview of the dataset, the number of annual publications, average citations per year, and author contributions. It also analyzed journals, countries, and identified key trends and themes in research. This approach provides a comprehensive insight into the development of research related to cyberbullying and digital ethics over a period of time.

Introduction

The rapid advancement of information and communication technology has revolutionized how individuals communicate, fostering innovations that enhance the efficiency and reach of communication across all levels of society. This transformation plays a vital role in addressing global human needs, particularly in facilitating seamless information exchange. Over time, this technology began to have a major impact on mindset, behavior, and even human civilization at large. The world now feels borderless because information can spread very quickly and is difficult to control. This change brings considerable social consequences in social life, where social dynamics are increasingly influenced by the flow of information that continues to move relentlessly. In recent years, the internet has experienced a very significant development. Through digital connections, one can obtain and exchange information without the need to meet face-to-face. In addition, the presence of various social media platforms such as Facebook, Twitter and Instagram allows for easier and more instant social interactions. Social media now serves as the main source of information, especially for teenagers and the general public (Pazri *et al.*, 2024).

While these technological advancements offer numerous benefits—such as easy access to information and enhanced communication (Auriemma et al., 2020)—they have concurrently given rise to significant societal challenges and ethical concerns. The pervasive nature of digital platforms has facilitated negative consequences, including the notable increase in cybercrime and, specifically, cyberbullying. This ease of connection, coupled with potential anonymity, creates environments where harmful interactions can occur, impacting social harmony and individual well-being. The ethical dimensions of online behavior have therefore become a critical area of concern and scholarly investigation.

Among the most pressing social problems emerging from this digital landscape is cyberbullying, an act of intimidation committed by one individual against another through digital means (Wiederhold, 2024). This phenomenon appears increasingly widespread, potentially fueled by the rapid circulation of information, including misinformation or provocations, on various online platforms. The impact reported in research extends beyond psychological disorders, sometimes leading to physical suffering for victims, with extreme cases involving decisions to end their lives due to the pressure (Wiederhold, 2024). Adolescents are often identified as particularly vulnerable due to their extensive access to digital devices. Cyberbullying is typically characterized as intentional and repeated behavior aimed at hurting or harming the victim, often involving an imbalance of power between the perpetrator and the victim (Deely et al., 2014). The term itself combines "cyber," referring to cyberspace or the internet, and "bullying," meaning intimidation, defining it as bullying that occurs in digital environments like social media, chat rooms, text messages, emails, and online games.

The growing reliance on social media as a primary communication tool directly contributes to the context in which cyberbullying manifests. This issue has become increasingly prevalent, particularly among adolescents who are highly active on digital platforms. The convenience offered by digital devices and social media applications, which penetrate geographical boundaries and accelerate information spread, has made device use an inseparable part of daily life (Izzati, 2015), simultaneously expanding the potential avenues for cyberbullying. Such acts are not limited to text but can also involve spreading images or videos intended to demean and harass the victim, carried out by individuals or groups (Kartik, 2023).

Conceptually, cyberbullying encompasses forms of bullying carried out consciously and repeatedly, causing victims emotional or physical distress and often leaving them feeling helpless. As an empirical phenomenon, cyberbullying represents a relatively new subject of research compared to traditional bullying. Over the last decade, coinciding with the increased use of modern information technology and digital platforms among young people, cyberbullying has captured significant attention from experts and researchers (Khoerunnisa *et al*., 2021). The concept itself continues to evolve alongside technological advancements, leading to ongoing discussion among experts regarding a definitive, static definition. The dynamic nature of information technology means that the forms and potential harms of cyberbullying vary, complicating consistent definition and study.

Research suggests that developmental pressures, information technology trends, and cyberspace culture can contribute to cyberbullying behavior, potentially used to demonstrate power or gain peer recognition, thereby creating less safe online environments for adolescents (Livazović and Ham's, 2019). Consequently, the need for awareness, education, and supportive online environments has become a recurring theme in the literature. While teen bullying is not new, studies note that its patterns have shifted with digital technology and social media. Bullying now frequently occurs on various online platforms, extending beyond school environments. Research has documented bullying incidents on platforms

like Facebook, Twitter, Instagram, and chat apps, involving intimidation, exclusion, rumor-spreading, and verbal abuse. The documented impact on victims is immense, ranging from shame and fear to severe mental health issues like anxiety, depression, and increased suicide risk (Aisya, 2024), making the understanding of these trends crucial.

The existing body of research indicates that cyberbullying in adolescents is influenced by various factors, including the social environment and personal characteristics. Studies such as Livazović and Ham's (2019)family, parenting styles, peer relations and school factors in cyber-bullying with focus on emotional consequences. A survey was conducted with 259 participants (202 female have explored the role of family support, school environment, and peer relationships as potential protective factors, while a lack of social support may increase risk. The literature also examines motivations for bullying, ranging from revenge to desires for social dominance. Crucially, research consistently highlights the severe impact on victims, linking cyberbullying to depression, low self-esteem, emotional stress, social anxiety, substance abuse, and suicidal thoughts (Bottino et al., 2015) Furthermore, factors like low digital literacy and lack of parental supervision are often discussed in the literature as elements that can exacerbate risks, contributing to environments where harmful online behaviors may seem consequence-free (Khoerunnisa et al., 2021).

Based on the background that has outlined the rapid development of information and communication technology and social media, as well as its impact on adolescent behavior and mental health, the issue of cyberbullying and digital ethics has become a significant focus. Previous studies have identified social media as a prevalent site for cyberbullying (Hafizi, 2024; Wulandari *et al.*, 2024), and linked it with cyberhate Bedrosova *et al.* (2022) While many studies have explored causes and psychological impacts, and bibliometric analyses have mapped the broader field of cyberbullying, there is a need to specifically map the intellectual structure at the intersection of cyberbullying and ethics from a communication perspective. This research positions itself to fill that gap. The relevance of a communication perspective is paramount, as cyberbullying is fundamentally an act of harmful mediated communication, and digital ethics provides the normative framework for evaluating the communicative actions in the digital sphere. Understanding this landscape is crucial for developing communication strategies and educational interventions that promote ethical online interactions. Therefore, this study aims to conduct a bibliometric analysis of scientific literature on "Cyberbullying and Digital Ethics" indexed in Scopus from 2014-2024. The focus is to identify trends, key contributors, core journals, and dominant research themes to provide a comprehensive overview of the knowledge structure in this specific niche.

Method

This research employs a quantitative approach with a descriptive research type, utilizing a bibliometric analysis method. This approach is designed to systematically describe the characteristics of a scientific field—such as publication trends, influential authors, and thematic structures—without manipulating variables. Bibliometric analysis is recognized as a systematic method used to study scientific literature to identify patterns, trends, and impacts within a specific field of study (Laengle et al., 2017; Passas, 2024). Originating conceptually with Pritchard in 1959, this approach allows for the evaluation of research developments and collaboration patterns by analyzing publication and citation data (Batubara et al., 2021; Martínez-López et al., 2018; Saberi et al., 2019; Zupic & Čater, 2015). Rather than generating primary data, bibliometrics focuses on the quantitative examination of existing scholarly outputs to map a research area's landscape (Sidiq, 2019; Supinah & Soebagyo, 2022). The statistical analysis used is descriptive, focusing

on frequencies, averages, and growth rates, complemented by network analysis metrics available in the software.

To ensure the quality of this descriptive study, several measures were taken. Validity was addressed by using the Scopus database, which is a reputable and widely recognized source of indexed scientific literature, ensuring that the documents analyzed are of high academic standing.

Reliability was maintained through a transparent and replicable data retrieval protocol, with clearly defined keywords ('Cyberbullying AND Ethics'), a specific time span (2014–2024), and explicit inclusion criteria (document type: 'Article'). The sampling technique used was a census approach or purposive sampling, where the entire population of 73 articles that matched the defined search criteria within the Scopus database was included for analysis. This comprehensive inclusion avoids sampling errors and provides a complete snapshot of the literature according to the study's scope.

This study utilizes bibliometric analysis primarily to identify patterns in scientific publications related to Cyberbullying and Digital Ethics, including mapping research developments, key contributors, and thematic trends within this specific domain. This approach enables an evaluation of the intellectual and social structure of this research field (Zupic & Čater, 2015). While sharing similarities with systematic literature reviews in its structured approach, bibliometric analysis distinctively applies quantitative and visual techniques to map the structure and evolution of the field (Jannah & Setiyowati, 2024).

The research data were sourced from the Scopus database, specifically targeting the topic "Cyberbullying and Digital Ethics" through keyword searches. The data obtained consist of scientific articles published between 2014-2024. By using a bibliometric approach, this research aims to generate visualizations and data tables detailing information such as prolific authors, publication years, citation counts, contributing countries, key publication sources (journals), and emerging research trends. This analysis is carried out on all selected document metadata relevant to the topic, enabling the identification of patterns and developments in the scholarly discourse on Cyberbullying and Digital Ethics.

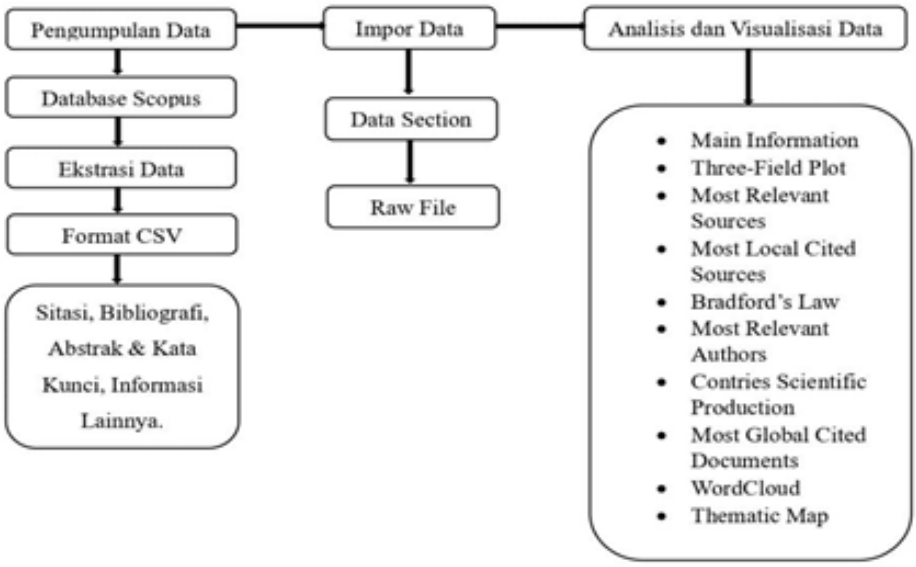


Figure 1, Research Flow using Biblioshiny Application

Source: Researcher processing results, 2024.

The data retrieval process utilized the advanced search functionality in the Scopus database to ensure a focused dataset. The documents retrieved using the specified keywords were subsequently filtered and extracted. Specifically, a search was conducted using the keywords 'Cyberbullying AND Ethics' for documents published between 2014 and 2024. The results were extracted on November 14, 2024, yielding 73 scientific articles published in English, Spanish, or French. These search results were exported in CSV (Comma Separated Values) format to facilitate data processing, including only documents classified as 'Article' type. After extracting data from the Scopus database, bibliometric analysis and visualization were carried out using established methods (Aria & Cuccurullo, 2017; Büyükkıdık, 2022; Donthu et al., 2021; Zupic & Čater, 2015)which is frequently used in bibliometric analysis, was introduced in this research. The article aimed to illustrate the various analyses applied in a bibliometric study. For this purpose, articles containing the \"item response theory\" (IRT.

In this study, bibliometric analysis and visualization were primarily conducted using the Biblioshiny software package. Biblioshiny is a web-based interface operating within the R statistical environment, providing a user-friendly platform for comprehensive bibliometric and scientometric analyses without cost (Aria & Cuccurullo, 2017; Büyükkıdık, 2022; Moral-Muñoz *et al.*, 2020; Moreira *et al.*, 2020; Silva *et al.*, 2022)which is frequently used in bibliometric analysis, was introduced in this research. The article aimed to illustrate the various analyses applied in a bibliometric study. For this purpose, articles containing the \"item response theory\" (IRT. Using Biblioshiny, this research analyzed the dataset focusing on publication impact (citations), productivity (authors, institutions, countries), and collaboration patterns (co-authorship networks). (While Google Spreadsheet might be used for initial data inspection or minor formatting, Biblioshiny served as the core tool for the main analyses and visualizations presented.) The data used in this study comes from the Scopus database, as described in Table 1.

Tabel 1, Data source set and selection

Category	Information
Research Database	Scopus
Time Span	2014-2024
Language	Inggris, Spanyol, Prancis
Search or Keyword	Cyberbullying AND Ethics
Document Type	'Article'
Data Extraction	Exported with complete records (cited, bibliography, abstract & keywords, and other information) in CSV format.
Number of Samples	73

Source: Researcher processing results, 2024

The data sources and subjects used in this study were obtained through bibliographic mapping of the literature found on the Scopus platform. To visualize the bibliographic research data, researchers utilized the Biblioshiny tool with the aim of producing visualizations that are clearer, diverse, and able to describe the results obtained regarding the topic of Cyberbullying and Ethics within the 2014-2024 time span. In this study,

Biblioshiny was used for generating visualizations such as co-occurrence networks, maps of country contributions and citations, WordCloud diagrams, and thematic maps.

Results and Discussion

The keywords searched using the Scopus database were "Cyberbullying" AND "Ethics" within the time frame for scientific articles from 2014-2024. This period was selected to provide a decade-long perspective on the research landscape. The main information about the resulting dataset has been extracted and summarized systematically in Table 2.

3.1 Overview

Tabel 2, Key Information about the Research Dataset

Description	Information
Time Range	2014-2024
Source (Journal, Book, etc.)	67
Document	73
Annual Growth Rate %	8.45%
Average Age of Documents	3.88
Average Citations per Document	12.9
References	3204
Author	228
Single-author Documents	13
Multi-author Documents	3.23
International Co-Authoring	10.96%
Document Type (Article)	73

Source: Researcher processing results, 2024

Using the criteria "cyberbullying AND ethics" in the time span from 2014 to 2024 allows for an analysis of research trends over a significant period. The bibliometric analysis summarized in the table above provides an overview of publications related to the topic retrieved from Scopus. In that period, 73 documents were published across 67 different sources (primarily journals), with an annual publication growth rate of 8.45%, indicating steady, though not explosive, growth in research output. The total number of authors involved reached 228. Notably, only 13 documents were single-authored, with the average document involving 3.23 authors, suggesting a strong tendency towards collaborative research in this field. International collaboration was present but not dominant, accounting for 10.96% of the co-authorship links. The dataset contained 246 unique author keywords, illustrating the diversity of specific topics addressed within this broader theme. Overall, these documents cited a total of 3,204 references. The average document age of about 3.88 years suggests that much of the literature is relatively recent, reflecting the evolving nature of both technology and the associated ethical concerns. Each document received an average of 12.9 citations, indicating a reasonable level of scholarly impact and engagement within the academic community concerning cyberbullying and ethics.

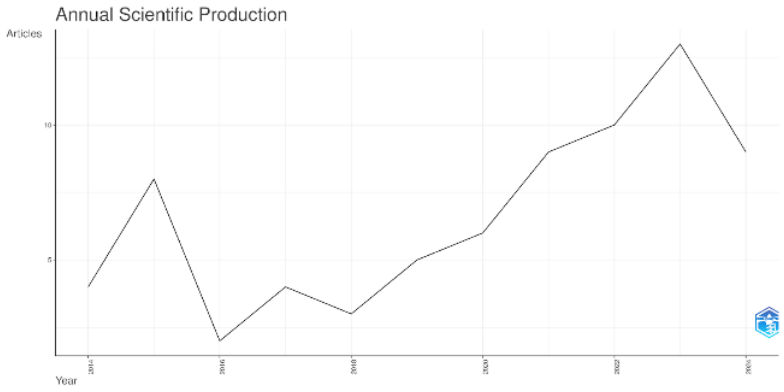


Figure 2, Annual Scientific Article Production

Source: Researcher processing results, 2024.

Figure 2 illustrates the annual scientific article production on the topic of cyberbullying and ethics from 2014 to 2024. The data reveals a fluctuating trend in publication volume. While starting moderately in 2014 (8 articles), output saw dips in the mid-period (2016-2018) before exhibiting notable peaks in 2020 (6 articles shown, though the text mentions a spike, this might need checking against the graph's exact values) and particularly in 2023 (14 articles). This pattern likely reflects growing academic interest and possibly responses to societal events or technological shifts during these years. The apparent decline in 2024 should be interpreted cautiously, as it often represents incomplete data collection for the current year rather than a definitive drop in research focus.

The fluctuation in publication numbers can be contrasted with citation trends, as shown in Figure 3.

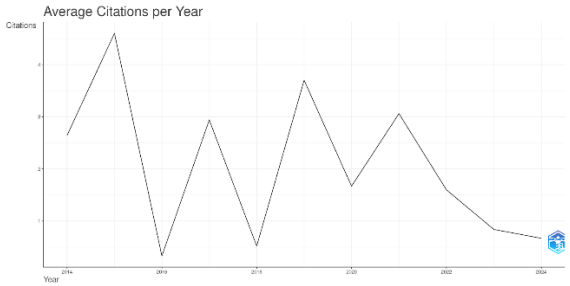


Figure 3, Average Citation Per Year

Source: Researcher processing results, 2024.

Figure 3 shows the "Average Citations per Year" received by articles published in each respective year. This graph shows dynamic fluctuations. Articles published early in the period (2014) garnered over 3 average citations per year initially, with 2015 publications achieving a peak average of over 4 citations per year. However, articles published in 2016 experienced a drastic decline in their subsequent average citation rate (below 1). While publications from 2018 and 2020 showed some recovery in average citations, they did not reach the 2015 peak. The consistent decline in average citations for articles published in the most recent years (2023-2024) is typical, as newer publications naturally require time to accumulate citations. Therefore, this recent downward trend likely reflects the latency in citation accumulation rather than necessarily diminishing relevance.

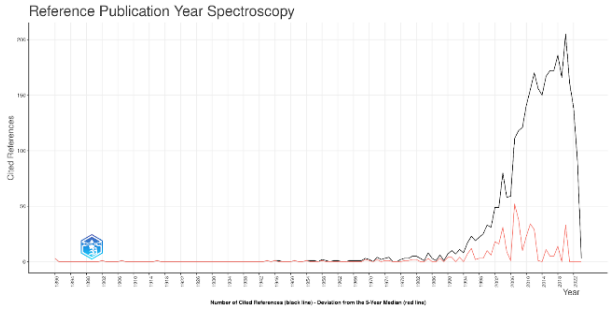


Figure 4, Year of Publication Reference (RPYS)

Source: Researcher's Processing Results, 2024.

Furthermore, Figure 4 analyzes the publication years of the references cited *within* the 73 articles analyzed. Biblioshiny's "Reference Publication Year Spectroscopy" graph shows a significant increase in the use of references published since the 2000s, with peak usage of references published between 2015 and 2020. The black line represents the total number of times references from a given year were cited, while the red line shows the deviation from the 5-year median, reflecting variability. This indicates that the research on "cyberbullying and ethics" predominantly builds upon literature published within the last two decades, aligning with the rise of social media and related concerns.

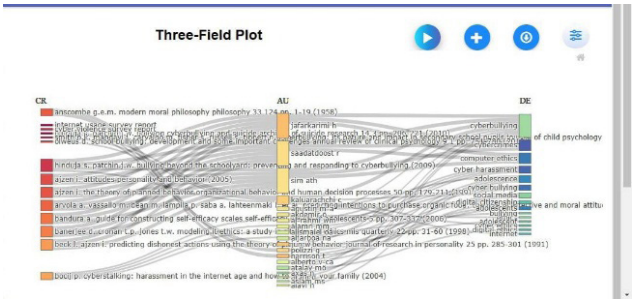


Figure 5, Three-Field Plot

Source: Researcher's Processing Results, 2024.

Figure 5 displays the relationship between three key elements within the dataset: Cited References (CR), Authors (AU), and Author's Keywords (DE). The left column (CR) highlights references frequently cited by the 73 articles analyzed. (Assuming visibility on the plot) For example, works like "Anscombe g.e.m. modern moral philosophy" and potentially foundational reports or studies appear influential. The center column (AU) displays the names of authors present in the dataset, with connecting lines indicating linkages between authors, the references they cite, and the keywords they use. Prominent authors in the network (e.g., potentially Jafar Karimi, Hinduja, if strongly connected) suggest significant contributions to the discourse captured in this dataset. The right column (DE) shows frequently occurring author keywords, such as cyberbullying, ethics (or computer ethics), adolescence, and potentially cybercrimes, which outline the main focus and themes investigated in these studies. Overall, this plot illustrates the interconnections between influential literature, key authors within the dataset, and the core research topics discussed, providing insight into the conceptual structure of the field as represented by these 73 articles.

3.2 Analysis of Scientific Articles and Universities

Table 3, Top 8 Most Cited Scientific Articles

No	Author	Title	Citations	Journal
1.	Jun W. (2020).	A. Study on The Cause Analysis of Cyberbullying in Korean Adolescents.	22	International Journal of Environmental Research and Public Health.
2.	Kaluarachi C. (2020)	Responsible Use of Technology to Combat Cyberbullying Among Young People.	16	Australasian Journal of Information Systems.
3.	Harrison T. & Polizzi G. (2022).	(In) Civility and Adolescent's Moral Decision Making Online: Drawing on Moral Theory to Advance Digital CitizenShip Educational	15	Education and Information Technology
4.	Jafar Karimi H, Saadat Boost R, & Sim Ath (2017).	Determinant Factors of Cyberbullying an Application of Theory of Planned Behavior.	14	Journal of Theoretical and Applied Information Technology
5.	Chirongma S. (2022).	Tele-Evangelism, Tele-Health and Cyberbullying in the Wake of the Outbreak of Covid 19- in Zimbabwe.	6	Religion and the Covid-19 Pandemic in Southern Africa.
6.	Saadat Boost R, Sim Ath. (2017).	Cyberbullying Among Students; an Application of Theory of Planned Behavior	6	International Conference on Research and Innovation in Information Systems, Icriis.
7.	Chirongoma S. (2021).	The Ambivalent Role of Technology on Human Relationships; an Afrocentric Exploration	5	African Values, Ethics, and Technology; Questions, Issues, and Approaches.
8.	Akdemir G. (2015).	Prospective Teachers' Likelihood of Performing Unethical Behaviors in the Real and Virtual Environments	4	Turkish Online Journal of Educational Technology

Source: Researcher processing results, 2024.

The scientific article titled "A Study on the Cause Analysis of Cyberbullying in Korean Adolescents." by Jun (2020)online communication is becoming more active than offline meetings in daily life. This online communication is accelerating, especially as smartphone distribution and utilization become more prevalent. This communication in cyberspace has the advantage of people being able to communicate anytime, anywhere beyond time and place, while causing a variety of inappropriate consequences. A

typical one is cyberbullying, which is a serious problem for adolescents who have active communication online. The purpose of this study is to accurately investigate and analyze the status of cyberbullying among adolescents. To this end, national survey data of the National Information Society Agency (NIA emerged as the most cited article within this dataset, receiving 22 citations according to Scopus data at the time of extraction. Its high citation count suggests significant influence or relevance within the scholarly discussion on Cyberbullying and Ethics captured here. This article was published in the International Journal of Environmental Research and Public Health.

Tabel 4, Top 10 University

No	Affiliation	Articles
1	Queensland University of Technology	8
2	Monash University	7
3	RMIT University	6
4	Universita Di Siena	6
5	Irccs A. Gemelli University Polyclinic Foundation	5
6	University Of New South Wales	5
7	University Of Western Macedonia	5
8	Alzahra University	4
9	Flinders University	4
10	Instituto Tecnologico De Sonora	4

Source: Researcher processing results, 2024.

Table 4 shows the top 10 universities based on the number of articles contributed by affiliated authors within this dataset. Queensland University of Technology leads with 8 articles, followed by Monash University (7 articles), RMIT University & Universita Di Siena (6 articles each), three institutions with 5 articles each, and three institutions with 4 articles each. This highlights key institutional contributors to the research output on this topic.

Affiliation Analysis

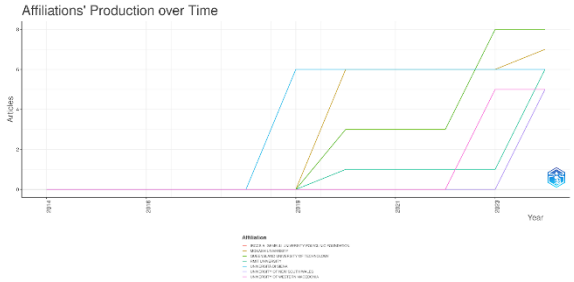


Figure 6, University production over time

Source: Researcher's processing results 2024.

Figure 6 visualizes the publication output over time for some of the most productive universities identified in Table 4. Queensland University of Technology shows relatively consistent output across several years, contributing significantly between 2019 and 2023. RMIT University also shows fairly stable contributions. In contrast, Monash University and

Università di Siena appear to increase their engagement notably after 2020. The University of New South Wales and the University of Western Macedonia show contributions concentrated in more recent years. This visualization suggests a broadening interest across various academic institutions, particularly in the latter half of the analyzed period.

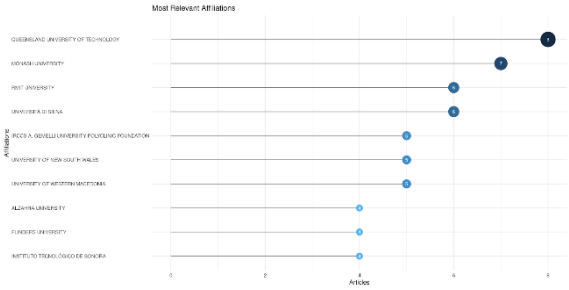


Figure 7, Most Relevant Universities

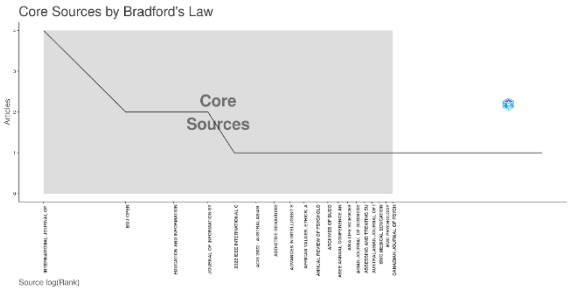
Source: Researcher's processing 2024.

Figure 7 visually confirms the ranking of the most productive universities based on the number of articles published within the dataset. Queensland University of Technology ranks highest with 8 articles, followed by Monash University (7 articles), RMIT University and Università di Siena (6 articles each), and so on, mirroring the data in Table 4. This reinforces the identification of key institutional players contributing significantly to the published research on cyberbullying and ethics during this period.

3.3 Journal Analysis

Furthermore, the figure below presents an analysis of the journals where the 73 articles were published, aiming to identify core publication outlets. Journal analysis applying Bradford's law is useful for identifying tiers of journal productivity, distinguishing core journals from those publishing fewer articles on the topic. This helps differentiate between "mainstream" publication venues for this specific topic and more peripheral or "fringe" sources (Venable et al., 2016). By applying Bradford's law, we gain insight into the distribution of literature across journals, highlighting key outlets and the concentration of research.

Figure 8, Journal Clustering with Bradford's law



Source: Researcher's processing 2024.

Table 5, Journal Clustering with Bradford's law

Zone	Rank Range	Number of Journals	Number of Publications
Zona 1	1-19	25	19

Zone	Rank Range	Number of Journals	Number of Publications
Zona 2	20-43	24	25
Zona 3	44-47	24	24

Source: Researcher's processing 2024.

In Table 5, the 67 sources (journals) publishing the 73 articles related to cyberbullying and ethics are classified into three zones based on Bradford's law. Zone 1, representing the core journals for this topic within the dataset, consists of 25 journals that collectively published 19 articles. Zone 2 contains 24 journals publishing 25 articles, and Zone 3 includes another 24 journals publishing the remaining 24 articles. This distribution helps identify the most concentrated sources of publications (Zone 1) versus journals that publish on the topic less frequently (Zones 2 and 3). The next step is to specifically identify the most productive journals.

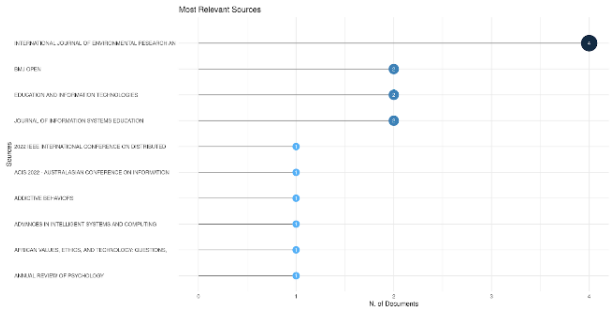


Figure 9, Most Relevant Journals

Source: Researcher processing results 2024.

Figure 9 presents the most productive sources (primarily journals) for the topic "cyberbullying and ethics" within this dataset. The journal that published the most articles is the "International Journal of Environmental Research and Public Health" with 4 documents. This is followed by "BMJ Open" and "Education and Information Technologies" with 2 documents each. Numerous other journals contributed one document each. This graph highlights the primary publication outlets where research on cyberbullying and ethics (as captured by the search strategy) was concentrated during the 2014-2024 period.

3.4 Country Analysis

This section analyzes the geographic distribution of publications based on author affiliations, aiming to understand national contributions and potential international collaboration patterns.

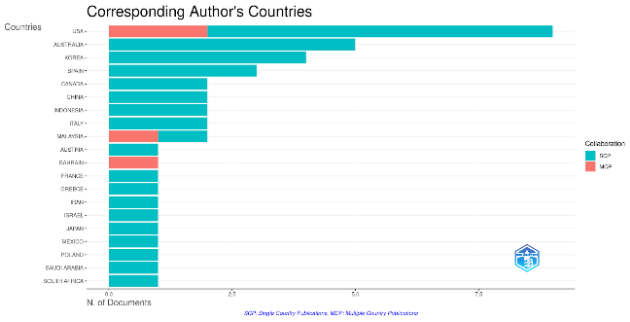


Figure 10, Author's Country Correspondence

Source: Researcher's processing 2024.

Figure 10 analyzes the countries of corresponding authors, distinguishing between Single Country Publications (SCP - all authors from the same country) and Multiple Country Publications (MCP - involving authors from different countries). The United States (USA) had the highest number of publications where the corresponding author was affiliated with a US institution (9 SCP, 2 MCP). This indicates a strong domestic research focus but also some international collaboration led from the US. Australia follows with 5 SCP articles, South Korea with 4 SCP, Spain with 3 SCP, and Canada with 2 SCP. Indonesia appears on the list, indicating research activity, though with fewer publications than the leading countries. This SCP/MCP analysis provides insight into the extent of domestic versus internationally collaborative research led from different countries.

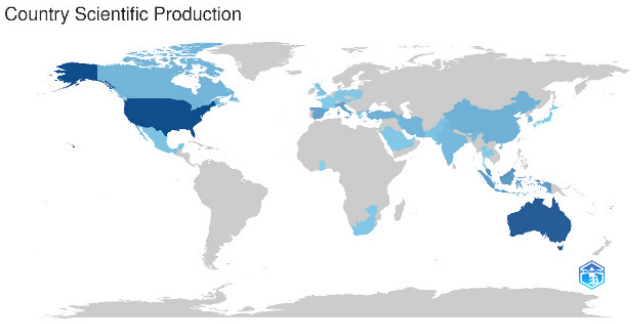


Figure 11, Country Scientific Production

Source: Researcher's processing 2024.

Tabel 6, Country Scientific Production

No.	Country	Articles	Total Citations
1.	Amerika Serikat	9	143
2.	Australia	5	12
3.	Korea	4	29
4.	Spanyol	3	88
5.	Kanada	2	45
6.	China	2	4
7.	Italy	2	24
8.	Malaysia	2	57
9.	Austria	2	16
10.	Bahrain	2	29

Source: Researcher's processing 2024.

Table 6 and Figure 11 show the total scientific article production and cumulative citations per country based on author affiliations. The United States leads in both metrics, with 9 articles and 143 citations, indicating the largest volume and highest citation impact within this dataset. Interestingly, Spain, with only 3 articles, garnered 88 citations, suggesting a high average citation impact per article compared to countries like Australia (5 articles, 12 citations) or China (2 articles, 4 citations). Malaysia also shows high citation impact relative to its article count (2 articles, 57 citations). These findings highlight the top

contributing countries in terms of volume and citation impact within the specific scope of this bibliometric study.

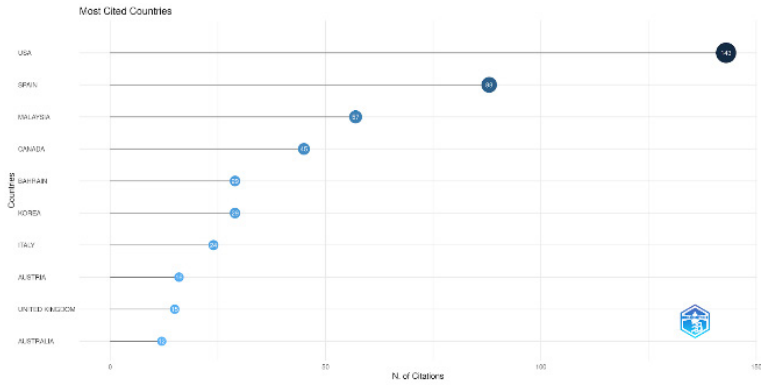


Figure 12, Countries with the Most Citations

Source: Researcher processing results 2024.

Figure 12 specifically ranks countries based on the total citations received by articles with authors affiliated to that country. The United States leads significantly with 143 citations, reinforcing its high impact in this research area as reflected in the Scopus data. Spain follows with 88 citations, Malaysia ranks third with 57, and Canada fourth with 45. Other countries like Bahrain, Korea, Italy, Austria, the UK, and Australia follow with fewer total citations. This visualization confirms the leading countries in terms of scholarly influence, measured by citations, within the studied literature on cyberbullying and ethics.

3.5 Trend Analysis

This section presents a trend analysis based on the most frequent keywords and a thematic map to identify dominant, developing, or underexplored research areas in the literature on cyberbullying and ethics.

Figure 13, Wordcloud

Source: Researcher's processing 2024.

This word cloud visualization illustrates prominent themes based on the frequency of author-provided keywords in the 73 articles analyzed. The terms "cyberbullying" and "ethics" (or related terms like "computer ethics") are highly frequent, confirming the centrality of the core topic. The prominence of terms like "adolescent," "student," "female," and "human male" indicates a strong research focus on specific demographic groups,

particularly young people and gender considerations. Terms such as "mental health," "suicidal ideation," and "computer crime" underline key associated issues explored in the literature, linking ethical dimensions to psychological impacts and illicit activities. The figure also shows terms like "education," "social networking," "crime victims," and "philosophical aspects," reflecting the multidisciplinary nature of the research, encompassing educational, social, legal, and philosophical perspectives. Overall, this word cloud provides a snapshot of the key concepts and areas of focus within the analyzed literature on cyberbullying and ethics. The themes identified resonate with findings from individual studies, such as those highlighting severe emotional effects on victims (Auriemma et al., 2020).

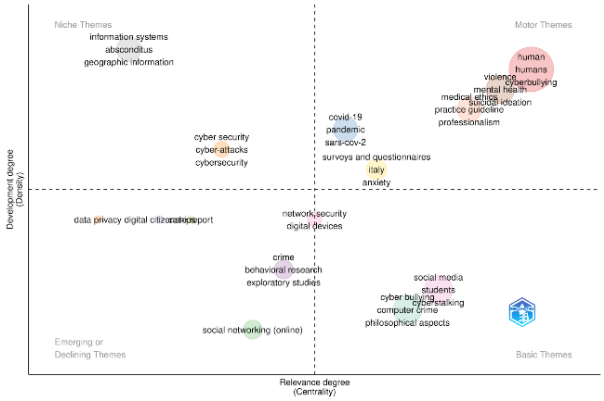


Figure 14, Thematic map

Source: Researcher's processing results 2024.

This Thematic Map categorizes research themes based on their centrality (relevance to the overall research network) and density (internal coherence/development).

- Upper-right quadrant (Motor Themes): Shows core themes that are well-established and well-developed. Themes like "cyberbullying," "mental health," "suicidal ideation," "medical ethics," and "violence" appear here. These represent the most impactful and driving areas in this research field.
- Upper-left quadrant (Niche Themes): Contains specialized themes that are well-developed but less broadly connected to other themes. Examples include "information systems" and "geographic information," which may represent very specific technical applications or research contexts.
- Lower-left quadrant (Emerging or Declining Themes): Displays themes that are newly emerging or losing traction. Themes like "data privacy" and "digital citizenship" are located here, suggesting areas that require further development or may be experiencing a shift in focus.
- Lower-right quadrant (Basic Themes): Consists of foundational themes that are important and relevant to many areas but whose internal development is still low. Themes such as "social media," "cyberstalking," and "philosophical aspects" are important transversal topics that could be further explored.

This map provides a dynamic view of the research structure. A deeper analysis shows that while research on impacts (motor themes) is abundant, research on preventive solutions based on ethics and policy (basic & emerging themes) still has significant room for development. Compared to similar studies focusing on health, this research uniquely highlights the "philosophical aspects" and "medical ethics" clusters, signifying a uniqueness in the analyzed data—namely, a blend of social impacts and ethical frameworks.

This finding indicates a societal need that has not been fully addressed by research: the formulation of practical and implementable digital ethics guidelines, especially from a communication science perspective that can bridge the gap between ethical theory and daily communication practices in the digital world. The most apparent research gap is the lack of development in the themes of "digital citizenship" and "data privacy," which have ironically become increasingly crucial in the current digital era.

Conclusion

This study conducted a bibliometric analysis of research on cyberbullying and digital ethics published in the Scopus database between 2014 and 2024. The findings indicate a dynamic and increasingly active research landscape, reflecting the escalating real-world challenges posed by cyberbullying and the critical need to address the ethical dimensions of digital interactions. Utilizing the Biblioshiny application, the analysis provided insights into the structure and evolution of this field, confirming the growing scholarly attention on this topic, particularly concerning its impact on adolescents and the exploration of ethical frameworks and interventions. Thematic analysis highlighted core research areas, including cyberbullying itself, ethical considerations, and mental health impacts, as well as related topics spanning education, technology platforms, and legal/philosophical perspectives. However, this study has limitations. First, the data was sourced exclusively from the Scopus database, potentially omitting relevant articles from other databases like Web of Science or Google Scholar. Second, the search was based on specific keywords, which may not have captured all relevant literature that used different terminologies. Based on the findings and limitations, this study proposes several recommendations for future research. The analysis identified a significant research gap in the themes of "digital citizenship" and "data privacy", which are currently underdeveloped yet crucial. Future research should focus on strengthening these emerging themes. Furthermore, the thematic map revealed that "information systems" is a niche theme, suggesting a need for greater collaboration between social science researchers and technology experts to develop integrated socio-technical solutions. A comparative study across different countries could also provide valuable insights into how cultural norms and policies shape digital ethics and cyberbullying phenomena. From a communication perspective, future studies could apply communication theories (e.g., Computer-Mediated Communication, Social Identity Model of Deindividuation Effects) to design and test effective communication interventions aimed at fostering more ethical and empathetic online environments. By mapping the scholarly landscape and providing these guidelines, this study contributes to a better understanding of how research is addressing the urgent need for safer digital spaces.

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