Digital Footprint of Violence: Bibliometric Analysis of Online Gender-Based Violence with Vosviewer and Scopus

Dini Rakhmawati[1], Heri Saptadi Ismanto[2], Bau Ratu[3], Suryadi[4], Basir Jarah Anilon[5]
Guidance and Counseling Study Program, Faculty of Education,
Universitas PGRI Semarang, Indonesia[1]
Guidance and Counseling Study Program, Faculty of Education,
Universitas PGRI Semarang, Indonesia[2]
Guidance and Counseling Study Program, Faculty of Teacher Training and Science,
Education, Universitas Tadulako, Indonesia[3]
Guidance and Counseling Study Program, Faculty of Social Sciences and Humanities,
Universitas PGRI Sumatera Barat, Indonesia[4]
Mindanao State University-Albarka Basilan Extension, Philippines[5]
E-mail: dinirakhmawati@upgris.ac.id[1], herispatadi@upgris.ac.id[2], bauratu@untad.ac.id[3],
suryadii@upgrisba.ac.id[4], basir.anilon@msumain.edu.ph[5]
Correspondent Author: Dini Rakhmawati, dinirakhmawati@upgris.ac.id

Abstract

This study aims to map and analyze the scientific landscape of online gender-based violence (OGBV) comprehensively through a bibliometric approach, utilizing the Scopus database and the VOSviewer visualization tool. The goal is to identify trends in topic evolution, key research focus clusters, and prospective research gaps. This method quantifies and visualizes the research structure of OGBV from 2016 to 2025. The results of the Co-Keyword analysis show that the scientific literature is very focused on two main concepts: "cyber violence" and "cyber-bullying". Research has shifted from an initial focus on adolescent cyber-bullying to more gender-specific contemporary and social issues, such as "hate speech" and "online harassment" on "social media". The cluster analysis grouped the research into three main areas: 1) Studies on Victims and Their Impacts (focusing on psychology and quantitative methodologies), 2) Digital Contexts and Forms of Violence (focusing on social media and specific violence), and 3) Gender-Based Violence Relationships and Aspects (focusing on perpetrators, prevention, and online-offline relationships). The main research gap identified in the prevention area, where the term density remains low, underscores the urgency of developing effective interventions and strategies for OGBV.

Keywords: bibliometrics, online gender-based violence, vosviewer, cyber violence

Abstrak

Penelitian ini bertujuan untuk memetakan dan menganalisis lanskap ilmiah kekerasan berbasis gender online (KGBO) secara komprehensif melalui pendekatan bibliometrik, memanfaatkan basis data Scopus dan perangkat visualisasi VOSviewer. Tujuannya adalah mengidentifikasi tren evolusi topik, klaster fokus penelitian utama, dan celah (gap) riset prospektif. Metode ini mengkuantifikasi dan memvisualisasikan struktur penelitian KGBO dari tahun 2016 hingga 2025. Hasil analisis Ko-kata Kunci menunjukkan bahwa literatur ilmiah sangat terpusat pada dua konsep utama: "cyber violence" dan "cyber-bullying". Penelitian telah bergeser dari fokus awal pada cyber-bullying remaja ke isu-isu yang lebih spesifik gender dan sosial kontemporer, seperti "hate speech" dan "online harassment" di media sosial. Analisis klaster mengelompokkan riset menjadi tiga area utama: 1) Studi tentang Korban dan Dampaknya (fokus pada psikologi dan metodologi kuantitatif), 2) Konteks Digital dan Bentuk Kekerasan (fokus pada social media dan kekerasan spesifik), serta 3) Hubungan dan Aspek Kekerasan Berbasis Gender (fokus pada pelaku, pencegahan, dan hubungan online-offline). Celah penelitian utama teridentifikasi pada area pencegahan (prevention), yang kepadatan istilahnya masih rendah, mengindikasikan urgensi untuk pengembangan intervensi dan strategi efektif KGBO.

Kata kunci: bibliometrik , kekerasan berbasis gender online , vosviewer, cyber violence

INTRODUCTION

This study comprehensively reviewed the scientific literature on OGBV using a bibliometric approach, drawing on the Scopus database and the VOSviewer visualization tool. This approach was chosen to identify research trends, collaboration among authors, and the dominant thematic focus in the study of online gender-based violence (Fontanella et al., 2024). The aim is to provide a comprehensive overview of the development dynamics of this research area and highlight prospective research gaps for further exploration. In a broader context, bibliometric analysis has proven effective in mapping the research landscape across a variety of fields, including the study of Islam and the media, as well as terrorism, by identifying keyword trends and the prominence of authors or journals (Wahid, 2024). This method allows the identification of significant publication patterns, measures research impact, and predicts future development directions through quantitative analysis of publication data (Patty et al., 2023).

Therefore, this study will systematically analyze the intellectual structure and evolution of OGBV research, revealing the evolving themes and collaborative networks in this field. Focusing on online gender-based violence is crucial given the rampant cases that have an impact on the physical and psychological health of victims, especially women and girls, as well as the lack of academic attention to this phenomenon (Kavanagh & Brown, 2020). Previous research has highlighted that studies on cyberbullying in young people in developing countries still need further investigation to understand the aspects faced, especially by young women (Saif & Purbasha, 2023). This research will apply a bibliometric framework to quantify and visualize the research structure of OGBV, including geographical distribution, institutional affiliation, and characteristics of scientific publications. This analysis is expected to provide in-depth insights into the development of online gender-based violence studies, highlight publication patterns, and identify areas that require further research to address this complex issue (Ira Maulia Nurkusumah, 2021).

The analysis will also identify the countries and institutions that are most active in publishing OGBV research, as well as highlight geographic gaps in global research contributions. Furthermore, the study will examine the theoretical framework and methodology underlying OGBV research and identify emerging topics and areas that have received limited attention (Ismail et al., 2025). Given the destructive impact of OGBV that not only affects the physical health but also the psychological health of the victim, preventive and repressive legal protection is essential in Indonesia's positive legal framework (Arsyad, 2022).

However, legal regulations are often unable to keep pace with the pace of technological development, creating gaps in the handling of online-based gender violence cases, especially in the face of new modus operandi such as the abuse of deepfakes and artificial intelligence in cybersexual violence (Criswara, 2024). The issue of legal protection is also in the spotlight, considering that gender-based violence is rooted in power imbalances that manifest in various forms of violence, including in the cyber realm (Ira Maulia Nurkusumah, 2021). This phenomenon is exacerbated by the rapidly increasing trend of social media use, especially during the pandemic, which indirectly expands the platform for cyberviolence and online infidelity (Avvyat Anantya & Mirna Nur Alia Abdullah, 2024).

Research on online gender-based violence has shown a significant increase in line with the massive adoption of digital technology and social media. However, there is still a gap in the deep understanding of the interpersonal dynamics of violence in the cyber

realm (Machado et al., 2022). This gap includes an understanding of increasingly complex and diverse forms of online violence, such as online child sexual exploitation and gender-based violence during the COVID-19 pandemic (Jatmiko et al., 2020). In addition, there is an urgency to identify visible and invisible signs of online gender-based violence from an international legal perspective, given the complexity of cross-border jurisdiction and law enforcement (Łagiewska, 2025). Thus, this study seeks to fill these gaps through a systematic bibliometric analysis to uncover emerging research patterns and underexplored areas (Istiadah & Furaida, 2021).

This includes analysis of publication trends, identification of collaboration between researchers, and mapping of key concepts in the OGBV literature to provide a solid foundation for policy interventions and further theoretical development (Hermanto, 2022). The formulation of the problems in this study includes: 1) What is the evolution trend of research topics regarding online gender-based violence from 2016 to 2025? 2) What are the main topic clusters in the online gender-based violence literature, and how are they related? What are the research gaps that still need to be explored further based on bibliometric analysis?.

METHOD

This study uses a bibliometric analysis approach to map and analyze trends in scientific publications related to online gender-based violence. This method was chosen because of its ability to process large-scale publication data to identify patterns, collaborations, and key topics in a field of study. Bibliographic data is collected from the global database, Scopus, which is known for its extensive and reputable coverage of journals, proceedings, and books. The data collection process was carried out during the period 2016 to 2025. Search queries are specifically designed to ensure the data is relevant to the topic being researched. The queries used are as follows: TITLE-ABS-KEY ("online gender-based violence" OR "cyber violence" OR "digital violence" OR "online harassment" OR "cyberstalking" OR "revenge porn") AND ("gender" OR "woman" OR "women" OR "female").

The search results are then filtered to ensure only relevant documents (articles, reviews, book chapters) are downloaded in .csv format. The collected data includes metadata such as title, abstract, keywords, author name, affiliation, year of publication, journal name, and citation. The downloaded data is then processed using VOSviewer, and before that, the data cleaning stage is carried out using OpenRefine. VOSviewer is a bibliometric visualization tool capable of mapping the network of relationships among various data elements. This analysis uses Co-occurrence of Keywords to identify the most frequently occurring main topics and themes in the research. VOSviewer will visualize relationships between keywords and group them into clusters, each representing a different sub-theme of the research.

The results of the above analysis will be presented as an interactive visual map. Each map will be interpreted to answer research questions, such as year-to-year publication trends, emerging research themes, and research gaps that remain to be explored. This visualization serves as a "roadmap" that provides a comprehensive understanding of the research landscape of online gender-based violence.

RESULTS AND DISCUSSION
Evolution Trends of Research Topics Regarding Online Gender-Based Violence From 2016 to 2025

This density map shows the relationships and densities of key terms in the research literature. The brighter or yellower an area, the higher the concentration and frequency of those terms in the dataset, indicating that the topic is core or most frequently researched. In contrast, darker areas (blue or dark green) show lower density. Scientific literacy about online gender-based violence is highly centered on two main concepts: "cyber violence" and "cyber-bullying". This suggests a significant overlap between the two topics, with "cyber-violence" often used in a broader context and "cyber-bullying" more often associated with adolescent populations and school settings. The research focuses not only on the definition of the problem but also on its impact on mental health (anxiety). Perpetrators and Victims: Characteristics of the offender and crime victim, especially related to gender (male, female) and age (adolescent, adult). The context: The environment where violence occurs (social media, school, internet). Methodology: Commonly used research methods (surveys and questionnaires).
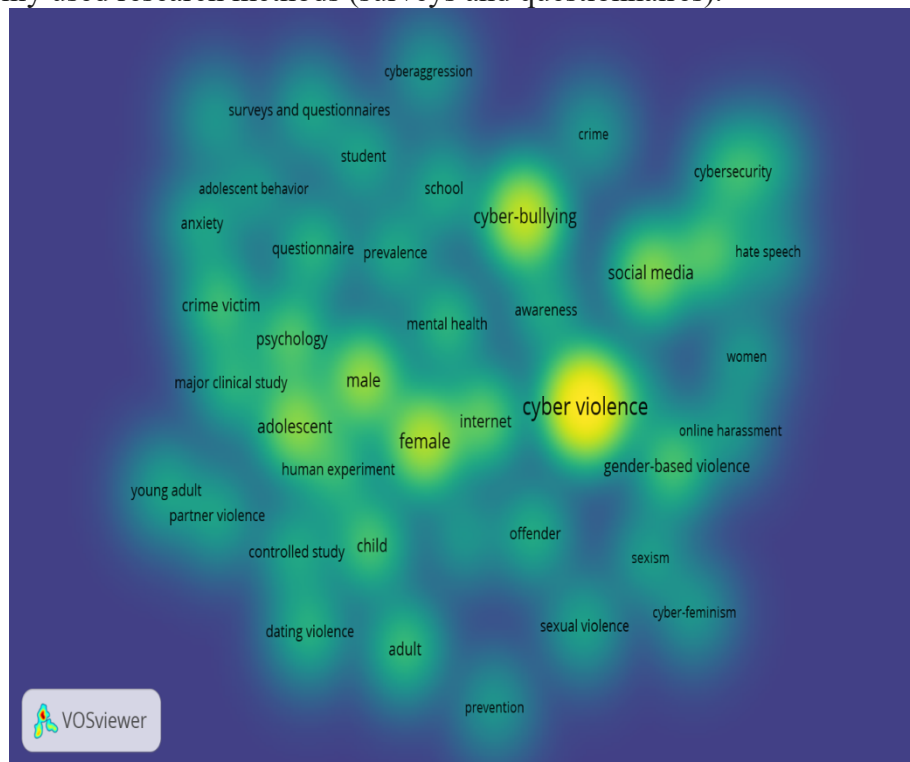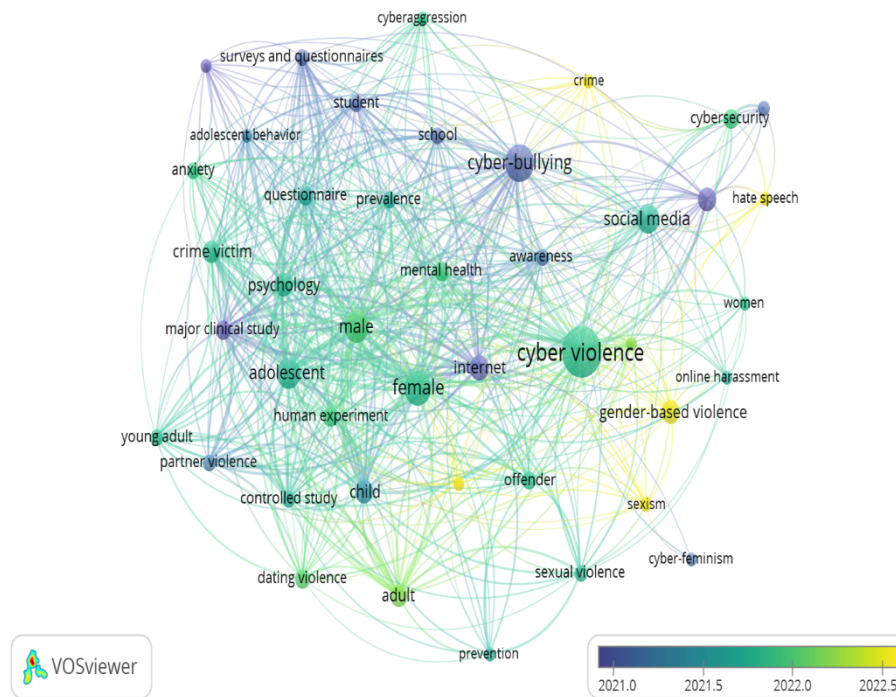

Figure 1. Density Map Visualization

Figure 2. Bibliometric Analysis Overlay Visualization

Overall, this overlay visualization provides a powerful narrative of how the topic of online gender-based violence is evolving. The research starts from a strong foundation, namely, cyberbullying in adolescents and its impact. Then, the research expanded to include gender factors and more sophisticated methodologies. Finally, recent trends point to a shift to more specific and sensitive topics, namely online gender-based violence and its forms, such as hate speech and online harassment, with an increasing emphasis on the role of social media, cybersecurity, and prevention. This visualization effectively visualizes the evolution of this area of research, from one that focused on bullying in general to being very specific to gender issues and violence in the digital space.

The evolution of research on cyberbullying has shifted from a broad focus on adolescent bullying to a more nuanced examination of gender factors and online gender-based violence (OGBV). This shift highlights the growing recognition of the specific impact of cyberbullying on different genders and the role of social media in perpetuating this problem. The following section outlines the main developments in this research area. Early studies primarily addressed cyberbullying as a common phenomenon, often ignoring gender dynamics (Perasso, 2018). Recent research emphasizes that cyberbullying often reflects and reinforces existing gender stereotypes, especially those affecting young women (Tajahuerce Ángel et al., 2018). Studies show that 28% of teens experience OGBV, with common forms including sexual threats and sharing non-consensual content (Eko Winarti et al., 2025). The role of social media is crucial, as it serves as a platform for the implementation and victimization of OGBV (Eko Winarti et al., 2025). The rise of online hate speech has prompted research on classification and detection, especially regarding gendered hate speech (Tontodimamma et al., 2021). Effective countermeasures and policy frameworks are needed to address the increasing

prevalence of hate speech and its intersection with cyberbullying (Tontodimamma et al., 2021). While the focus on gender and violence in the digital space is crucial, some argue that this may inadvertently mask other forms of bullying that do not fit into gender categories, suggesting the need for a more inclusive approach to understanding all forms of cyberbullying.

Key Topic Clusters in the Online Gender-Based Violence Literature, and How They Relate to Clusters

This map divides keywords into several main clusters, each represented by a different color (red, green, and blue). Each cluster represents a specific and integrated area of research. Study on Victims and Their Impacts (Red Clusters): This area is particularly robust, focusing on victim identification (age and gender), its impact on mental health, and the use of quantitative and clinical methodologies. Digital Context and Forms of Violence (Green Cluster): This area describes where and how violence occurs, specifically in the digital realm, with a focus on social media and its forms, such as online harassment and hate speech. Relationships and Aspects of Gender-Based Violence (Blue Cluster): This area links online violence to real-world violence, particularly in relational contexts, and focuses on the role of perpetrators and prevention.
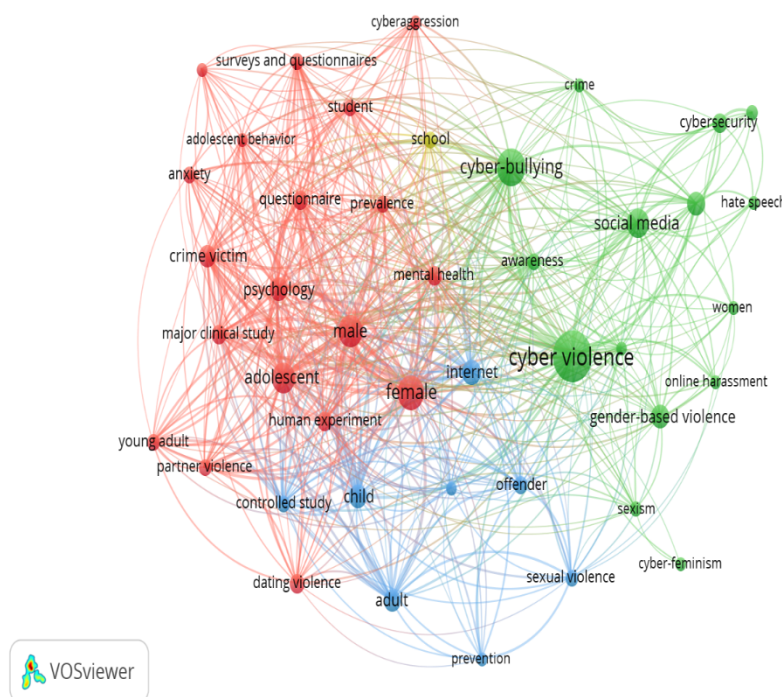

Figure 3. Network Cluster Visualization

This visualization shows that this research is multidisciplinary, combining psychology, sociology, computer science (cybersecurity), and gender studies to understand online gender-based violence holistically. These clusters are not isolated but are connected, demonstrating synergy and collaboration across research fields. The overlay analysis shows a significant evolution in the research topic: Early research tends to focus on cyber-bullying in school settings and adolescent behavior in general. Methodologies such as surveys have also been the foundation of research for a long time.

The focus of research has shifted and developed rapidly towards cyber violence and gender-based violence. Keywords such as hate speech, online harassment, and the role of social media indicate that more specific forms of violence that are relevant to contemporary social issues are becoming a major concern.

The evolution of research on cyberbullying reflects a significant shift from a focus on adolescent behavior in school settings to broader scrutiny of cyberviolence, including gender-based hate speech and violence. This transition is evident in the methodology used and the specific forms of violence being studied, demonstrating a response to contemporary social problems. Initial studies primarily addressed cyberbullying in school settings, with 50.81% of the research focusing on middle and high schools (Kim & Zambrano Rodriguez, 2024). Recent trends highlight growing concern over certain forms of online violence, such as hate speech and gendered hate speech, which have become important topics in the literature (Tontodimamma et al., 2021).

Surveys have historically been the main research method, accounting for 30.69% of studies (Kim & Zambrano Rodriguez, 2024). However, there has been an increase in the incorporation of machine learning techniques to detect hate speech, reflecting technological and methodological advancements. (Tontodimamma et al., 2021). The rise of social media platforms has intensified the prevalence of cyberbullying, with significant psychological impacts on adolescents, including increased anxiety and depression (Kowalski et al., 2025). This underscores the need for research to adapt to the evolving digital landscape. Instead, while the focus has shifted to more specific forms of violence, some researchers argue that basic studies of general cyberbullying remain important for understanding the broader context of online aggression and its implications for youth behavior (Abdulhassan & Hadi, 2024; Cretu & Morandau, 2024).

Research Gaps That Still Need to be Explored Further Based on Bibliometric Analysis

Although it has been extensively researched, the analysis indicates significant potential for further exploration. The density of the term' prevention' is still lower than that of the term that focuses on the problem itself. This indicates the need for more research focused on developing effective strategies and interventions to address gender-based violence online. This indicates that there is great room for further research on effective interventions, policies, and strategies to prevent gender-based violence online. In addition, the relationship between partner violence and cyber violence is also an increasingly relevant area to be studied more deeply.

An analysis of OGBV reveals significant gaps in prevention research and intervention strategies. Despite extensive research on the issue, the focus on prevention remains insufficient compared to the emphasis on violence itself. It highlights the urgent need for further exploration into effective strategies and policies to combat OGBV, particularly in understanding the interaction between intimate partner violence and cyberviolence. Prevalence of OGBV: One in three women globally experiences physical or sexual violence, with one in ten facing cyberviolence (The Lancet, 2021). Programs such as the Enhanced Assessment, Act, Act (EAAA) have shown a 50% reduction in the risk of sexual violence, but their reach is limited (Peitzmeier & Senn, 2025). Legal Framework: Existing laws often fail to address the nuances of digital violence, requiring legislative overhauls to protect victims effectively (Padilha & Goulart, 2025). There is a need for innovative approaches, such as involving pop feminism in social media campaigns and developing models of observer intervention (Rigotti, 2024).

Understanding the relationship between spousal violence and cyberviolence is essential, as both forms of violence are interconnected and often exacerbate each other (Çaliş Duman, 2023). While the current literature emphasizes the need for stronger prevention strategies, it is also important to consider broader social factors. Addressing these fundamental issues can provide a more comprehensive solution to the problem.

CONCLUSION

This study shows significant and mature evolution, but there are still important gaps that require further exploration. Topic trends have shifted from an initial focus on adolescent "cyber-bullying" to more contemporary gender and social issues, centered on "cyber violence" and "gender-based violence" on "social media". The cluster analysis identified three key areas that are interconnected: the study of victims and their impacts (focusing on psychology and quantitative methodologies), digital contexts and forms of violence (covering social media, hate speech, and cybersecurity), and relationships and aspects of gender-based violence (including perpetrators, dating violence, and prevention). The main research gap identified was the lack of a strong focus on prevention, with the density of the terms still low compared to those focused on the problem itself. Overall, this bibliometric mapping provides an intellectual "roadmap" for future researchers to fill research gaps by prioritizing solution-oriented studies, implementation, and actionable policies to address complex and destructive OGBV problems.

REFERENCE

Abdulhassan, Z. H., & Hadi, G. A. (2024). The Evolution of Cyberbullying in Children and Adolescents. International Journal of Religion, 5(11), 323–332. https://doi.org/10.61707/4rn0s752

Arsyad, J. H. (2022). Perlindungan Hukum Korban Kekerasan Berbasis Gender Online (KBGO) dalam Hukum Positif Indonesia. Jurnal Cakrawala Informasi, 2(2), 26–41. https://doi.org/10.54066/jci.v2i2.241

Avvyat Anantya, & Mirna Nur Alia Abdullah. (2024). PERCERAIAN DI ERA DIGITAL: KASUS PERSELINGKUHAN MENJADI TREN DI MEDIA SOSIAL DAN DAMPAKNYA. SABANA: Jurnal Sosiologi, Antropologi, Dan Budaya Nusantara, 3(2), 100–107. https://doi.org/10.55123/sabana.v3i2.3313

Çaliş Duman, M. (2023). Digital Violence And Women: Systematization Of Researchs And Suggestions For Future Research. Anadolu Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 24(3), 359–398. https://doi.org/10.53443/anadoluibfd.1187094

Cretu, D. M., & Morandau, F. (2024). Bullying and cyberbullying: a bibliometric analysis of three decades of research in education. Educational Review, 76(2), 371–404. https://doi.org/10.1080/00131911.2022.2034749

Criswara, N. (2024). Analisis Yuridis Kekerasan Gender Berbasis Online (KGBO) dengan Deepfakes Ditinjau dari Hukum Positif. Proceedings Series on Social Sciences & Humanities, 17, 296–299. https://doi.org/10.30595/pssh.v17i.1160

Eko Winarti, Yeni Lufiana Novita Agnes, Indah Jayani, Irvan Maulana, & Aim Matun Nadhiroh. (2025). Online Gender-Based Violence Among Adolescents In Kediri City. STRADA : Jurnal Ilmiah Kesehatan, 14(1), 85–96. https://doi.org/10.30994/sjik.v14i1.1227

Fontanella, L., Chulvi, B., Ignazzi, E., Sarra, A., & Tontodimamma, A. (2024). How do we study misogyny in the digital age? A systematic literature review using a computational linguistic approach. Humanities and Social Sciences Communications, 11(1), 478. https://doi.org/10.1057/s41599-024-02978-7

Hermanto, R. annisa. (2022). Indonesian Digital Feminist Activism Bridging Global-Local Feminism Discourse: Textual Network Analysis of Jakarta Feminist. Jurnal Sosioteknologi, 21(2). https://doi.org/10.5614/sostek.itbj.2022.21.2.1

Ira Maulia Nurkusumah, S. M. T. S. (2021). Kajian Hukum Kekerasan Berbasis Gender Online Dihubungkan Dengan Tujuan Pemidanaan Dalam Perspektif Negara Hukum Pancasila. Res Nullius Law Journal, 3(2), 162–177. https://doi.org/10.34010/rnlj.v3i2.5100

Ismail, A., Munsi, H., Yusuf, A. M., & Hijjang, P. (2025). Mapping One Decade of Identity Studies: A Comprehensive Bibliometric Analysis of Global Trends and Scholarly Impact. Social Sciences, 14(2), 92. https://doi.org/10.3390/socsci14020092

Istiadah, & Furaida, A. (2021). Government and Non-Governmental Organizations in Responses and Challenges on Gender-Based Violence During Covid-19 Pandemic in Indonesia. https://doi.org/10.2991/assehr.k.210421.046

Jatmiko, M. I., Syukron, Muh., & Mekarsari, Y. (2020). Covid-19, Harassment and Social Media: A Study of Gender-Based Violence Facilitated by Technology During the Pandemic. The Journal of Society and Media, 4(2), 319. https://doi.org/10.26740/jsm.v4n2.p319-347

Kavanagh, E., & Brown, L. (2020). Towards a research agenda for examining online gender-based violence against women academics. Journal of Further and Higher Education, 44(10), 1379–1387. https://doi.org/10.1080/0309877X.2019.1688267

Kim, Y., & Zambrano Rodriguez, V. C. (2024). Understanding the topical, conceptual, contextual, and methodological trends of cyberbullying research. Journal of Communication in Healthcare, 17(4), 345–354. https://doi.org/10.1080/17538068.2024.2393920

Kowalski, R. M., Giumetti, G. W., Patchin, J., Cotten, S. R., & Craig, W. (2025). Cyberbullying and Social Media. In Handbook of Children and Screens (pp. 433–438). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-69362-5_59

Łągiewska, M. (2025). Gender-Based Violence in Cyberspace: An International Law Perspective (pp. 215–228). https://doi.org/10.1007/978-3-031-35513-4_12

Machado, B., Caridade, S., Araújo, I., & Faria, P. L. (2022). Mapping the Cyber Interpersonal Violence among Young Populations: A Scoping Review. Social Sciences, 11(5), 207. https://doi.org/10.3390/socsci11050207

Padilha, B. B. F., & Goulart, L. K. (2025). Violência digital de gênero: a ascensão dos crimes cibernéticos contra as mulheres. RCMOS - Revista Científica Multidisciplinar O Saber, 1(1). https://doi.org/10.51473/rcmos.v1i1.2025.1075

Patty, E. N. S., Iriyani, S. A., Marlina, M., Ria, R. R. P., & Ardiyati, S. M. (2023). Analisis Bibliometrik Kinerja Dosen Penelitian Menggunakan Aplikasi Vosviewer. Edu Cendikia: Jurnal Ilmiah Kependidikan, 3(01), 41–51. https://doi.org/10.47709/educendikia.v3i01.2238

Peitzmeier, S., & Senn, C. Y. (2025). Adapting effective sexual assault prevention for online delivery. Open Access Government, 47(1), 24–25. https://doi.org/10.56367/OAG-047-11260

Perasso, G. , & B. L. (2018). Cyberbullismo, cybervittimizzazione e differenze di genere in adolescenz. Psicologia Clinica Dello Sviluppo, 22(2), 241–267.

Rigotti, C. (2024). International Law, Technology, and Gender-Based Violence. In Oxford Research Encyclopedia of International Studies. Oxford University Press. https://doi.org/10.1093/acrefore/9780190846626.013.822

Saif, A. N. M., & Purbasha, A. E. (2023). Cyberbullying among youth in developing countries: A qualitative systematic review with bibliometric analysis. Children and Youth Services Review, 146, 106831. https://doi.org/10.1016/j.childyouth.2023.106831

Tajahuerce Ángel, I., G. Franco, Y., & Juárez Rodríguez, J. (2018). "Ciberbullying" y género: nuevos referentes en la ocupación de los espacios virtuales. Estudios Sobre El Mensaje Periodístico, 24(2), 1845–1859. https://doi.org/10.5209/ESMP.62250

The Lancet. (2021). Preventing violence against women: beyond 16 days. The Lancet, 398(10317), 2125. https://doi.org/10.1016/S0140-6736(21)02781-1

Tontodimamma, A., Nissi, E., Sarra, A., & Fontanella, L. (2021). Thirty years of research into hate speech: topics of interest and their evolution. Scientometrics, 126(1), 157–179. https://doi.org/10.1007/s11192-020-03737-6

Wahid, S. H. (2024). Exploring the intersection of Islam and digital technology: A bibliometric analysis. Social Sciences & Humanities Open, 10, 101085. https://doi.org/10.1016/j.ssaho.2024.101085