



Charting the Course: A Bibliometric Analysis of Emerging Trends in Communication and Resilience Research

Iis Mardiansyah¹ , Sumardjo Sumardjo² , Sarwititi Sarwoprasodjo³ ,
Tin Herawati⁴

Article History:

Received: 02-05-2024

Accepted: 09-08-2024

Publication: 15-11-2024

Cite this article as:

Mardiansyah, I., Sumardjo, S., Sarwoprasodjo, S., & Herawati, T. (2024). Charting the Course: A Bibliometric Analysis of Emerging Trends in Communication and Resilience Research. *Journal of Intercultural Communication*, 24(4), 68–83.

doi.org/10.36923/jicc.v24i4.916

©2024 by author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License 4.0 International License.

Corresponding Author:

Iis Mardiansyah

Department of Science Communication and Community Development, IPB University, Indonesia.

Email: mardiansyah.iis@apps.ipb.ac.id

Abstract: This study conducted a comprehensive bibliometric analysis of the literature on Communication and Resilience from 1998 to 2023. This study explores research dynamics, publication growth, and emerging trends, with a focus on international collaboration and geographic distribution. The main objective of this research is to provide a holistic view of the evolution and future direction of the field of communication and resilience research, as well as to identify potential areas for further innovation and investigation. Through data collection from the Scopus database, the study identified 243 documents from 180 sources, showing a significant annual growth rate of 16.84% and a wide diversity of topics. The analysis showed the dominance of several journals in publication, with the "Journal of Applied Communication Research" leading the way. Key findings include exponential growth in communication- and resilience-related publications, especially since 2016, and a significant increase in international cooperation. The research uncovers important contributions from several authors and universities, highlighting collaborative tendencies and broad academic influence. Thematic analyses emphasise aspects such as emotion regulation, self-awareness, and resilience in the face of crisis, with the recent shift towards "self-compassion". The research provides a holistic view of the communication and resilience research landscape, highlighting potential areas for innovation and further investigation. It recommends greater cross-border cooperation, utilisation of advanced technologies, and increased open access to ensure widespread dissemination and utilisation of knowledge.

Keywords: Communication and Resilience, Bibliometric Analysis, Research Trends, International Collaboration, Publication Dynamics

1. Introduction

In an era where change is the only constant, communication dynamics and resilience are essential in confronting increasingly complex global challenges. From social media to international forums, the way we communicate has undergone a radical and, at times, polarizing transformation, while resilience has evolved to encompass broader aspects of human and organizational survival (Jameson & Lee, 2020; Kim, 2022). Against this shifting backdrop, research in communication and resilience is expanding rapidly, revealing fascinating and significant evolutionary patterns (Allen et al., 2009). The continuous advancement in communication technology and strategy (Guaña-Moya et al., 2022; Stevens et al., 2019), alongside the growing importance of resilience across various contexts—from individual psychological coping mechanisms (Afifi, 2018) to family readiness (Theiss, 2018), community resilience (Houston, 2018), and organizational stability (Buzzanell & Houston, 2018)—reflects an ever-evolving world.

Communication plays a crucial role in resilience, especially during challenging times like the COVID-19 pandemic. Communication resilience theory suggests that engaging in specific communication processes can reduce the negative effects of topic avoidance and enhance relationship satisfaction (Lillie et al., 2023). Resilience and peer communication are positively associated with stress management in adolescents, regardless of age (Napora & Kornacka-Skwara, 2023). Effective communication, both internal and external, contributes to the resilience of individuals in high-risk groups during the pandemic, with knowledge, optimistic thinking, and family support serving as significant factors (Manan et al., 2023). During job losses amid the pandemic, the cultivation of resilience through communication was linked to self-efficacy in job searching and overall well-being over time (Kuang et al., 2023). Family communication patterns influence the positivity and efficacy of memorable messages, which predict the enactment of resilience processes during times of disruption (Boumis et al., 2023). Overall, communication is essential for building resilience and coping with stress in various contexts.

Despite the critical and expanding nature of these fields, a comprehensive bibliometric analysis to chart evolutionary trajectories and emerging trends remains limited

^{1,2,3}Department of Science Communication and Community Development, IPB University, Indonesia.

⁴Department of Family and Consumer Science, IPB University, Indonesia

(Abdelwahab et al., 2023). This gap in the literature underscores the need for systematic exploration to understand the current state and future direction of this dynamic discipline. *Charting the Course: A Bibliometric Analysis of Emerging Trends in Communication and Resilience Research* aims to address this void. To fill this gap, this study employs quantitative methods, particularly bibliometric analysis, which has been recognized as a suitable approach (Noman et al., 2022). Through a systematic examination of academic publications, citation numbers, and thematic developments (Aria & Cuccurullo, 2017), this study seeks to provide a holistic view of the evolving landscape in communication and resilience research over the past decade. Specifically, the goal is to map the progression of this research area, identify emerging trends, and propose directions for future studies. As research on communication and resilience continues to grow and diversify, it is essential to thoroughly evaluate the current status of research in these fields and outline potential research paths for the future. The significant growth in literature calls for a fresh approach to reviewing and analyzing trends in this knowledge domain (van Eck & Waltman, 2010).

Our analysis is based on an extensive amount of bibliographic data, synthesizing information from diverse sources to identify not only dominant themes and topics but also subtle shifts and emerging areas of focus in this field (Aria & Cuccurullo, 2017). Researchers employ bibliometric analysis for various purposes, including uncovering new patterns in article and journal performance, trends in collaboration, and other research aspects, as well as exploring the intellectual framework of a specific field within the available literature (Donthu et al., 2020; Sjachro, 2023). Systematic mapping facilitates the visualization and tracking of research progress over time, while bibliometric analysis assesses how evidence is interrelated and the influence of authors through two main methods: performance analysis and bibliometric mapping (Nakagawa et al., 2019). Bibliometric research offers an excellent opportunity to contribute to theoretical development and practical applications (Mukherjee et al., 2022). By bridging the gap between historical perspectives and contemporary advancements, this paper not only outlines direction through the historical evolution of these fields but also illuminates potential pathways for future research and practical application in the dynamic domain of communication and resilience.

2. Methodology

This study employs bibliometric analysis, a quantitative approach used to measure scientific and social activities and project trends by examining literature. This process involves several key steps: designing the study, collecting data, analyzing the data, visualizing the data, and interpreting the results (Garcia-Zorita et al., 2018; Zupic & Čater, 2015).

2.1. Data Collection

Data for this study were extracted from Scopus, a comprehensive academic database chosen for its credibility and extensive coverage. Scopus includes over 70 million entries from more than 22,000 peer-reviewed journals, ensuring high-quality indexing through a rigorous selection process (Mongeon & Paul-Hus, 2016; Wang & Waltman, 2016). Scopus's frequent updates and robust bibliometric tools allow for citation tracking, trend identification, and analysis of author collaboration, making it widely trusted by researchers and institutions alike. Its interdisciplinary scope provides a holistic insight into the research field, making Scopus an ideal choice for this study's bibliometric analysis (Pranckutė, 2021).

The dataset covers literature published between 1998 and 2020, focusing on recent developments in communication and resilience. The search strategy combined keywords relevant to both fields, including "Communication and Resilience," "Communication Resilience," "Communication Theory of Resilience," "Emotion Regulation Theory," "Theory of Resilience and Relational Load," and "Communication Resilience Process." These keywords were drawn from relevant literature, such as *Communication and Resilience: Introduction to the Journal of Applied Communication Research Special Issue* (Houston & Buzzanell, 2020). Keywords were included in titles, keywords, and abstracts, with data extraction conducted on December 2, 2023.

2.2. Selection Criteria

The selection criteria for inclusion were peer-reviewed articles and reviews published in English. Document types were limited to articles, conference papers, book chapters, books, and reviews. Only studies that explicitly address communication and resilience were included, while publications that mention these terms only peripherally were excluded. This selection process aimed to generate a concentrated dataset for precise analysis.

2.3. Data Analysis

Data analysis was conducted using the 'Bibliometrics' package developed in R, a powerful tool that adheres to the classic bibliometric workflow (Aria & Cuccurullo, 2017; Majiwala & Kant, 2023), alongside VOSviewer (van Eck & Waltman, 2010). Key metrics measured included authors, journals, citations, references, countries, institutions, and keywords.

The 'Bibliometrics' tool in R was used to analyze data from Scopus, with parameters such as the number of publications, citations, h-index, g-index, and co-citation analysis, helping to assess research performance and trends. Data visualizations, including line graphs, bar charts, and heatmaps, revealed publication and collaboration patterns. VOSviewer was employed for network analysis, focusing on co-occurrence data to generate network maps that depict relationships between research topics, identifying influential research groups within the field.

Network analysis parameters included relationship strength, frequency of occurrence, and centrality metrics to gauge node significance.

To ensure data validity, several steps were taken. First, the Scopus database—known for high-quality standards—served as the primary data source. Second, data were meticulously cleaned and normalized to eliminate duplication and spelling errors. Third, a systematic and transparent analysis methodology, adhering to the recommended science mapping workflow, ensured that each analysis phase was conducted thoroughly. Data verification involved initial quality checks, data cleansing, normalization techniques, descriptive analysis, data visualization, and reproducibility assessments, ensuring that the results were valid, reliable, and reproducible by other researchers.

3. Results and Discussion

The bibliometric analysis in this study provides insights into the current status of research on communication and resilience. Initially, descriptive findings will offer a quantitative summary of existing research in this area. Subsequently, network analysis results—derived from joint event analysis and thematic mapping—will be presented to address the study's research question.

3.1. Overview of the dataset

Table 1: Main information

Description	Results
Timespan	1998:2023
Sources (Journals, Books, etc)	180
Documents	243
Annual Growth Rate %	16.84
Document Average Age	3.88
Average citations per doc	15.01
References	12454
Keywords Plus (ID)	1178
Author's Keywords (DE)	744
Authors	727
Authors of single-authored docs	26
Single-authored docs	27
Co-Authors per Doc	3.53
International co-authorships %	19.34
Article	187
Book	3
Book Chapter	17
Conference Paper	24
Review	12

Source: Calculated by the author

This bibliometric analysis examines research on communication and resilience from 1998 to 2023, covering a quarter century. The study analyzed 243 documents from 180 sources, revealing a significant annual growth rate of 16.84%, which indicates rising interest and development in these fields. In the dataset, 727 authors contributed, with 26 publishing independently. Notably, international collaboration was robust, with 19.34% of papers produced by authors from various countries, averaging 3.53 co-authors per document. This collaborative trend highlights the emerging interest and interdisciplinary nature of research in communication and resilience.

Document 744's author keywords illustrate the diversity of research topics and focuses. With 12,454 references cited, this dataset underscores the extensive knowledge network in this field. The average age of documents in the dataset is 3.88 years, pointing to the relative novelty of recent research in this corpus. Additionally, the average citation per document stands at 15.01, demonstrating the impact and relevance of this body of work within the academic community. These metrics offer insight into the publication, collaboration, and influence dynamics within this area of study.

3.2. Descriptive Analysis

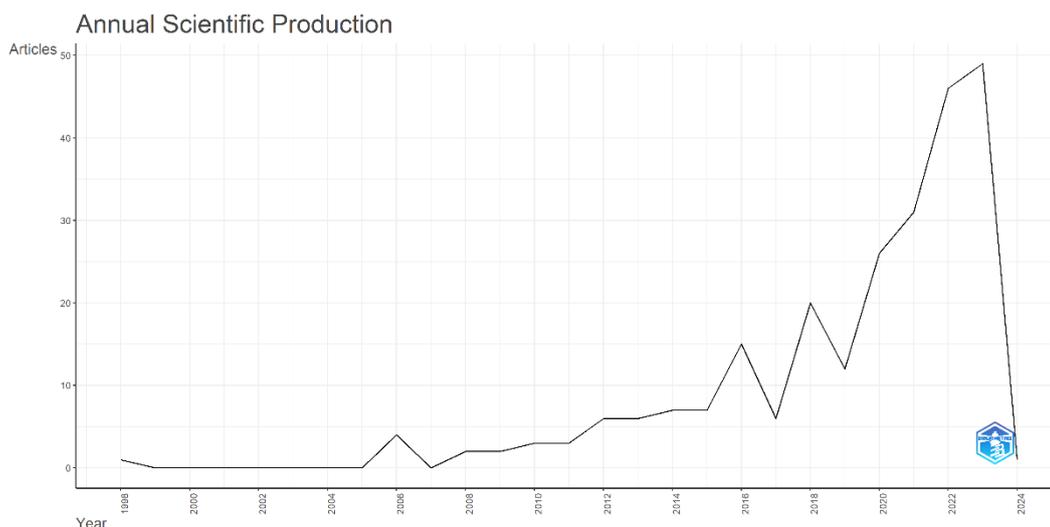


Figure 1: Average Citation per Year.

Figure 1 illustrates the production of scientific articles annually from 1998 to 2023. The data show a steady increase in article production, particularly from 2016 onward. In 1998, only one article was published, and from 1999 to 2005, no new publications appeared. A slight uptick occurred in 2006 with four articles. Through 2015, annual publication numbers were consistently low, ranging between 2 to 7 articles. However, 2016 marked the beginning of a sharp rise, with 15 articles published. Following a slight decline to 6 articles in 2017, the number of publications grew significantly, peaking in 2023 with 49 articles. This exponential growth, particularly from 2016 onwards, may reflect factors like increased funding, technological advancements, and policies favouring scientific research and publication.

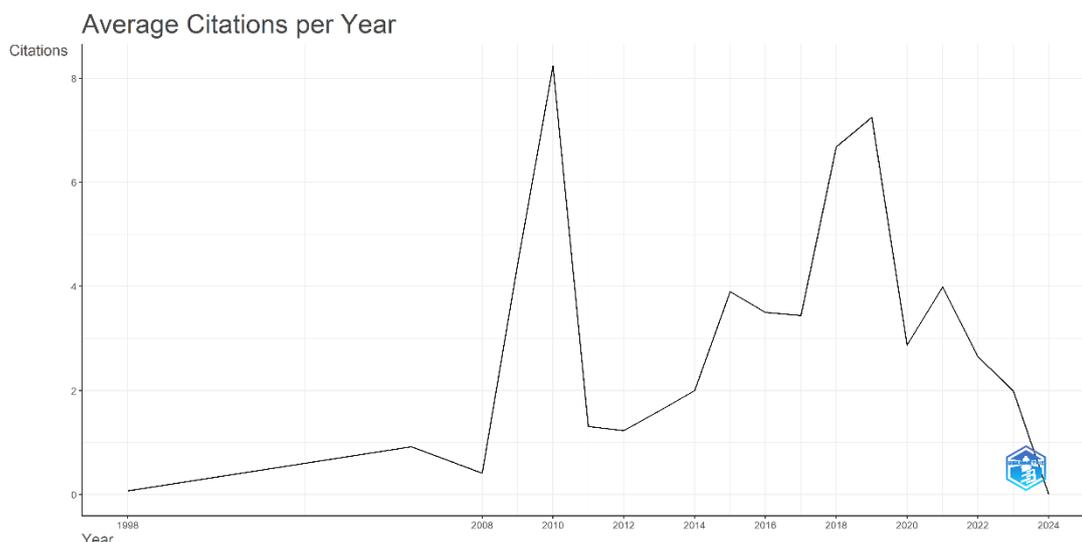


Figure 2: Annual Scientific Production.

The figure illustrates the dynamics of average citations per scientific article from 1998 to 2023, providing insights into academic impact during this period. In the early years, such as 1998, the average citation per article was two, indicating moderate influence. From 1999 to 2005, no data were available, possibly reflecting a lack of publishing activity or citation data collection.

In 2006, the average citation per article surged to 16.25, indicating the scientific community's recognition of quality or relevance. This increase was partly due to key articles, including Delaney's (2006) work on emotional regulation observation in adolescents, published in the *Journal of Child and Adolescent Psychiatric Nursing*, which received six citations. Another influential article by Stoolmiller and Snyder (2006) in *Psychological Methods* on modeling social interaction heterogeneity received 38 citations. Cupach and Olson's (2006) work on emotion regulation theory as a perspective on family conflict, published in *Engaging Theories in Family Communication*, gained 19 citations. Additionally, Guerraoui and Lynch's (2006) article on indulgence in adaptive systems in *ACM Transactions on Autonomous and Adaptive Systems* earned 14 citations.

Significant fluctuations in average citations are visible in the graph, with a peak in 2010 when average citations per article reached 103.33. This likely reflects the publication of seminal works that garnered widespread attention. For example, Buzzanell's (2010) study on resilience in communication, published in the *Journal of Communication*, received 258 citations. Qin et al.'s (2010) model of emotion regulation in e-learning, published in *Lecture Notes in Computer Science*, and Bosse et al.'s (2010) computational model based on Gross's emotion regulation theory in *Cognitive Systems Research*, were also highly cited with one and 51 citations, respectively.

After 2010, citation averages declined, with temporary peaks in 2018 and 2019, at 37.75 and 33.58, respectively, reflecting continued but slightly reduced influence. Starting in 2020, citation averages consistently decreased, reaching 10.27 in 2020 and 1.29 in 2023. This decrease could be due to a substantial rise in published articles, leading to citation dispersion and reduced per-article citations. Additionally, newer articles have had less time to accumulate citations, contributing to the drop in citation averages.

Together, these data offer an overview of the changing impact of scientific research over time, potentially shaped by evolving research interests, publishing practices, and the influence of open access and digital dissemination. The graphs and figures illustrate not only the volume of research produced but also how it is received and utilized globally within the scientific community. This analysis underscores how scientific impact dynamics can be influenced by multiple factors. First, evolving research interests, as highlighted by Allen et al. (2009), demonstrate how research foci change with technological progress and societal needs. Second, the growth of open-access journals, discussed by Guña-Moya et al. (2022), has broadened research dissemination. Finally, increased digital distribution, facilitating faster access to scientific literature, is emphasized by Aria and Cuccurullo (2017), who show how bibliometric tools can track and analyze these trends. Understanding these factors provides deeper insight into the dynamics and influence of scientific research on communication and resilience.

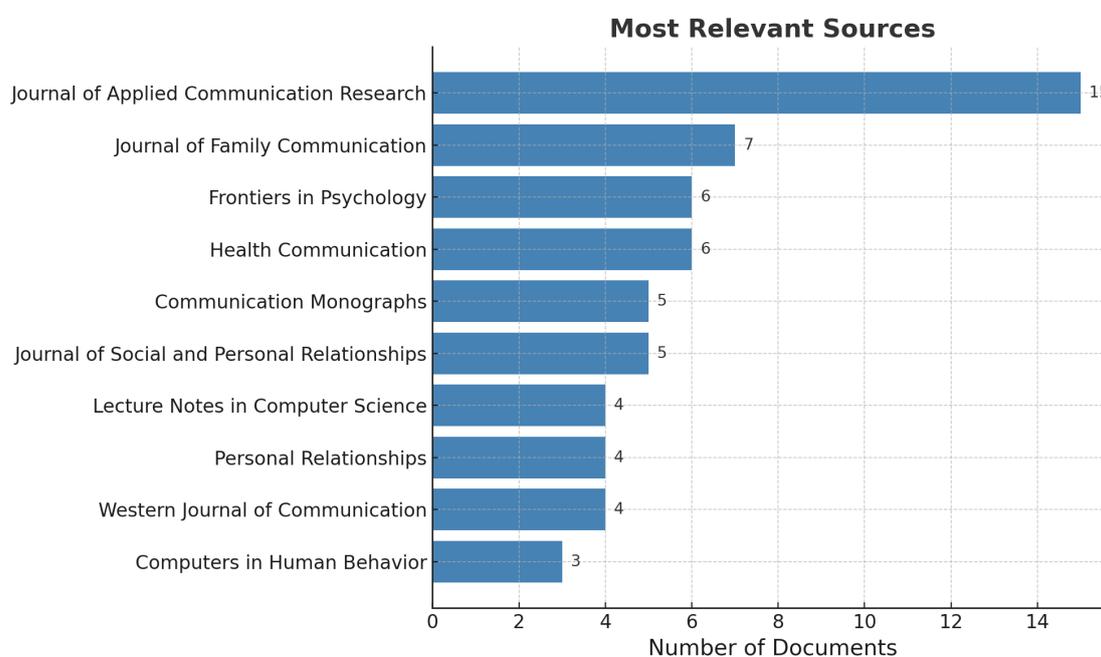


Figure 3: Most Relevant Sources

Figure 3 presents the distribution of scientific publications across key sources in communication and resilience. The data highlight the *Journal of Applied Communication Research* as the most prominent source, with 15 published documents, underscoring its central role in applied communication research. The *Journal of Family Communication* follows with seven publications, emphasizing the significance of intrafamilial communication as a research subdiscipline. *Frontiers in Psychology* and *Health Communication*, each with six publications, reflect interdisciplinary intersections between health psychology and communication research.

Communication Monographs and *Journal of Social and Personal Relationships*, with five publications each, contribute notably to monographic communication studies and social and personal relationship dynamics. The *Lecture Notes in Computer Science* series, *Personal Relationships*, and *Western Journal of Communication*, each with four publications, bridge computer science, communication, and personal relationships within Western cultural contexts. Lastly, *Computers in Human Behavior*, with three publications, highlights the relevance of human behaviour in the context of human-computer interaction. Variability in publication numbers across sources may reflect differences in research scope, publication frequency, and academic influence within the education and research landscape.

Figure 4 shows that Buzzanell PM, with 14 credited documents, is the author with the highest number of publications, reflecting a high level of productivity and broad influence in the field. Buzzanell's article fraction of 6.28% suggests a central role in the research produced. Afifi TD, with ten publications and an article fraction of

3.42%, also demonstrates significant productivity and influence, marking both as thought leaders or principal researchers. At a moderate level, Harrison K contributed seven publications, with an article fraction of 1.89%, indicating a substantial impact. Scharp KM and WU Q, each with six publications, also showed consistent engagement, with Scharp KM having a higher article fraction, indicating a dominant role in those works. Together, these authors form an integral part of the research network, showcasing diversity and collaboration within the scientific community.

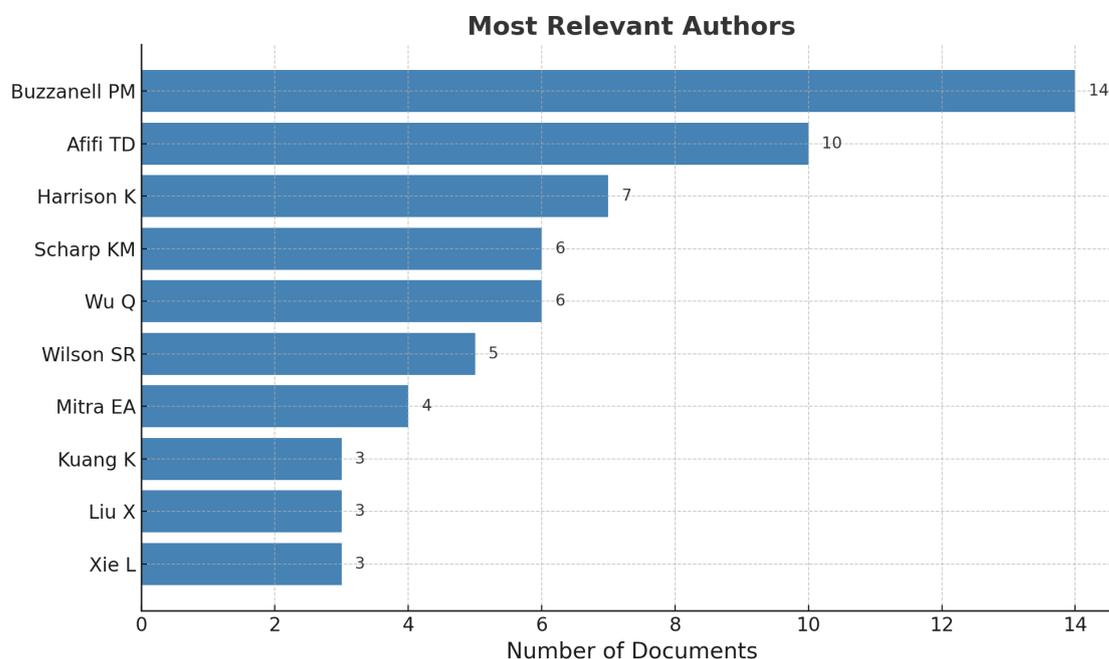


Figure 4: Most Relevant Authors

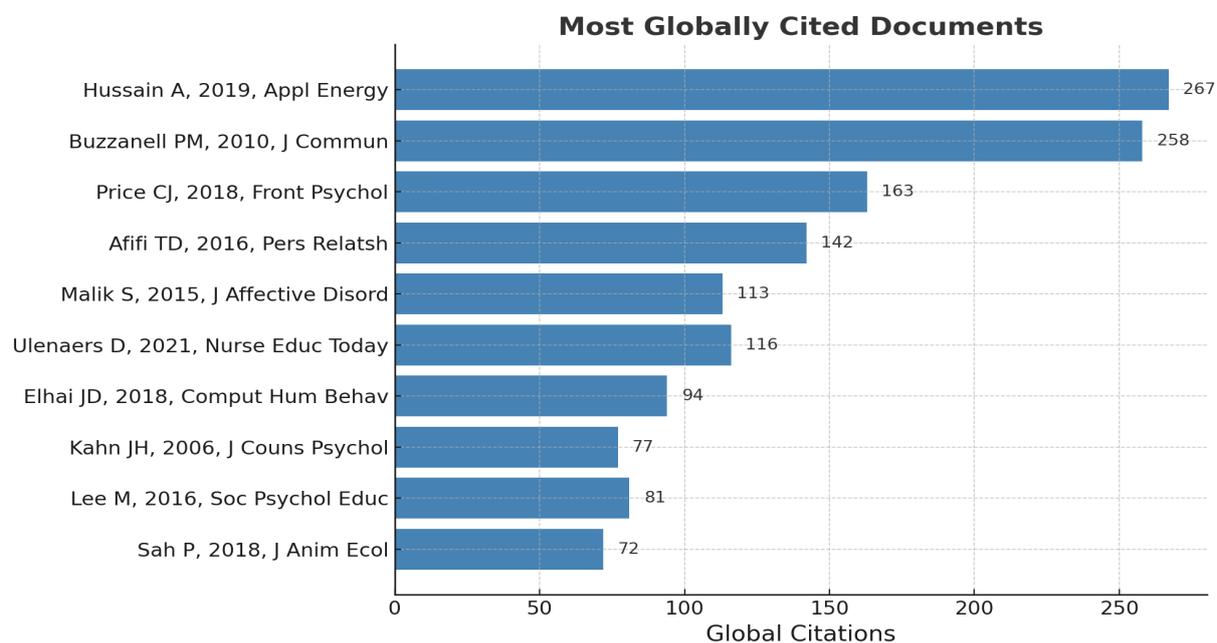
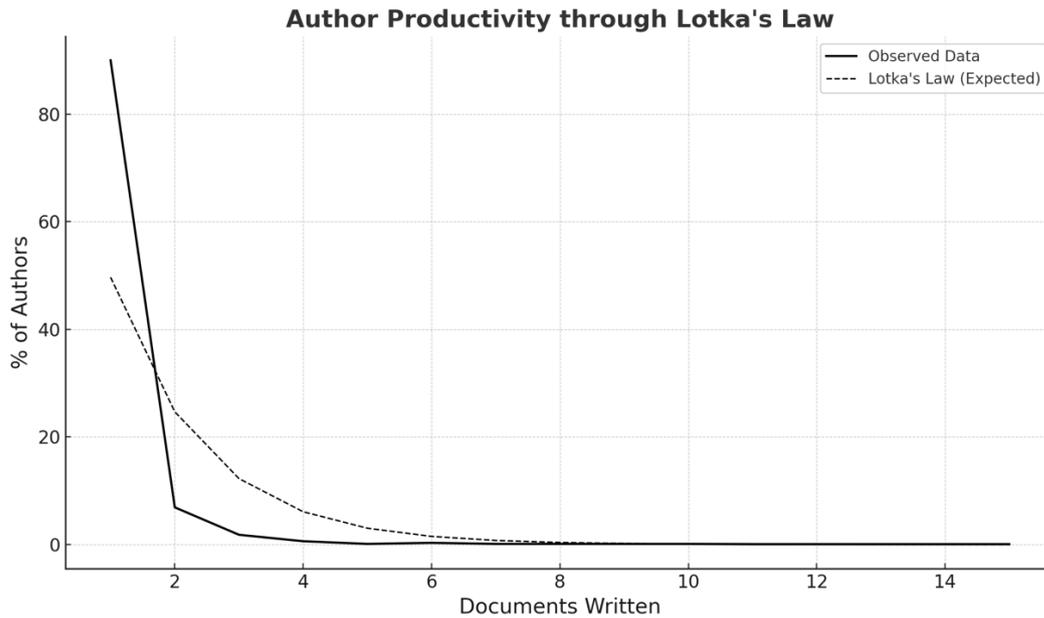


Figure 5: Most Global Cited Documents

Figure 5 provides a quantitative analysis of the most cited documents in the scientific literature, based on the data collected. At the top, the document by Hussain A, published in *Applied Energy* in 2019, has 267 global citations, indicating significant influence with a total citation value per year of 53.40 and a normalized citation value of 7.95. Following this, Buzzanell PM's 2010 publication in the *Journal of Communication* received 258 citations, reflecting sustained impact with a total citation value per year of 18.43 and a normalized value of 2.50.

Additionally, Price CJ's 2018 article in *Frontiers in Psychology* has garnered 163 citations, and Afifi TD's 2016 article in *Personal Relationships* has 142 citations. Both have high total citation values per year, 27.17 and 17.75 respectively, with normalized values indicating substantial impact. The document by Ulenaers D in *Nurse Education Today* (2021) also received rapid attention, with 116 citations, underscoring the relevance and novelty of research in nursing education, reflected in a high citation per year of 38.67 and a normalized value of 11.01.

Other documents by Elhai JD, Kahn JH, Lee M, and Sah P, though with lower global citations, still show significant influence, with citations ranging from 75 to 94. These graphs highlight key documents driving knowledge development across fields, helping researchers track citation trends and the long-term impact of scientific publications.



Documents Written	Number of Authors	Proportion of Authors
1	50	0.90
2	5	0.06
3	1	0.01
4	2	0.03
5	2	0.01
10	1	0.01
14	1	0.01

Figure 6: Author Productivity through Lotka's Law

In Figure 6, most authors (90%) contributed only one document, while few have authored multiple publications. Only 50 authors (6.9%) wrote two documents and 13 authors (1.8%) wrote three papers, with productivity further decreasing for authors with higher publication counts. This distribution imbalance suggests many low-productivity writers and few highly productive authors. This insight is essential for research institutions and publishers to recognize and support authors with high potential impact. These charts are also valuable for evaluating editorial policies, publishing strategies, and academic development programs.



Figure 7: Word Cloud Based on Authors' Keywords

5	(Malik et al., 2015)	Emotion regulation as a mediator in the relationship between attachment and depressive symptomatology: A systematic review	117
6	(Ulenaers et al., 2021)	Clinical placement experience of nursing students during the COVID-19 pandemic: A cross-sectional study	116
7	(Elhai et al., 2018)	Distress tolerance and mindfulness mediate relations between depression and anxiety sensitivity with problematic smartphone use	94
8	(Kahn & Garrison, 2009)	Emotional self-disclosure and emotional avoidance: Relations with symptoms of depression and anxiety.	91
9	(Lee et al., 2016)	Teachers' emotions and emotion management: integrating emotion regulation theory with emotional labour research	90
10	(Sah et al., 2018)	Disease implications of animal social network structure: A synthesis across social systems	75

Source: Calculated by the author

3.3. Main Research Themes and Topics

Figure 9 displays a visualization of the keyword co-occurrence network generated using VOSviewer for bibliometric analysis in the research field. Each cluster is represented by a different colour, with labels indicating inter-related research themes that frequently appear together in scientific documents or publications. The yellow cluster, tagged "Education and Personal Development," includes keywords such as "emotional intelligence," "emotion regulation," and "motivation," signifying a focus on how emotional and cognitive processes contribute to learning and self-development, especially in educational contexts.

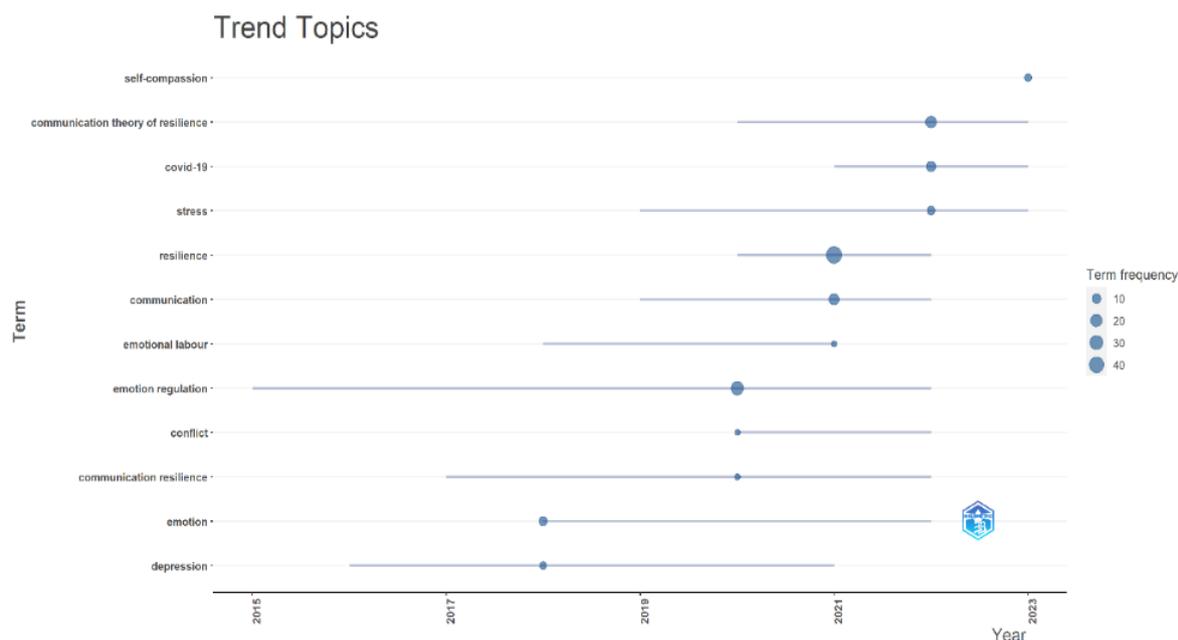


Figure 9: Trend Topics By Author Keywords.

The purple cluster, labeled "Psychological Well-being," contains keywords like "depression," "mindfulness," and "resilience," highlighting research related to mental health and the psychological strategies individuals use to maintain or improve well-being. The red cluster, labeled "Communication and Psychological Resilience," includes terms such as "resilience," "communication," and "social support" and encompasses global health topics with keywords like "COVID-19," "pandemic," and "epidemiology." This suggests a strong research interest in how communication supports psychological resilience during times of stress and health crises. The green cluster, labeled "Human Behavior," addresses fundamental psychological processes and behaviors central to human interaction and individual psychological functioning. Lastly, the blue cluster at the bottom, labeled "Developmental and Clinical Psychology," includes "theoretical studies," "clinical articles," and "emotion regulation," pointing to a focus on human development from childhood to adulthood, as well as clinical applications in psychology. This visualization effectively maps the interdisciplinary nature of research in these fields, showing how concepts related to

education, personal development, mental health, and communication intersect. This tool is valuable for researchers to identify emerging trends, potential collaborations, and gaps in existing literature.

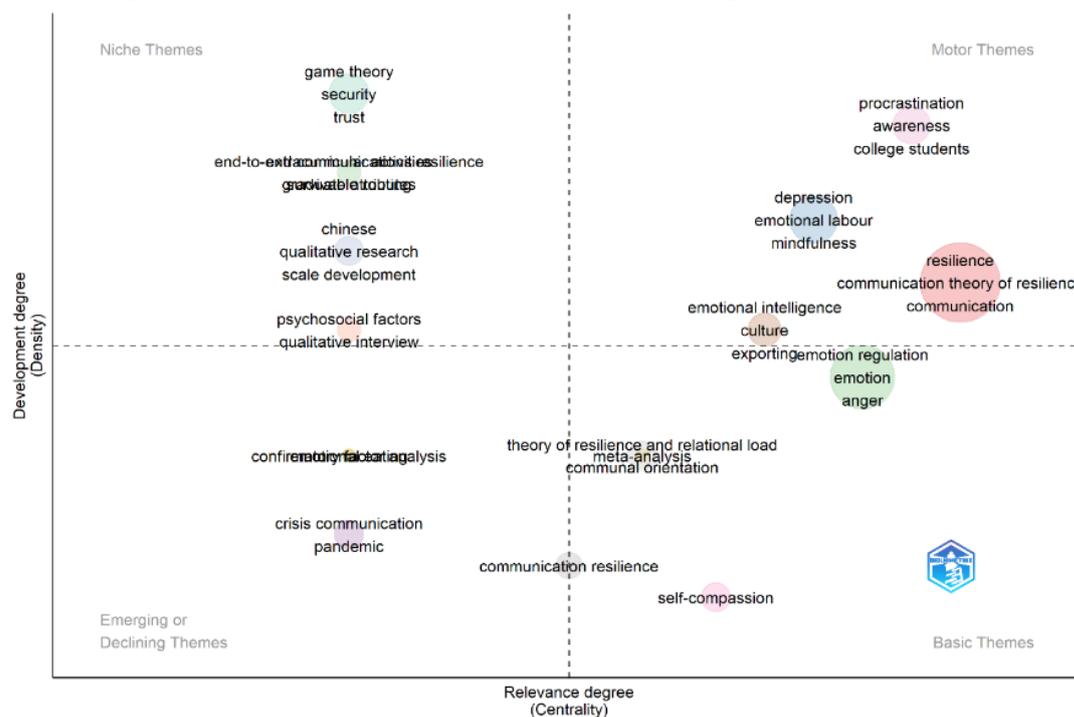


Figure 10: Thematic Map by Authors Keywords

Figure 10 is a thematic map illustrating the development and centrality of various topics within the research corpus. Maps like this are typically used to visualize a field's intellectual structure or to track the dynamics of a research topic over time. *Basic Themes* are those of high importance but with a low level of development, including "theory of resilience and relational load," "meta-analysis," "communal orientation," "self-compassion," "emotion regulation," "emotion," and "anger." *Motor Themes* are highly important and well-developed, representing the most influential themes in research, such as "procrastination," "awareness," "college student," "depression," "emotional labor," "mindfulness," "emotional intelligence," "exporting," "resilience," and "communication theory of resilience." *Niche Themes* are well-developed but of lower importance, including "game theory," "security," "trust," "end-to-end communication resilience," "survivable routing," "Chinese," "qualitative research," "scale development," "psychosocial factors," and "qualitative interview." *Emerging or Declining Themes* have low importance and development, including "emotional eating," "confirmatory factor analysis," "crisis communication," and "pandemic."

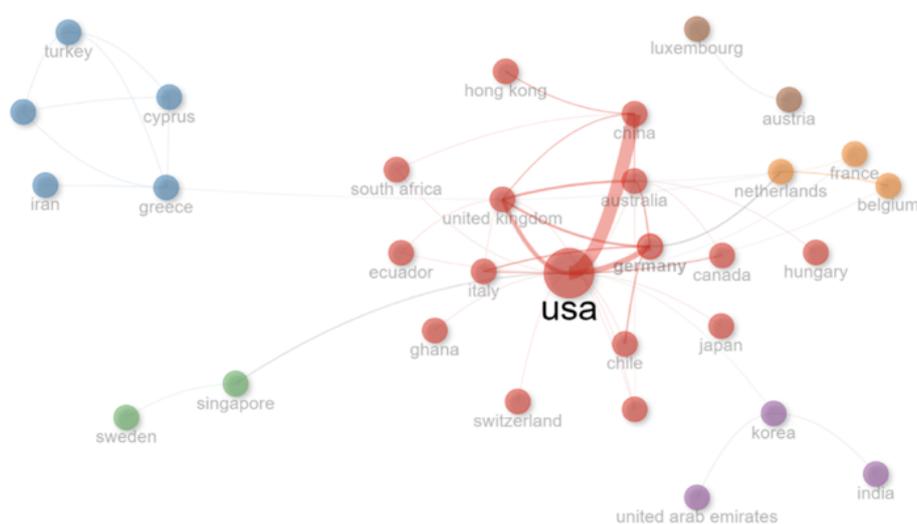


Figure 11: Countries Collaboration Networks

Figure 13 illustrates how universities and research centres collaborate. Each sphere or "dot" represents a university or research centre, and connecting lines indicate collaboration, such as joint research or academic exchange programs. Some universities, like the University of South Florida and the University of Connecticut, have many connections, indicating active collaboration with multiple institutions. Tsinghua University also appears important, though to a slightly lesser extent. This visual provides a map of academic and research collaborations, highlighting institutions that frequently play central roles.

Figure 14 represents global collaboration networks between countries, where each dot represents a country, and connecting lines illustrate collaborative relationships. The data suggest the USA occupies a central role in this network, with a high "betweenness" value, indicating it often acts as a bridge in international collaborations. The United Kingdom, Germany, Australia, and China also show significant betweenness, indicating their essential role in fostering international research collaborations. This visualization offers insight into the interconnectedness of countries in research on communication and resilience.

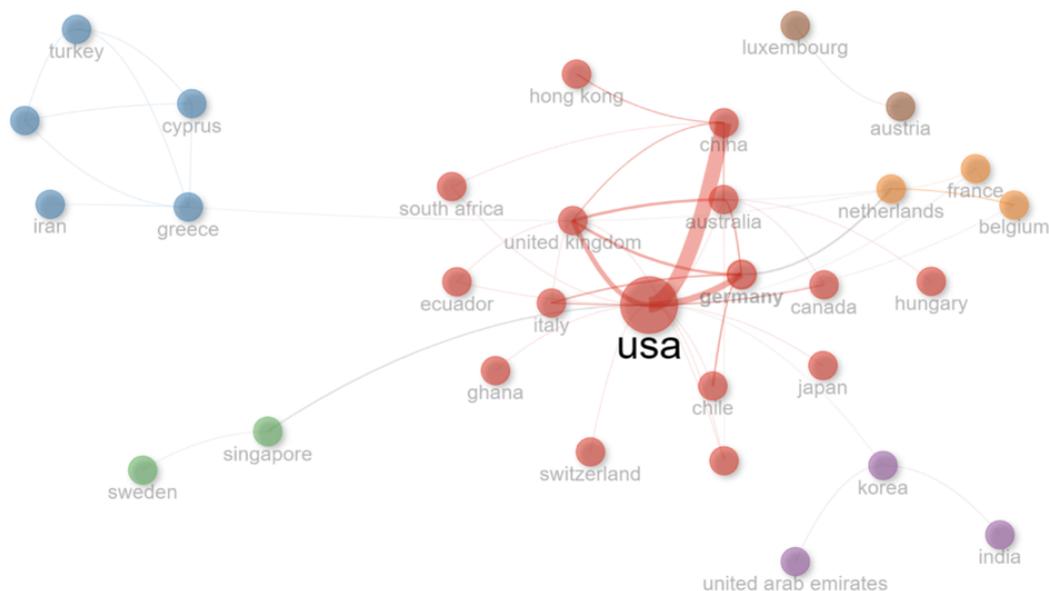


Figure 14: Countries Collaboration Networks

4. Conclusion

Research conducted in the field of communication and resilience over the past quarter century shows a rapidly growing interest in this area. From 1998 to 2023, there has been a consistent increase in publications, signalling that researchers are increasingly focusing on the importance of effective communication in building resilience at both individual and community levels. With collaboration between countries reaching almost 20%, it is evident that communication and resilience are global issues that require cross-border thinking and cooperation. Several universities, such as the University of South Florida and the University of Connecticut, are emerging as significant centres in this research network, indicating their essential role in advancing studies in this field. Data show that authors from these institutions have extensive and impactful collaboration networks.

Research in this field is vast in numbers and diverse in topics, covering areas from mental health and communication technology to social and cultural influences, reflecting the broad range of challenges facing modern society and the innovative ways to address them. The importance of work in this area is underscored by the average citation per document, indicating that the research is both prolific and impactful. While many researchers contribute, a small group has been particularly prolific, suggesting that some individuals have significantly influenced future research.

In reviewing trending topics, "resilience" and "emotion regulation" are becoming increasingly prominent, possibly reflecting society's growing need to cope with stress and psychological challenges, especially following the recent global pandemic. The increased attention to "self-compassion" in 2023 suggests a shift toward a deeper understanding of the importance of self-care in the face of adversity.

Future research should focus on analyzing how international collaboration affects innovation in this area using social network analysis methods. Additionally, further research on the role of self-compassion in building individual resilience across various contexts can offer new insights through qualitative methods, such as in-depth interviews. Finally, exploring the use of communication technologies to enhance resilience through experimental studies on technology-based interventions can optimize support for individual and community resilience.

Furthermore, the findings of this study highlight the importance of international collaboration in communication and resilience research, suggesting that cross-border cooperation should be encouraged in resilience programs. The emphasis on "self-compassion" also underscores the value of this concept in building individual resilience, which can be integrated into therapy programs and mental health training for personal development. Lastly, findings on the role of technology in supporting resilience communication could be applied to developing mental health apps and digital platforms designed to help individuals and communities manage stress and challenges, ensuring effectiveness through research-based implementation and testing.

Acknowledgement Statement: We would like to thank Mr. Rafnel Azhari for his invaluable methodological guidance and advice, as well as Ms. Nurul Fauziah for assisting in the installation of the program for data analysis. Without their contribution, this research would not have been complete. Both individuals provided consent to be recognized here.

Conflicts of Interest: The authors declare that they have no known competing financial interests or personal relationships that could have influenced this work.

Authors' Contribution Statements: Iis Mardiansyah: Research conception and design, data collection, data analysis, visualization, and manuscript writing, Prof. Dr Ir. Sumardjo, M. S.: Technical support, supervision, supervision of review, and contribution to manuscript revision, Dr Ir. Sarwititi Sarwoprasodjo, M.S: Methodology development, review supervision, and critical review of the manuscript, and Dr Tin Herawati, S.P., M.Si: Technical support, provision of equipment, and contribution to data interpretation. All authors have read and approved the final submitted manuscript.

Funding Statement: This study was conducted without financial support from any funding agency or organisation.

Data Availability Statement: Data supporting the findings of this study are available in this article and in the supplementary materials. The raw data were generated through analysis of the Rstudio application. Derivative data supporting the findings of this study are available from the corresponding author upon request.

Disclaimer: The views and opinions expressed in this article are those of the author(s) and contributor(s) and do not necessarily reflect JICC's or the editors' official policy or position. All liability for harm done to individuals or property as a result of any ideas, methods, instructions, or products mentioned in the content is expressly disclaimed.

References

- Abdelwahab, S. I., Taha, M. M. E., & Aldhahi, M. I. (2023). Comprehensive analysis of research related to rehabilitation and COVID-19, hotspots, mapping, thematic evolution, trending topics, and future directions. *European Journal of Medical Research*, 28(1), 434. <https://doi.org/10.1186/s40001-023-01402-1>
- Affifi, T. D. (2018). Individual/relational resilience. *Journal of Applied Communication Research*, 46(1), 5–9. <https://doi.org/10.1080/00909882.2018.1426707>
- Affifi, T. D., Merrill, A. F., & Davis, S. (2016). The theory of resilience and relational load. *Personal Relationships*, 23(4), 663–683. <https://doi.org/10.1111/per.12159>
- Allen, L., Jones, C., Dolby, K., Lynn, D., & Walport, M. (2009). Looking for landmarks: The role of expert review and bibliometric analysis in evaluating scientific publication outputs. *PLoS ONE*, 4(6), e5910. <https://doi.org/10.1371/journal.pone.0005910>
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Bosse, T., Pontier, M., & Treur, J. (2010). A computational model based on Gross' emotion regulation theory. *Cognitive Systems Research*, 11(3), 211–230. <https://doi.org/10.1016/j.cogsys.2009.10.001>
- Boumis, J. K., Kuang, K., Wilson, S. R., Hintz, E. A., & Buzzanell, P. M. (2023). Family communication patterns predict anticipatory resilience and the enactment of resilience processes. *Journal of Family Communication*, 23(1), 22–40. <https://doi.org/10.1080/15267431.2023.2172021>
- Buzzanell, P. M. (2010). Resilience: Talking, resisting, and imagining new normalcies into being. *Journal of Communication*, 60(1), 1–14. <https://doi.org/10.1111/j.1460-2466.2009.01469.x>
- Buzzanell, P. M., & Houston, J. B. (2018). Communication and resilience: Multilevel applications and insights—A Journal of Applied Communication Research forum. *Journal of Applied Communication Research*, 46(1), 1–4. <https://doi.org/10.1080/00909882.2017.1412086>
- Cupach, W. R., & Olson, L. N. (2006). Emotion regulation theory: A lens for viewing family conflict and violence. In *Engaging Theories in Family Communication: Multiple Perspectives* (pp. 213–228). SAGE Publications, Inc. <https://doi.org/10.4135/9781452204420.n14>
- Delaney, K. R. (2006). Following the affect: Learning to observe emotional regulation. *Journal of Child and Adolescent Psychiatric Nursing*, 19(4), 175–181. <https://doi.org/10.1111/j.1744-6171.2006.00069.x>

- Donthu, N., Kumar, S., & Pandey, N. (2020). A retrospective evaluation of Marketing Intelligence and Planning: 1983–2019. *Marketing Intelligence & Planning*, 39(1), 48–73. <https://doi.org/10.1108/MIP-02-2020-0066>
- Elhai, J. D., Levine, J. C., O'Brien, K. D., & Armour, C. (2018). Distress tolerance and mindfulness mediate relations between depression and anxiety sensitivity with problematic smartphone use. *Computers in Human Behavior*, 84, 477–484. <https://doi.org/10.1016/j.chb.2018.03.026>
- Garcia-Zorita, C., Rousseau, R., Marugan-Lazaro, S., & Sanz-Casado, E. (2018). Ranking dynamics and volatility. *Journal of Informetrics*, 12(3), 567–578. <https://doi.org/10.1016/j.joi.2018.04.005>
- Guaña-Moya, J., Arteaga-Alcívar, Y. A., Chiluisa-Chiluisa, M., & Begnini-Domínguez, L. F. (2022). Evolution of information and communication technologies in education. *2022 Third International Conference on Information Systems and Software Technologies (ICI2ST)*, 138–144. <https://doi.org/10.1109/ICI2ST57350.2022.00027>
- Guerraoui, R., & Lynch, N. (2006). A general characterization of indulgence. In *Proceedings of the International Conference on Distributed Computing* (pp. 16–34). https://doi.org/10.1007/978-3-540-49823-0_2
- Houston, J. B. (2018). Community resilience and communication: Dynamic interconnections between and among individuals, families, and organizations. *Journal of Applied Communication Research*, 46(1), 19–22. <https://doi.org/10.1080/00909882.2018.1426704>
- Houston, J. B., & Buzzanell, P. M. (2020). Communication and resilience: Introduction to the Journal of Applied Communication Research special issue. *Journal of Applied Communication Research*, 48(1), 1–4. <https://doi.org/10.1080/00909882.2020.1711956>
- Hussain, A., Bui, V.-H., & Kim, H.-M. (2019). Microgrids as a resilience resource and strategies used by microgrids for enhancing resilience. *Applied Energy*, 240, 56–72. <https://doi.org/10.1016/j.apenergy.2019.02.055>
- Jain, J., Walia, N., Singh, S., & Jain, E. (2022). Mapping the field of behavioural biases: A literature review using bibliometric analysis. *Management Review Quarterly*, 72(3), 823–855. <https://doi.org/10.1007/s11301-021-00215-y>
- Jameson, J. K., & Lee, N. M. (2020). Introduction to the special issue on dialogue 2.0: New perspectives, enduring challenges, and promising directions. *Social Media + Society*, 6(4), 205630512098446. <https://doi.org/10.1177/2056305120984468>
- Jelvehgaran Esfahani, H., Tavasoli, K., & Jabbarzadeh, A. (2019). Big data and social media: A scientometrics analysis. *International Journal of Data and Network Science*, 3(2), 145–164. <https://doi.org/10.5267/j.ijdns.2019.2.007>
- Kahn, J. H., & Garrison, A. M. (2009). Emotional self-disclosure and emotional avoidance: Relations with symptoms of depression and anxiety. *Journal of Counseling Psychology*, 56(4), 573–584. <https://doi.org/10.1037/a0016574>
- Kim, S. (2022). The role of social capital in the onset of victimization against children. *Child Indicators Research*, 15(1), 67–86. <https://doi.org/10.1007/s12187-021-09859-4>
- Kuang, K., Tian, Z., Wilson, S. R., & Buzzanell, P. M. (2023). Memorable messages as anticipatory resilience: Examining associations among memorable messages, communication resilience processes, and mental health. *Health Communication*, 38(6), 1136–1145. <https://doi.org/10.1080/10410236.2021.1993585>
- Lee, M., Pekrun, R., Taxer, J. L., Schutz, P. A., Vogl, E., & Xie, X. (2016). Teachers' emotions and emotion management: Integrating emotion regulation theory with emotional labor research. *Social Psychology of Education*, 19(4), 843–863. <https://doi.org/10.1007/s11218-016-9359-5>
- Lillie, H. M., Venetis, M. K., & Chernichky-Karcher, S. (2023). Resilience communication mitigates the negative relational effects of topic avoidance: Evidence from parental caregiving and COVID -19 pandemic contexts. *Personal Relationships*, 30(4), 1252–1273. <https://doi.org/10.1111/perc.12508>
- Majiwala, H., & Kant, R. (2023). A bibliometric review of a decade's research on industry 4.0 & supply chain management. *Materials Today: Proceedings*, 72, 824–833. <https://doi.org/10.1016/j.matpr.2022.09.058>
- Malik, S., Wells, A., & Wittkowski, A. (2015). Emotion regulation as a mediator in the relationship between attachment and depressive symptomatology: A systematic review. *Journal of Affective Disorders*, 172, 428–444. <https://doi.org/10.1016/j.jad.2014.10.007>
- Manan, K. A., Sapiee, N., Mustafa, N. M., & Ghazali, W. N. W. M. (2023). The role of communications in the resilience of risk groups in Kuching, Sarawak, during the dispersal of COVID-19 virus. *Jurnal Komunikasi: Malaysian Journal of Communication*, 39(1), 386–406. <https://doi.org/10.17576/JKMJC-2023-3901-22>
- Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: A comparative analysis. *Scientometrics*, 106(1), 213–228. <https://doi.org/10.1007/s11192-015-1765-5>

- Mukherjee, D., Lim, W. M., Kumar, S., & Donthu, N. (2022). Guidelines for advancing theory and practice through bibliometric research. *Journal of Business Research*, 148, 101–115. <https://doi.org/10.1016/j.jbusres.2022.04.042>
- Nakagawa, S., Samarasinghe, G., Haddaway, N. R., Westgate, M. J., O’Dea, R. E., Noble, D. W. A., & Lagisz, M. (2019). Research weaving: Visualizing the future of research synthesis. *Trends in Ecology & Evolution*, 34(3), 224–238. <https://doi.org/10.1016/j.tree.2018.11.007>
- Napora, E., & Kornacka-Skwara, E. (2023). Communication and resilience as predictors of coping with stress. Differentiating role of the age of the examined adolescents. *Educational Psychology*, 68(26), 5–24. <https://doi.org/10.5604/01.3001.0016.3381>
- Noman, A. A., Akter, U. H., Pranto, T. H., & Haque, A. B. (2022). Machine learning and artificial intelligence in circular economy: A bibliometric analysis and systematic literature review. *Annals of Emerging Technologies in Computing*, 6(2), 13–40. <https://doi.org/10.33166/AETiC.2022.02.002>
- Pranckutė, R. (2021). Web of Science (WoS) and Scopus: The titans of bibliographic information in today’s academic world. *Publications*, 9(1), 12. <https://doi.org/10.3390/publications9010012>
- Price, C. J., & Hooven, C. (2018). Interoceptive awareness skills for emotion regulation: Theory and approach of mindful awareness in body-oriented therapy (MABT). *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.00798>
- Qin, J., Zheng, Q., Li, H., & Zhang, H. (2010). An emotion regulation model in an e-learning environment. *Proceedings of the International Conference on Educational Data Mining*, 240–249. https://doi.org/10.1007/978-3-642-17407-0_25
- Sah, P., Mann, J., & Bansal, S. (2018). Disease implications of animal social network structure: A synthesis across social systems. *Journal of Animal Ecology*, 87(3), 546–558. <https://doi.org/10.1111/1365-2656.12786>
- Sjuchro, D. W. (2023). Trend research of rural broadcasting on communication science based on bibliometric approach. *Journal of Intercultural Communication*, 33–44. <https://doi.org/10.36923/jicc.v23i1.110>
- Stevens, T. M., Aarts, N., & Dewulf, A. (2019). The emergence and evolution of master terms in the public debate about livestock farming: Semantic fields, communication strategies and policy practices. *Discourse, Context & Media*, 31, 100317. <https://doi.org/10.1016/j.dcm.2019.100317>
- Stoolmiller, M., & Snyder, J. (2006). Modeling heterogeneity in social interaction processes using multilevel survival analysis. *Psychological Methods*, 11(2), 164–177. <https://doi.org/10.1037/1082-989X.11.2.164>
- Theiss, J. A. (2018). Family communication and resilience. *Journal of Applied Communication Research*, 46(1), 10–13. <https://doi.org/10.1080/00909882.2018.1426706>
- Ulenaers, D., Grosemans, J., Schrooten, W., & Bergs, J. (2021). Clinical placement experience of nursing students during the COVID-19 pandemic: A cross-sectional study. *Nurse Education Today*, 99, 104746. <https://doi.org/10.1016/j.nedt.2021.104746>
- van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>
- Wang, Q., & Waltman, L. (2016). Large-scale analysis of the accuracy of the journal classification systems of Web of Science and Scopus. *Journal of Informetrics*, 10(2), 347–364. <https://doi.org/10.1016/j.joi.2016.02.003>
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/10.1177/1094428114562629>

About The Author (s)



Iis Mardiansyah is a doctoral student in Development Communication at IPB University. Her research interests primarily focus on the study of communication development, particularly in the context of children's resilience. With an academic background and a keen interest in this field, I investigate how communication can strengthen the resilience and preparedness of children in facing challenges and changes, as well as how communication strategies can empower them to become positive agents of change in society.



Prof. Dr. Ir. Sumardjo, MS, is a faculty member at the Faculty of Human Ecology, IPB University. With expertise in Rural Sociology, Development Extension, Conflict Resolution, and Empowerment, Prof. Sumardjo brought a wealth of knowledge and experience to his academic and research pursuits. His work spans various fields and focuses on understanding rural communities, facilitating development initiatives, resolving conflicts, and empowering individuals and communities for sustainable progress. Prof. Sumardjo's dedication to his areas of expertise contributes significantly to both academic and practical solutions to societal challenges.



Dr. Ir. Sarwititi Sarwoprasodjo M. S. is a lecturer at the Faculty of Human Ecology, specializing in the Development Communication program. With expertise in Agricultural Extension, Rural Sociology, Communication Science, and Development Communication, Dr. Sarwoprasodjo brings a diverse set of skills to her teaching and research. Her work focuses on enhancing agricultural outreach, understanding rural communities, studying communication processes, and advancing the development of communication strategies. Through her dedication and expertise, Dr. Sarwoprasodjo contributed significantly to the field of human ecology and the promotion of sustainable development practices.



Dr. Tin Herawati, SP., M.Si. are lecturer at the Department of Family and Consumer Sciences, Faculty of Human Ecology. She has served as an expert in various government bodies, including the National Population and Family Planning Board and the Ministry of Human Development and Culture Coordination. Her consultancy work includes projects with organizations such as Islamic Relief Worldwide and UNICEF Geneva Switzerland, focusing on gender-based approaches to climate change adaptation and climate landscape analysis for Indonesian children. Dr Herawati has contributed significantly to the development of indices for the National Population and Family Planning Board, including the Family Development Index (iBangga) and Family Resilience Index (IKK).