

GLOBAL TRENDS AND RESEARCH NETWORKS IN MENTAL HEALTH RESEARCH: A BIBLIOMETRIC ANALYSIS USING VOSVIEWER**Dr. Lavina Mistry**

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Email: lavina.niralmistry@gmail.com**Abstract:**

Mental health research has expanded significantly in recent years due to growing concerns related to psychological well-being, emotional stress, and behavioral health issues among students and professionals. The present study investigates global research developments in mental health using bibliometric and scientometric visualization techniques. Data for the study was collected from the Dimensions database covering publications published between 2015 and 2025. A total of 1,965 research publications were analyzed using VOSviewer to examine publication growth, citation patterns, collaboration networks, and thematic research areas. The study applies co-authorship analysis, co-citation analysis, bibliographic coupling, and keyword occurrence mapping to identify major contributors and emerging research directions. The findings reveal a rapid increase in scientific publications after 2020, reflecting growing international attention toward mental healthcare and psychological support systems. Emerging topics such as AI-assisted mental healthcare, digital counseling platforms, online interventions, and technology-supported well-being systems have gained substantial research interest. The study provides useful insights into influential authors, institutions, journals, and collaborative research trends that shape the global mental health research landscape.

Keywords: Mental Health, Bibliometric Analysis, VOSviewer, Scientific Mapping, Citation Analysis, Bibliographic Coupling, Network Visualization, Research Trends.

Introduction: Mental health plays a crucial role in maintaining emotional, psychological, and social well-being. It directly influences an individual's ability to manage stress, make decisions, build relationships, and perform effectively in academic and professional environments. In recent years, mental health issues such as anxiety, depression, stress, emotional exhaustion, and psychological disorders have increased significantly across different age groups, especially among students in higher education institutions. The growing academic pressure, technological changes, social expectations, financial concerns, and post-pandemic challenges have further intensified mental health problems worldwide. As a result, researchers from multiple disciplines including psychology, healthcare, education, information technology, and social sciences have increasingly focused on mental health-related studies. This rapid growth in publications has created a large volume of scientific literature, making it difficult to manually identify major research trends, influential contributors, and emerging research themes.

Bibliometric analysis has become an effective technique for systematically analyzing large-scale scientific publications. It enables researchers to evaluate publication trends, collaboration networks, citation relationships, and thematic evolution within a research domain. In recent years, visualization tools such as VOSviewer have gained popularity for constructing and analyzing bibliometric networks through graphical representations.

Although several studies have explored specific aspects of mental health research, limited research has provided a comprehensive bibliometric evaluation focusing on higher education mental health research using the Dimensions database and advanced visualization techniques. Therefore, this study aims to analyze the intellectual structure, research growth, collaboration patterns, and emerging trends in mental health research through bibliometric mapping and visualization.

The major objectives of this study are to identify publication growth trends, analyze influential authors and journals, evaluate collaboration among countries and institutions, and identify emerging research themes using co-citation analysis, bibliographic coupling, and keyword co-occurrence techniques.

Literature Review: Bibliometric analysis has become an important research approach for evaluating scientific growth, thematic evolution, collaboration patterns, and intellectual structures within academic domains. In recent years, several researchers have applied bibliometric and scientometric techniques to analyze mental health research trends using visualization tools such as VOSviewer and CiteSpace.

Chen et al. (2024) conducted a bibliometric review of college students' mental health research using CiteSpace and VOSviewer and identified major research themes related to anxiety, stress, depression, and psychological well-being. Their study highlighted the growing interdisciplinary nature of mental health research and emphasized the importance of visualization techniques in identifying research trends and collaboration networks.

Similarly, Rautela and Sharma (2024) analyzed mental well-being research among higher education students and reported significant growth in publications after the COVID-19 pandemic. Their findings revealed increasing research interest in emotional well-being, stress management, and student counseling systems. Aristovnik et al. (2020) also examined the global impact of COVID-19 on higher education students and identified mental stress, anxiety, isolation, and online learning challenges as major psychological concerns.

Research focusing on digital mental health interventions has also gained significant attention. Zhang et al. (2024) explored trends in digital mental health interventions through bibliometric analysis and found growing interest in artificial intelligence-based counseling systems, online therapy platforms, and digital healthcare technologies. Armaou et al. (2024) similarly highlighted the rapid evolution of digital interventions for mental well-being promotion and emphasized the role of technology-driven mental healthcare systems. Several studies have also focused on regional and thematic analysis of mental health research. Naeim et al. (2024) analyzed mental health research in the Middle East and observed strong collaboration among institutions and countries within the region. Liu et al. (2024) performed a scientometric analysis of global mental health research and reported increasing international collaboration and interdisciplinary integration across healthcare, education, and technology domains. Studies related to specific demographic groups have further expanded the research landscape. Fu et al. (2024) investigated anxiety and depression research among school students and identified increasing attention toward emotional well-being and early psychological intervention. Kumar and Verma (2023) explored adolescent mental health research trends and highlighted the influence of social media, digital environments, and behavioral factors on mental health outcomes. Research on workplace and positive mental health has also increased significantly. Patel and Singh (2023) reported emerging themes such as workplace stress, productivity, burnout, and employee well-being through bibliometric analysis. Omega and Rahmawati (2024) focused on positive mental health research using VOSviewer and identified strong thematic connections related to happiness, emotional resilience, and psychological wellness. Methodological studies have also contributed significantly to bibliometric research. Donthu et al. (2021) provided comprehensive guidelines for conducting bibliometric analysis and emphasized its importance in identifying influential studies, collaboration patterns, and thematic structures. Zupic and Čater (2015) discussed bibliometric methods in management and organization research and explained techniques such as co-citation analysis, bibliographic coupling, and keyword co-occurrence analysis. Van Eck and Waltman (2010) introduced VOSviewer as an advanced bibliometric visualization software capable of generating network, overlay, and density maps for scientometric analysis. Similarly, Cobo et al. (2011) reviewed science mapping software tools and highlighted their role in understanding research evolution and knowledge structures. Foundational contributions by Small (1973) and Kessler (1963) established the theoretical basis for co-citation analysis and bibliographic coupling techniques used extensively in bibliometric studies.

Although previous studies have significantly contributed to understanding mental health research trends, most studies focus on specific domains such as COVID-19-related mental health, adolescent psychology, or workplace stress. In addition, several studies primarily emphasize publication trends without detailed evaluation of collaboration networks, thematic evolution, and interdisciplinary integration. Therefore, the present study attempts to bridge this gap by providing a comprehensive bibliometric analysis of global mental health research using the Dimensions database and VOSviewer visualization techniques.

Research Methodology: VOSviewer was utilized for constructing and analyzing bibliometric networks associated with mental health research. The software supported the visualization of relationships among authors, journals, countries, institutions, and keywords through scientometric mapping techniques. Different analytical approaches including co-authorship analysis, citation analysis, bibliographic coupling, and keyword co-occurrence analysis were applied to examine scholarly interactions and thematic developments within the dataset. Threshold values related to occurrences, citations, and link strength were adjusted to improve visualization quality and remove less significant records. The generated visual maps assisted in identifying influential contributors, collaboration structures, and emerging research themes within the mental health research domain.

Data Collection: The research data was collected from the Dimensions database on 21 March 2026. The database was selected due to its wide coverage of peer-reviewed journals, conference proceedings, and citation information across multiple disciplines. The search was conducted using keywords such as "mental health", "psychological well-being", "depression", "anxiety", "student mental health", and "emotional health".

The following search criteria were applied:

- Publication years: 2015–2025
- Language: English
- Document types: Research articles and conference papers
- Subject relevance: Mental health and higher education-related studies

Initially, 1,965 publications were retrieved from the database.

The search query used for data extraction was based on title and keyword combinations related to mental health research. The query included terms such as: TITLE-ABS-KEY (“mental health” OR “psychological well-being” OR “depression” OR “anxiety” OR “student mental health” OR “emotional health”)

The search was restricted to English-language publications published between 2015 and 2025.

Data Preprocessing: Prior to analysis, the retrieved records were cleaned and standardized to improve consistency and reliability. Duplicate entries, incomplete records, and irrelevant metadata were filtered from the dataset. Author names, institutional affiliations, and keywords were normalized to maintain uniformity before importing the refined data into VOSviewer for visualization and scientometric analysis.

Results and Discussions: The analysis is based on a dataset of 1965 publications, providing a comprehensive overview of research trends, collaboration patterns, and thematic developments in the mental health domain. The bibliometric analysis of mental health research provides important insights into publication trends, collaboration patterns, and influential contributions in the field. The results are discussed based on the visualizations generated using VOSviewer.

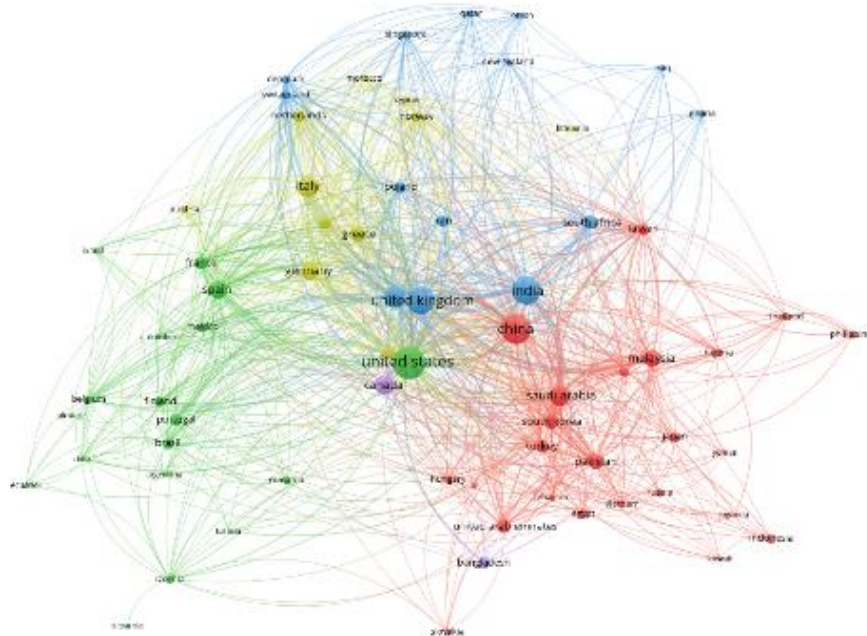


Figure 1: Overview of bibliometric distribution of research publications.

Figure 1 illustrates the overall distribution of research publications within the mental health domain. The increasing publication frequency indicates growing academic interest and rising interdisciplinary research activities related to psychological well-being and mental health support systems.

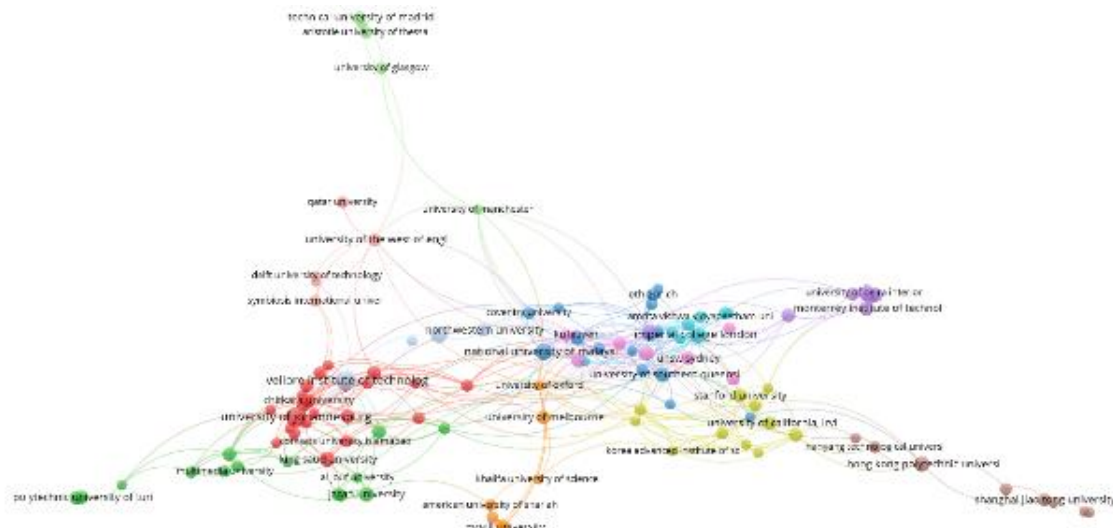


Figure 2: Trend analysis of publications over time.

Figure 2 demonstrates a consistent increase in annual publications between 2015 and 2025. A noticeable rise after 2020 reflects the growing global focus on mental health following the COVID-19 pandemic and increased awareness regarding emotional well-being.

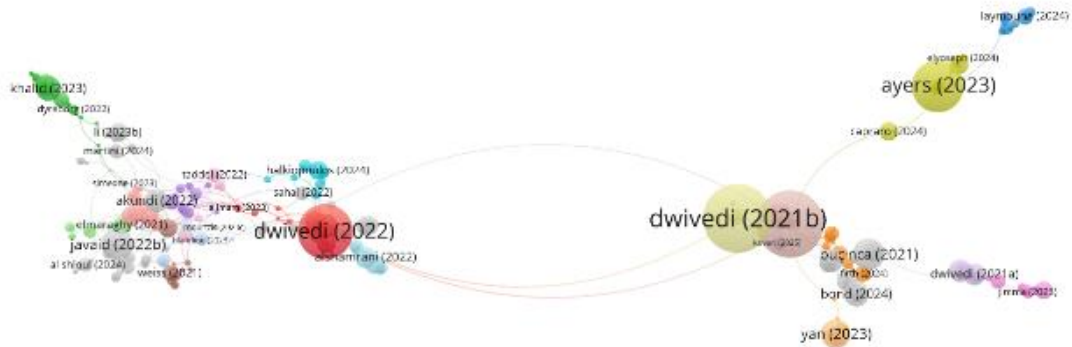


Figure 3: Network map of citations and documents

Figure 3 illustrates citation relationships among research publications related to mental health studies. Larger nodes represent highly cited documents with greater academic influence, while the connecting lines indicate citation connectivity among publications. The clustered structure reflects different thematic areas including psychological health, digital healthcare interventions, and public health research. The map demonstrates active scholarly interaction and knowledge development within the field.

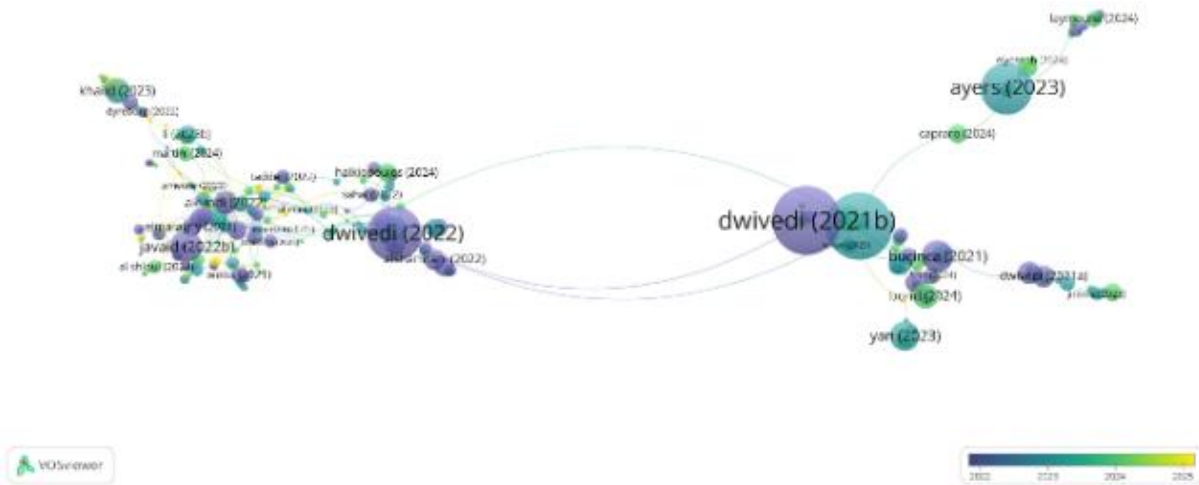


Figure 4: Overlay visualization

Figure 4 depicts the overlay visualization of citation relationships in mental health literature. The color variation represents the progression of research over different time periods, where darker shades indicate earlier studies and lighter shades represent recent publications. The visualization reveals increasing research attention toward artificial intelligence, digital counseling systems, machine learning applications, and technology-assisted mental healthcare solutions.

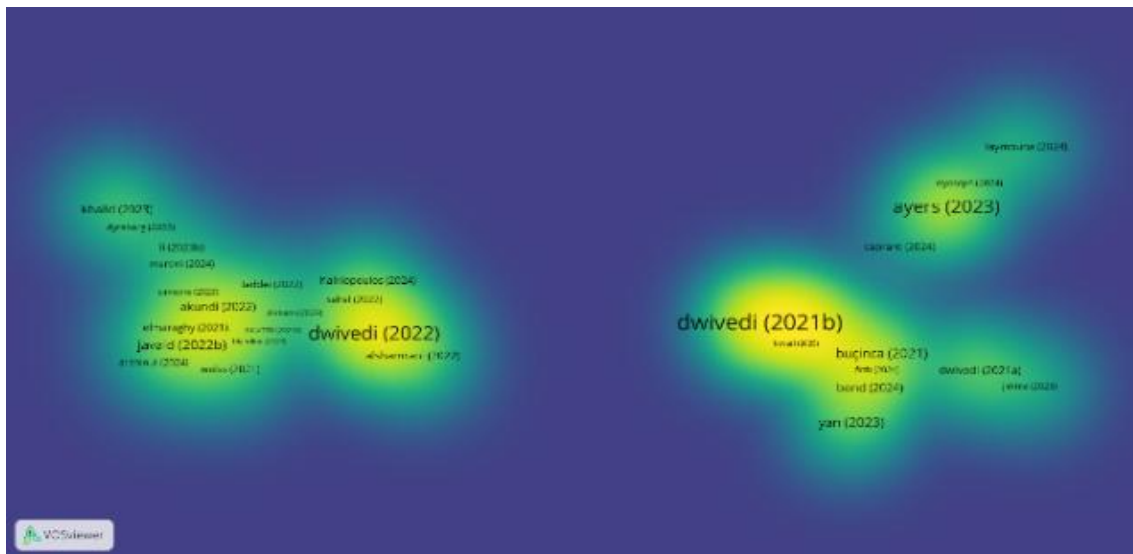


Figure 5: Density visualization of citation network.

Figure 5 demonstrates the density distribution of citation activity within mental health research. Highly dense regions indicate research areas receiving greater scholarly attention, particularly studies associated with stress, anxiety, depression, and emotional wellness. Lower-density regions represent comparatively emerging themes that provide opportunities for future investigation and interdisciplinary exploration.

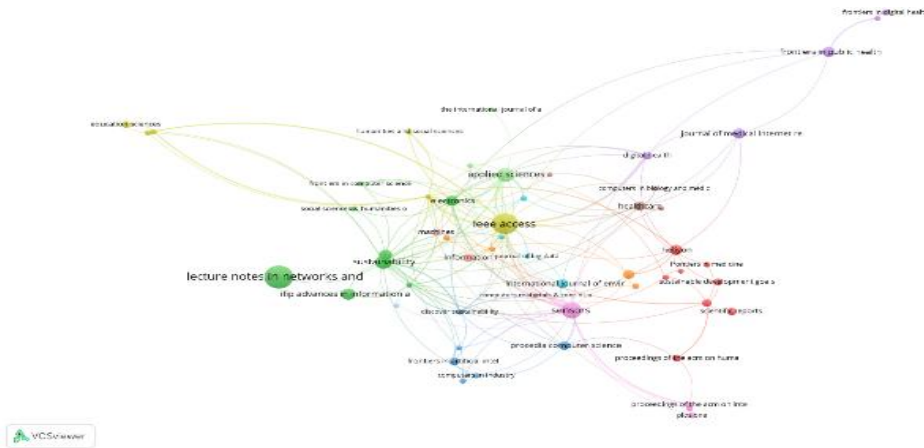


Figure 6: Citations and sources

Figure 6 highlights citation connectivity among influential publication sources in mental health studies. Prominent journals appear as larger nodes due to higher citation influence and research visibility. The interconnected structure indicates active scholarly communication across domains including healthcare, psychology, education, and digital health technologies.

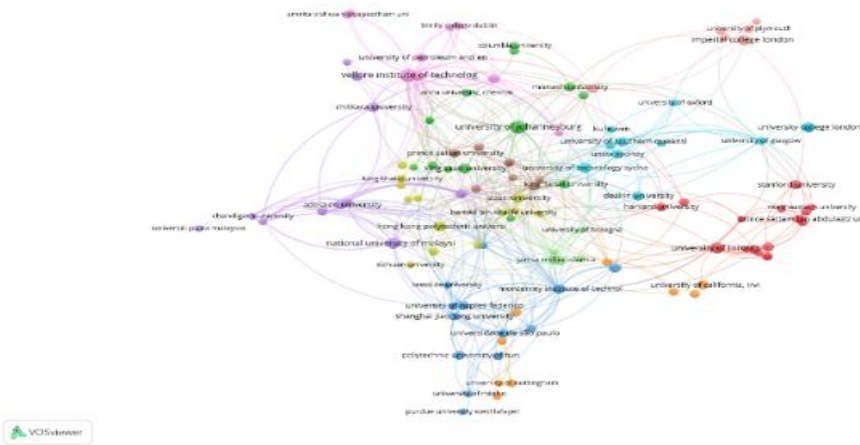


Figure 7: network analysis of institutional collaboration

Figure 7 presents the network analysis of institutional collaboration in mental health research. The visualization highlights collaborative relationships among universities, research institutions, and academic organizations contributing to the field. Each cluster represents institutions working on similar research themes and publication activities. Larger nodes indicate institutions with higher research contribution and stronger collaboration networks, while the connecting links represent cooperative research relationships among institutions. The interconnected clusters reflect the interdisciplinary and global nature of mental health research, involving domains such as healthcare, education, psychology, and technology.



Figure 8: Network visualization analysis of publication sources

Figure 8 illustrates the network structure of publication sources contributing to mental health research. The visualization contains 116 items grouped into 11 clusters with strong citation connectivity among journals and research sources. The map reflects interdisciplinary research involvement across healthcare, education, psychology, information technology, and digital health domains.

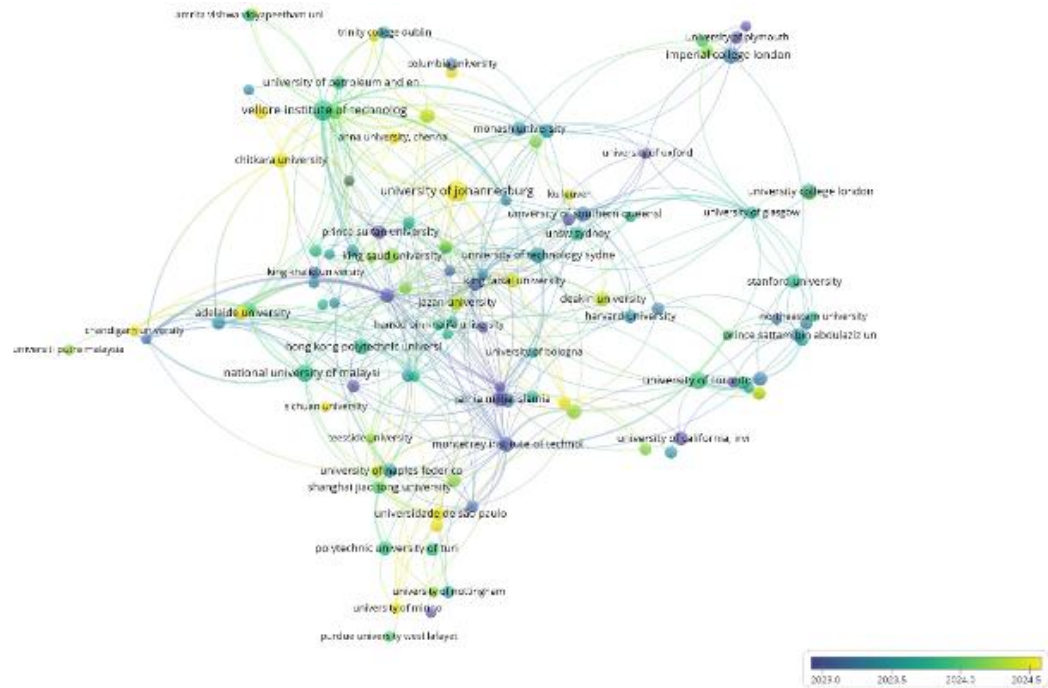


Figure 9: overlay visualization of institutional collaboration

Figure 9 presents the overlay visualization of institutional collaboration in mental health research. The visualization highlights collaborative relationships among universities and research institutions based on publication activities and shared research interests. Different colors represent the temporal evolution of research contributions, where darker shades indicate earlier studies and lighter shades represent recent research activities. Prominent institutions such as the University of Melbourne, Harvard University, Stanford University, and Imperial College London appear as central nodes due to their significant research contributions and extensive collaboration networks. Overall, the network demonstrates strong international collaboration and increasing interdisciplinary research in areas related to psychological well-being, digital mental health, and healthcare studies.

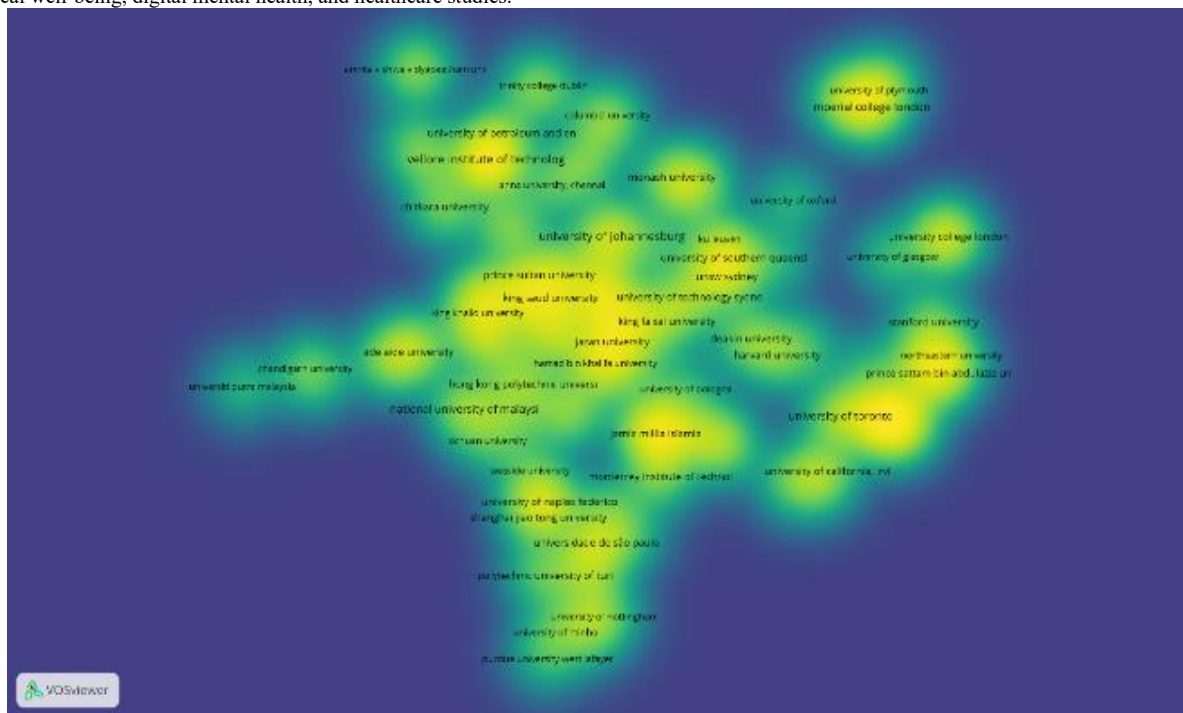


Figure 10: Density visualisation of country-wise collaboration and citation networks

Figure 10 presents the density distribution of country-wise collaboration and citation activity in mental health research. Countries located in highly dense regions demonstrate stronger research productivity, higher citation impact, and extensive international cooperation. The visualization reflects the increasing globalization of mental health studies and growing interdisciplinary collaboration among contributing nations.

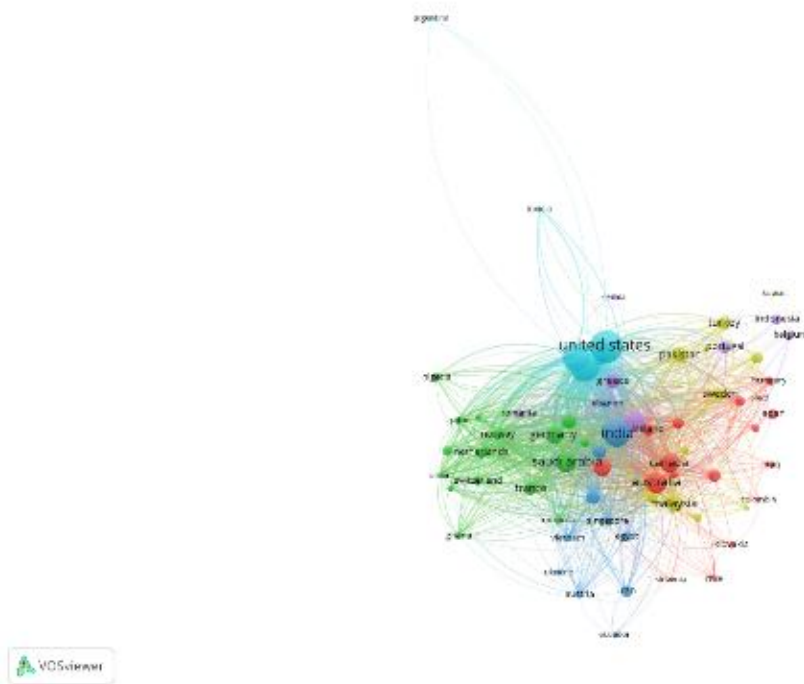


Figure 11: network visualization of country-wise collaboration

Figure 11 depicts international collaboration patterns among countries contributing to mental health research. The connecting links indicate cooperative publication activities and shared research interests among nations. The United States, China, India, the United Kingdom, and Australia appear as major contributors with extensive academic collaboration networks.



Figure 12: network visualization of bibliographic coupling

Figure 12 illustrates bibliographic coupling relationships among countries involved in mental health studies. The network reflects shared citation patterns and common research interests among participating nations. Strong connectivity among countries demonstrates increasing global cooperation and interdisciplinary integration within behavioral healthcare research.

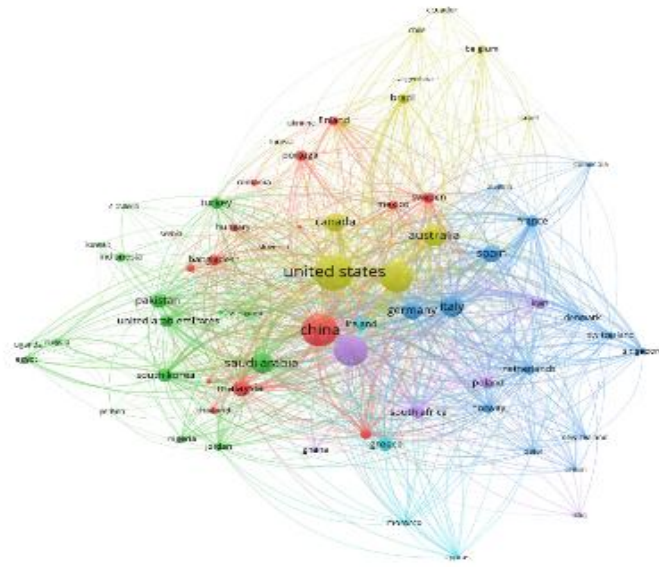


Figure 17: network visualization of bibliographic coupling among countries

Figure 17 presents the bibliographic coupling network of countries in mental health research. The visualization highlights strong intellectual connections among countries based on shared references and similar research interests. Each node represents a country, while the connecting links indicate the strength of bibliographic relationships and citation patterns. The United States and China appear as major contributors with strong research influence and extensive collaboration networks. Other countries such as Australia, Canada, Italy, France, and Germany also demonstrate active participation in global mental health studies. The clustering structure reflects regional and thematic collaboration related to psychological well-being, public health, digital mental health, and healthcare systems. Overall, the network demonstrates growing international collaboration and the global expansion of mental health research.

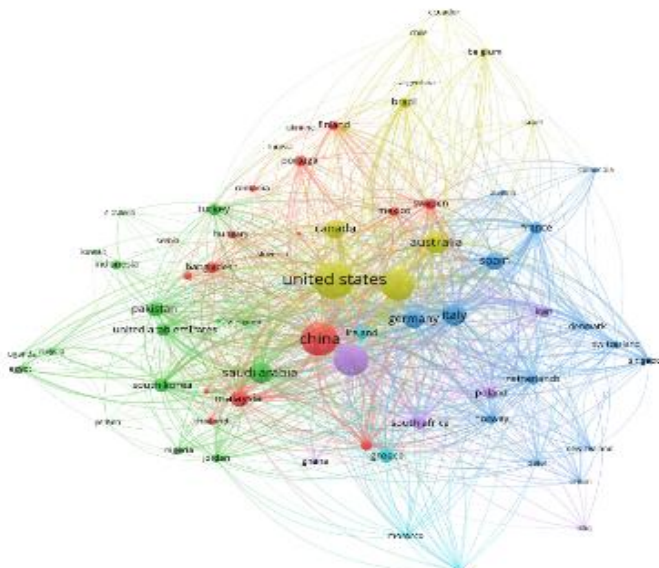


Figure 18: bibliographic coupling network of countries

Figure 18 presents the bibliographic coupling network of countries involved in mental health research. The visualization highlights relationships among countries based on shared references and similar research interests. Each node represents a country, while the connecting links indicate the strength of bibliographic coupling among countries. The United States appears as the most influential and highly connected country, followed by China, Australia, Canada, Italy, and France. The clustering structure reflects regional and thematic collaboration patterns related to psychological well-being, public health, digital mental health, and healthcare systems. Overall, the network demonstrates strong international collaboration and the global expansion of mental health research.

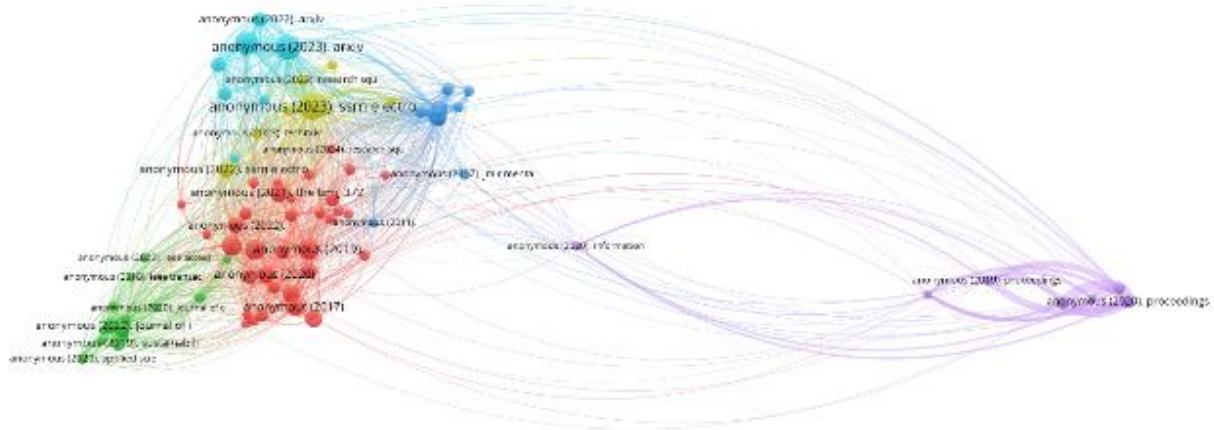


Figure 19: co-citation network visualization of cited references

Figure 19 presents the co-citation network of cited references in mental health research. The visualization highlights relationships among highly cited studies based on shared citation patterns. Larger nodes represent influential references with higher citation impact, while the links indicate strong conceptual relationships among research works. The network consists of multiple thematic clusters related to psychological well-being, digital mental health, healthcare systems, and public health. References within the same cluster are frequently cited together, reflecting common research themes and scholarly influence. Overall, the visualization identifies foundational studies and major research areas shaping the development of mental health research.

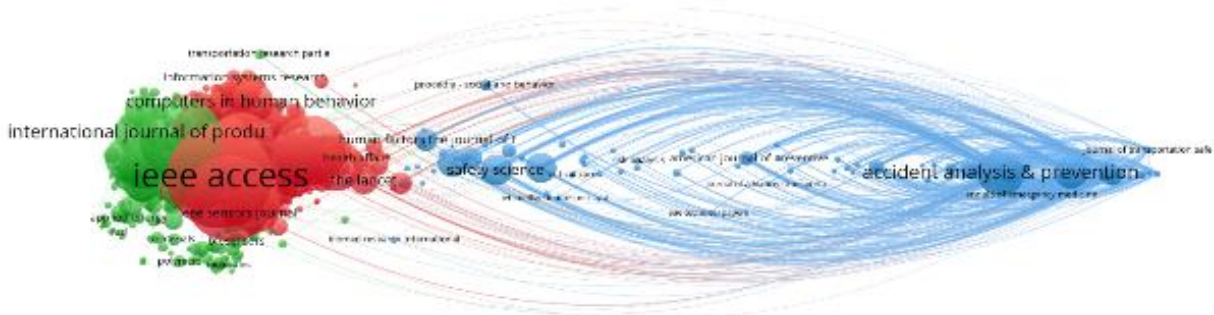


Figure 20: co-citation network visualization of publication sources

Figure 20 presents the co-citation network of publication sources in mental health research. The visualization highlights relationships among journals based on shared citation patterns. Larger nodes represent highly influential journals, while the links indicate strong scholarly connections among publication sources. Major journals such as IEEE Access, Accident Analysis & Prevention, and Computers in Human Behavior appear as significant contributors to the field. The clustering structure reflects the multidisciplinary nature of mental health research, involving psychology, healthcare, behavioral sciences, and digital health. Overall, the network illustrates influential publication sources and the evolving intellectual structure of mental health research.

Conclusion:

The present study examined global developments in mental health research using bibliometric visualization and scientometric mapping techniques. The findings indicate continuous growth in research publications, increasing international collaboration, and expanding scholarly interest in technology-assisted mental healthcare systems. The analysis identified influential authors, institutions, countries, and journals contributing significantly to the field. Emerging research directions such as AI-based counseling, digital healthcare platforms, and online psychological support systems demonstrate the evolving nature of mental health studies. Overall, the study provides valuable insights into research trends, collaboration structures, and future opportunities within the global mental health research landscape.

Limitations:

The study is limited to publications indexed in the Dimensions database and English-language documents published between 2015 and 2025. The analysis focuses primarily on bibliometric indicators and visualization techniques without conducting detailed qualitative evaluation of individual research articles. Future studies may include multiple databases and advanced text mining approaches for broader analysis.

Future Scope:

Future investigations may extend this work by incorporating data from additional scientific databases such as Scopus, Web of Science, PubMed, and IEEE Xplore for broader research coverage. Advanced analytical approaches including machine learning, natural language processing, and topic modeling can further improve thematic exploration and semantic interpretation of mental health literature. Future studies may also focus on specialized areas such as adolescent mental health, workplace stress, digital therapeutics, emotional well-being, and AI-driven mental healthcare systems.

References:

1. 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>
2. Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, 12(20), 8438. <https://doi.org/10.3390/su12208438>
3. Armaou, M., Konstantinidis, S., & Karekla, M. (2024). Evolution of primary research studies in digital interventions for mental well-being promotion: A bibliometric analysis. *International Journal of Environmental Research and Public Health*, 21(3), 375. <https://doi.org/10.3390/ijerph21030375>
4. Aulia, R., & Prasetyo, M. (2024). Bibliometric analysis on mental health of university students. *International Multidisciplinary Business Review*, 7(2), 55–68.
5. Chen, J., Wang, Y., & Li, X. (2024). A bibliometric review based on CiteSpace and VOSviewer for college students' mental health research. *Frontiers in Psychology*, 15, 1287456. <https://doi.org/10.3389/fpsyg.2024.1287456>
6. Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for Information Science and Technology*, 62(7), 1382–1402. <https://doi.org/10.1002/asi.21525>
7. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
8. Fu, J. N., Yu, W. B., Li, S. Q., & Sun, W. Z. (2024). A bibliometric analysis of anxiety and depression among primary school students. *Frontiers in Psychiatry*, 15, 1431215. <https://doi.org/10.3389/fpsyg.2024.1431215>
9. Kessler, M. M. (1963). Bibliographic coupling between scientific papers. *American Documentation*, 14(1), 10–25. <https://doi.org/10.1002/asi.5090140103>
10. Liu, S., Zhang, H., & Zhao, Y. (2024). Global research trends in mental health studies: A scientometric and visualization analysis. *Frontiers in Psychiatry*, 15, 1357821. <https://doi.org/10.3389/fpsyg.2024.1357821>
11. Naeim, M., Rezaei, F., & Ghamari, M. (2024). Mental health research in the Middle East: A bibliometric and scientometric analysis. *BMC Psychiatry*, 24(1), 112. <https://doi.org/10.1186/s12888-024-05589-2>
12. Omega, P. D., & Rahmawati, S. (2024). A bibliometric analysis of positive mental health research using VOSviewer. *Journal of Positive Psychology and Wellbeing*, 8(2), 145–160.
13. Rautela, S., & Sharma, P. (2024). Exploring the mental well-being of higher educational students: A bibliometric analysis. *Cogent Education*, 11(1), 2343522. <https://doi.org/10.1080/2331186X.2024.2343522>
14. Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science*, 24(4), 265–269. <https://doi.org/10.1002/asi.4630240406>
15. 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>
16. Wang, L., Zhao, H., & Chen, Y. (2024). A bibliometric analysis of the knowledge related to mental health during and after the COVID-19 pandemic. *Frontiers in Public Health*, 12, 1387654. <https://doi.org/10.3389/fpubh.2024.1387654>
17. Yiğit, B., Kocak, O., & Demir, A. (2024). Discovering psychological well-being research trends using bibliometric analysis and VOSviewer visualization. *Current Psychology*, 43(5), 4210–4225. <https://doi.org/10.1007/s12144-023-05122-8>
18. Zhang, B., Li, Y., & Huang, X. (2024). Trends in digital mental health interventions: A bibliometric analysis. *Healthcare*, 12(4), 498. <https://doi.org/10.3390/healthcare12040498>
19. Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/10.1177/1094428114562629>
20. Özdemir, Ö. (2024). Bibliometric analysis of mental health nursing literature from 2015 to 2024. *Journal of Psychiatric Nursing*, 15(2), 112–126.
21. Ertem, H. Y., Kılıç, M., & Demirtaş, A. (2025). Bibliometric analysis of mental health research in higher education institutions. *Education and Information Technologies*, 30(2), 2155–2178.
22. Patel, R., & Singh, M. (2023). Emerging trends in workplace mental health research: A bibliometric study. *Mental Health and Social Inclusion*, 27(3), 201–214.
23. Kumar, A., & Verma, S. (2023). Research trends in adolescent mental health: A bibliometric review. *Children and Youth Services Review*, 148, 106915.
24. Sharma, N., & Gupta, P. (2023). Visualization of global mental health research using scientometric techniques. *Library Philosophy and Practice*, 2023, 1–18.
25. Rahman, M., & Islam, T. (2024). Mapping global collaboration in mental health research using bibliometric indicators. *Scientometrics*, 129(5), 2567–2591.