

Shifting Paradigms of Pre-Covid and Post-Covid Literature on Media Literacy: A Bibliometric Study

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The study aims to explore the transformative impact of COVID-19 pandemic on media literacy research, investing trends in publication, authorship, network visualization of co-authorship and co-occurrence of keywords, source preferences before and after the global crisis. The study conducted through a comprehensive analysis of the literature published in the SCOPUS database from 2016-2019 (Pre-COVID) and Post-COVID (2020-2023). The findings reveal a significant surge in media literacy publications, shift towards collaborative research with a notable increase in co-authorship after COVID-19. The study also underscores the rising prominence of certain journals, such as *Journal of Media Literacy Education*, Post-COVID. This study contributes valuable insights into the evolving landscape of media literacy research, emphasizing the critical role of the discipline in navigating the challenges posed by the digital age and the COVID-19 pandemic.

Keywords: *Media literacy, SCOPUS, Pre-COVID, Post-COVID, Bibliometric*

0 INTRODUCTION

The COVID-19 pandemic had a notable influence on how we engage with media and information. All of the sudden, lifestyle of the society has totally changed and people become more inclined towards digital mode for study, work, connect to others, obtain news etc.¹ This period saw a remarkable increase in digital information, commerce, online education etc. which has raised a considerable issue of deciding on real verses fake content. This shift has affected the views of experts and scholars in perceiving media literacy as “an ability to understand, analyze and use media effectively”. After COVID-19 pandemic, research and publications on media literacy significantly increased

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in quantity²⁻⁴ because everyone wanted to figure out the way of dealing the information, misinformation, fake news. Therefore, educational institutes, researchers, organizations and governments started working on how people can be made aware about the information, misinformation, fake news and the way to tackle with it⁵⁻⁶. There were also new studies about teaching media literacy online to help teachers and students in handling teaching digital learning better⁷. Furthermore, because pandemic affected people everywhere in the world, specialists from various fields, i.e., psychology, communication, health etc. all began associating more to better understand as well as to share their insights regarding media literacy. Hence, there was a huge surge in the field of research about media literacy. Therefore, this study is an attempt to present the status of studies on Media Literacy.

1 LITERATURE REVIEW

Asadzandi⁸, et al. explored the trends in media literacy publication using 510 documents from Scopus published upto 2011. Through this study they found the publication growth, document types, languages used, prolific countries, and influential authors like Austin, Hobbs, and Cheung. Publications were predominantly in English, primarily in Social Sciences and Medicine, with Psychology having a significant impact. The study underscores multidisciplinary nature of media literacy, with the US playing a pivotal role in shaping both the quantity and quality of the literature. Zhang, Zhang, and Wang⁹ reviewed 222 articles and analysed 98 of them on media literacy education in school curriculum over three decades. They emphasised on understanding, producing, and interpreting mass media as these are the three main objectives of the study. Variations in media literacy education integration strategies, such as subject-specific or cross-curricular approaches, were seen between European and non-European nations. Bapte² conducted a scientometric study of 1038 documents published in Web of Science during 1989-2020. The study revealed a trend towards recent contribution because majority of articles were published between 2017-2020 and also identified Primack, B., Austin, E. W. and Hobbs, K. as leading authors, countries like South Korea, South Africa, and Norway demonstrated high collaboration ratios. The USA, UK, and Australia received the most citations, and the co-authorship network revealed 175 clusters of authors. In addition to examining definitions and relevant research, Kumar³, et al. carried out a bibliometric analysis of media literacy literature from SpringerLink spanning more than ten years. It determined the growth rates and cooperation indicators and also evaluated journal rankings, authorship patterns, citations, altmetrics, and country-wise distribution to provide insights into the field's evolution and collaborative trends. In order to spot new pattern, a bibliometric analysis by Kutlu-Abu and Arslan⁴ examined 776 media literacy studies published during 2000-2021 to identify emerging trends in this particular

field. It highlighted the increasing interest of the researchers towards some keywords other than media literacy like media and information literacy, information media literacy, citizenship, anti-colonial, communication and education, digital internet era etc. They also underscore the key institutions like Penn state University, University of California etc. along with the most cited authors i.e. Tisdell, Mihailidis, Marin-Gutierrez, Diaz-Parejo and Kellner.

2 OBJECTIVES OF THE STUDY

Exploring the emerging landscape of media literacy research requires a comprehensive comparative analysis between the Pre-COVID and Post-COVID periods to better understand and surge. This will actually help to highlight important shifts emphases within this dynamic field. In view of the above, this study is conducted with the following objectives:

- i. to study the chronological distribution of publications in Pre-COVID (2016-2019) and Post-COVID (2020-2023) phase to spot changes in research output over period of time;
- ii. to investigate shifts in author engagement and provide a network visualization of co-authorship patterns;
- iii. to analyze the distribution of publications across journals to track shifts in research focus;
- iv. to analyse the geographical distribution of publications to understand the global research variations in media literacy;
- v. to examine the shift in media literacy research emphasis before and after COVID-19 by examining changes in thematic keywords;
- vi. to present a network visualization of co-occurrence of keywords in field under study.

3 SCOPE AND METHODOLOGY OF THE STUDY

This study aimed to explore available literature on media literacy from the SCOPUS database during two distinct time periods: 2016-2019 as Pre-COVID and 2020-2023 as Post-COVID. The search strategies, applied to gather the data from the SCOPUS and being presented in the below given Figure-1.

The data retrieval process involved conducting a search on December 14, 2023, specifically focusing on articles where "media literacy" appeared as a phrase within the title of articles. The dataset was segregated into Pre-COVID (2016-2019) and Post-COVID (2020-2023) periods to understand the evolving emphasis on media literacy before and after the global impact of the COVID-19 pandemic. The research focused on fully published articles in the English language to ensure consistency and facilitate analysis. To analyze the gathered data of total 910 documents, i.e., 357 documents in Pre-COVID period and

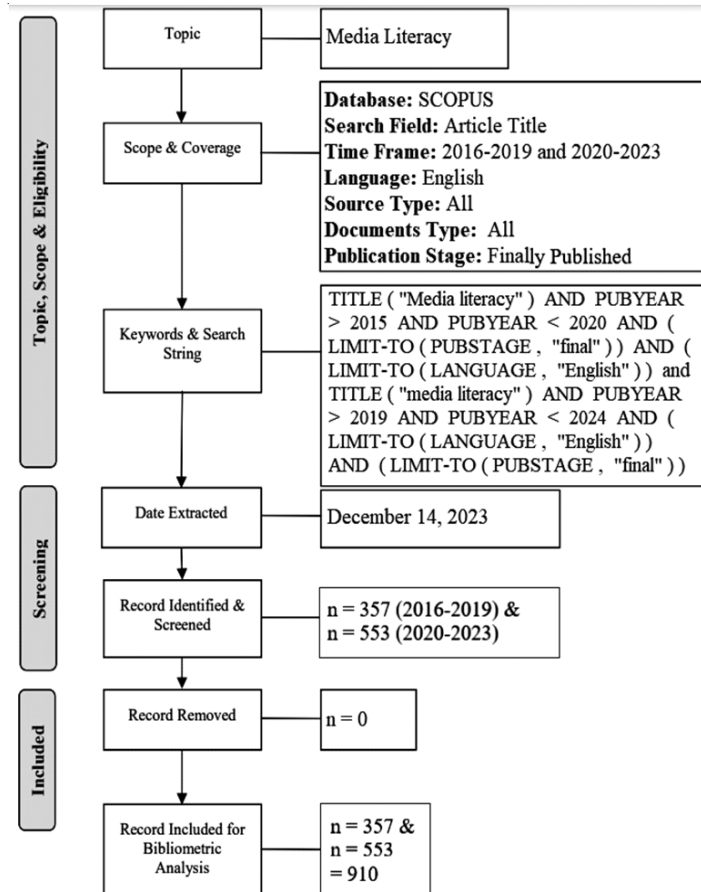


Fig. 1: Flow diagram of the search strategy
Source: Zakaria¹⁰ et al. (2021)

553 documents in Post-COVID period, MS-Excel was used for tabulation, while SCOPUS analysis tools and VOSviewer software were utilized for visual representations, including image representation and network visualization of co-authorship and keyword co-occurrence.

4 DATA ANALYSIS AND INTERPRETATION

Chronological Distribution of Publications

The chronological distribution of publications on media literacy during two distinct periods is presented in the Table 1. In the Pre-COVID period, there were a total of 357 publications, with an average annual count of 89 publications. The trend shows a relatively stable output, fluctuating between 73 to 108 publications annually.

TABLE 1
Chronological Distribution of Publications

Pre-COVID (2016-2019)			Post-COVID (2020-2023)		
Year	Documents	Percentage (%)	Year	Documents	Percentage (%)
2016	88	24.65	2020	135	24.41
2017	73	20.45	2021	119	21.52
2018	88	24.65	2022	168	30.38
2019	108	30.25	2023	131	23.69
Total	357	100	Total	553	100

Whereas, during Post-COVID (2020-2023), there was a noticeable surge in publications with a total of 553 documents, averaging around 138 publications per year. The year 2022 exhibited the highest number of publications (168), representing a significant increase compared to the preceding years. The visual interpretation of the same is as given below:

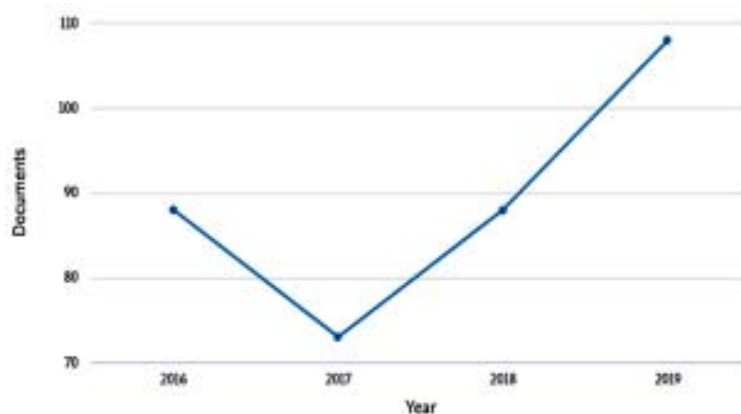


Fig. 2 Pre-COVID Chronological Distribution of Publications

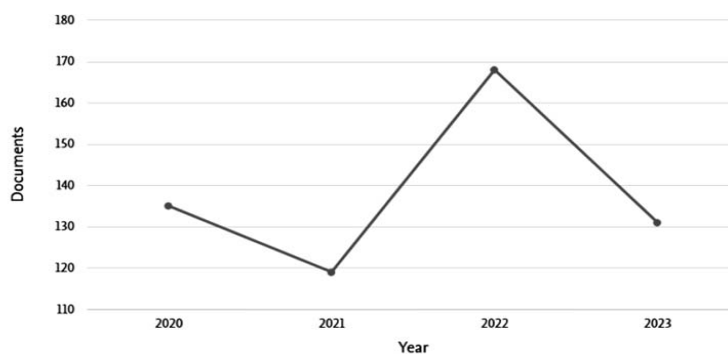


Fig. 3 Post-COVID Chronological Distribution of Publications

The data shows that total 910 documents were published in both the periods and presents a significant increase in the output of media literacy research in the years following the onset of the COVID-19 pandemic. The visible rise in publications after COVID-19 indicate an increased focus on media literacy in response to the challenges posed by the pandemic, such as the spread of misinformation and the amplification of digital media usage.

42 DISTRIBUTION OF PUBLICATIONS BY DOCUMENT TYPE

The document type wise distribution of publications on media literacy during the selected period shows that majority of publications during both the phases remained article, which constitute 57.42% of the total publications 357 during Pre-COVID period and 65.64% of 553 publications Post-COVID. This was followed by book chapters (23.53%), conference papers (10.92%), reviews (2.80%), books (2.52%), notes (1.12%), editorials (0.84%), short surveys (0.56%), and letters (0.28%) during Pre-COVID period and during Post-COVID, this figure remained almost on similar lines, i.e., book chapters (17.54%), conference papers (7.96%), reviews (3.07%), books (2.17%), notes (1.27%), editorials (1.08%).

The analysis on the below Table 2 clearly shows the uptrend in article type as well as in review, note and editorial whereas book chapter, conference paper and letter saw a downtrend. Erratum and retracted are the new entries whereas the short survey is not visible during Post-COVID period. Erratum and Retraction maybe due to wrong information, lack of reliable resources etc.

TABLE 2
Distribution of Publications by Document Type

Pre-COVID (2016-2019)			Post-COVID (2020-2023)		
Document Type	Document Counts	Percentage (%)	Document Type	Document Counts	Percentage (%)
Article	205	57.42	Article	363	65.64
Book Chapter	84	23.53	Book Chapter	97	17.54
Conference Paper	39	10.92	Conference Paper	44	7.96
Review	10	2.80	Review	17	3.07
Book	9	2.52	Book	12	2.17
Note	4	1.12	Note	7	1.27
Editorial	3	0.84	Editorial	6	1.08
Short Survey	2	0.56	Erratum	5	0.90
Letter	1	0.28	Letter	1	0.18
			Retracted	1	0.18
Total	357	100	Total	553	100

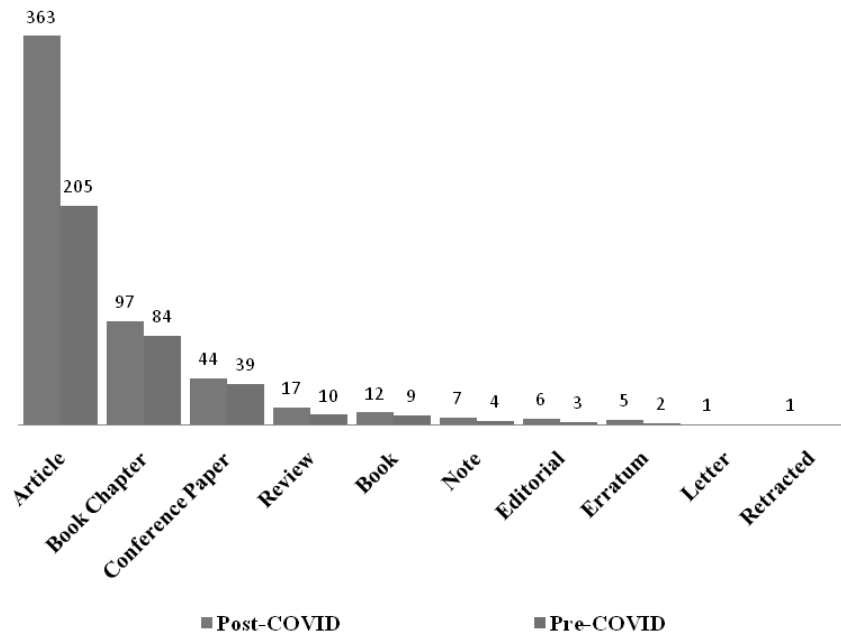


Fig. 4 *Distribution of Publications by Document Type*

The data indicates a consistent preference for articles as the primary form of dissemination for scholarly contributions in media literacy research across both periods, underscoring their significance in advancing knowledge and understanding in this field.

4.3 AUTHOR-WISE DISTRIBUTION OF PUBLICATIONS

In the Pre-COVID phase, the top ten authors included Paxton, S.J., Cheung, C.K., McLean, S.A., Mihailidis, P., and Cabbage, J., each contributing between 6 to 8 publications out of 357. But in Post-COVID years, the top ten authors shifted to Afrilyasanti, R., Barati, M., Basthomi, Y., Jormand, H., and McDougall, J., contributing 5 to 6 publications out of 553.

On the basis of above table, it can be inferred upon that none of the top ten authors of Pre-COVID period out of total 731 could make a place in the Post COVID top ten list of authors. The Post-COVID period also saw a sharp increase in the number of authors contributing documents on media literacy, which went to 1232 in comparison to 731 in Pre-COVID period. This clearly indicates a growing interest among the research fraternity about media literacy as more than 500 new authors start writing on media literacy in this period.

TABLE 3
Author-wise Distribution of Publications

Sr. No.	Pre-COVID (2016-2019)			Post-COVID (2020-2023)		
	Author Name	Documents out of 357	Percentage	Author Name	Documents out of 553	Percentage
1	Paxton, S.J.	8	2.24	Afrilyasanti, R.	6	1.08
2	Cheung, C.K.	7	1.96	Barati, M.	6	1.08
3	McLean, S.A.	7	1.96	Basthomi, Y.	6	1.08
4	Mihailidis, P.	7	1.96	Jormand, H.	6	1.08
5	Cubbage, J.	6	1.68	McDougall, J.	6	1.08
6	Scharrer, E.	6	1.68	Austin, E.W.	5	0.90
7	Tully, M.	6	1.68	Bashirian, S.	5	0.90
8	Vraga, E.K.	6	1.68	Borah, P.	5	0.90
9	Lee, A.Y.L.	5	1.40	Su, Y.	5	0.90
10	Wertheim, E.H.	5	1.40	Babamiri, M.	4	0.72

44 SOURCE WISE DISTRIBUTION OF PUBLICATION

TABLE 4

Source wise distribution of publication

Sr. No.	Pre-COVID (2016-2019)		Post-COVID (2020-2023)	
	Source Title	Documents out of 357 & Percentage	Source Title	Documents out of 553 & Percentage
1	Handbook of Research on Media Literacy in Higher Education Environments	13 (3.64%)	Journal of Media Literacy Education	46 (8.32%)
2	International Handbook of Media Literacy Education	12 (3.36%)	Journal of Children And Media	10 (1.81%)
3	Handbook of Research on Media Literacy Research and Applications Across Disciplines	11 (3.08%)	Frontiers In Psychology	9 (1.63%)
4	International Journal of Media and Information Literacy	11 (3.08%)	International Journal of Media And Information Literacy	8 (1.45%)
5	Journal of Media Literacy Education	11 (3.08%)	International Journal of Multicultural Education	8 (1.45%)
6	Media Literacy Education in China	9 (2.52%)	Media And Communication	8 (1.45%)
7	ACM International Conference Proceeding Series	7 (1.96%)	JurnalKomunikasi Malaysian Journal of Communication	7 (1.27%)
8	Journal of Adolescent and Adult Literacy	7 (1.96%)	Frontiers In Public Health	6 (1.08%)
9	Media Education for A Digital Generation	6 (1.68%)	International Journal of Environmental Research And Public Health	6 (1.08%)
10	Communications in Computer and Information Science	5 (1.40%)	Journal of Health Communication	6 (1.08%)

The analysis on the above table presents the top ten journals in Pre-COVID and Post-COVID period. In the pre-COVID period, the '*Handbook of Research on Media Literacy in Higher Education Environments*', '*International Handbook of Media Literacy Education*', and the '*Handbook of Research on Media Literacy Research and Applications across Disciplines*' were among the primary sources, each contributing 11 to 13 documents out of 221 documents. In contrary, the '*Journal of Media Literacy Education*' emerged as a prominent source after COVID with a significant increase to 46 out of 298 documents, which suggests a significant shift in emphasis or possibly increased interest in publishing within this particular journal. Additionally, other sources like '*Journal of Children and Media*' and '*Frontiers in Psychology*' also maintained a consistent presence, though with a smaller publication count compared to the '*Journal of Media Literacy Education*'.

This shift in source-wise distribution highlighted a significant rise in the prominence of certain journals like the '*Journal of Media Literacy Education*', potentially indicating a focal point for comprehensive research and dissemination within media literacy studies in Post-COVID period.

45 GEOGRAPHICAL DISTRIBUTION OF PUBLICATIONS

The geographical contribution of the publications on media literacy during both the selected periods has been compared in **Table 5**. The analysis on the same reveals that the United States led in research output with 136 publications during Pre-COVID with 38.10% of the total 357 publications. Australia, Spain, and Turkey followed with moderate contributions (4% to 7% of the total publications).

United States maintained the leading position even in Post-COVID period, with a noticeable increase to 206 publications (37.25% of the total 553 publications). China, United Kingdom, and Indonesia emerged with increased contributions compared to the Pre-COVID period, underscoring a shift in the distribution of research output across different countries.

TABLE 5
Country-wise Distribution of Publications

Pre-COVID (2016-2019)				Post-COVID (2020-2023)		
Sr. No.	Country	Documents	Percentage (%) of 357	Country	Documents	Percentage (%) of 357
1	United States	136	38.10	United States	206	37.25
2	Australia	25	7.00	China	36	6.51
3	Spain	19	5.32	United Kingdom	28	5.06
4	Turkey	17	4.76	Indonesia	23	4.16
5	Indonesia	15	4.20	Spain	23	4.16
6	Hong Kong	14	3.92	Australia	21	3.80
7	Canada	12	3.36	Turkey	19	3.44
8	China	12	3.36	India	15	2.71
9	Italy	11	3.08	Italy	15	2.71
10	United Kingdom	11	3.08	Malaysia	15	2.71

Top 10 Contributing Countries

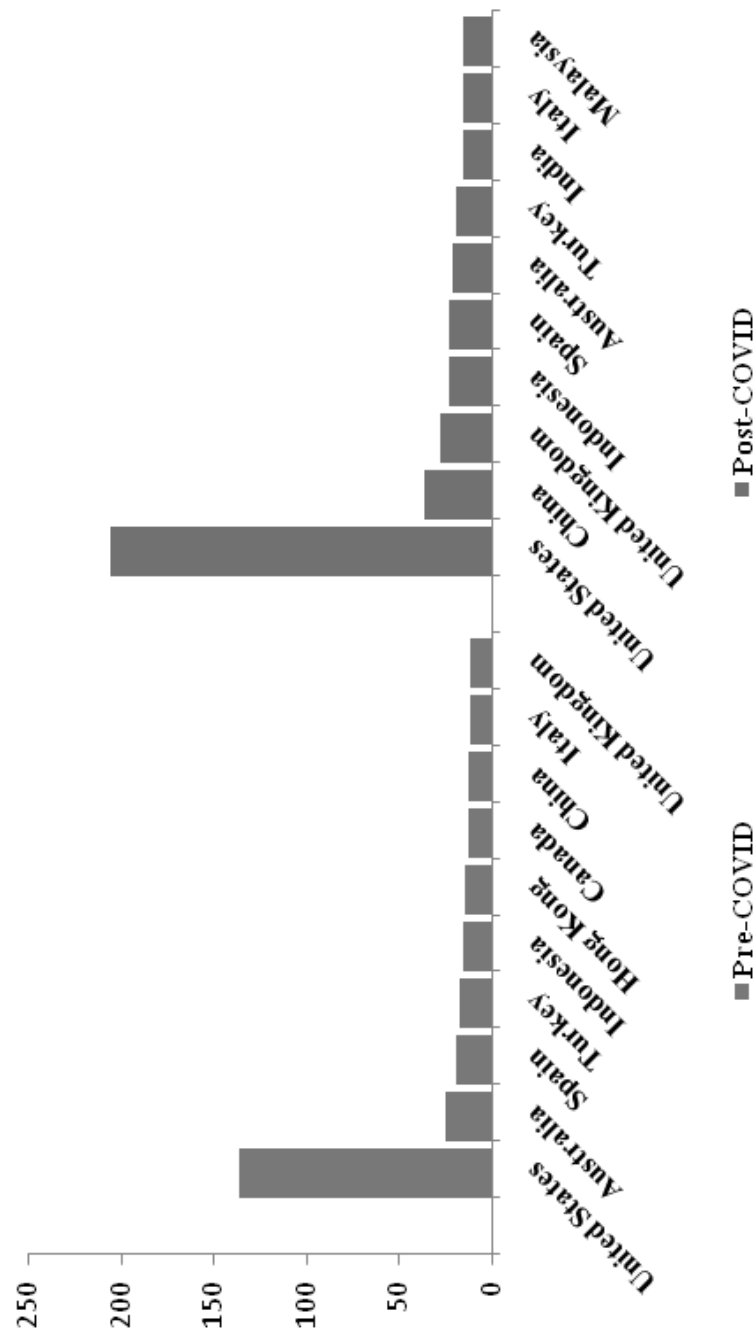


Fig. 5 Country-wise Distribution of Publications

India and Malaysia were not among the top ten countries in terms of the number of documents published in media literacy research during Pre-COVID but in Post-COVID period both India and Malaysia emerged among top 10 contributing countries by publishing 15 documents out of total 553. Whereas, United Kingdom also raised to 3rd place in Post-COVID directly from 10th in Pre-COVID and similarly China raised to 2nd place in Post-COVID from 8th in Pre-COVID period. It is also observed that Australia was second highest producing country before pandemic but shifted to place 7th after COVID while Turkey slow down in research activity during COVID resulting into shifting important rank from 4 to 7. This shift in contributions among various countries implies an evolving landscape in media literacy research, indicating changes in research focus or possibly shifts in global academic priorities influenced by the challenges and transformations in Post-COVID period.

45 KEYWORD-WISE DISTRIBUTION OF PUBLICATIONS

There are 357 documents containing 1294 keywords in Pre-COVID and 553 documents containing 2042 keywords in Post-COVID period. The most common keywords used in media literacy research documents during the Pre-COVID period were 'Media Literacy', 'Human', and 'Education' which indicate a focus on understanding media, human behavior, and educational aspects. However, during Post-COVID period, there was a surge in keywords related to issues like 'Social Media', 'Fake News', 'Misinformation' and 'Disinformation'. These keywords, particularly 'Fake News', 'Misinformation' and 'Disinformation' became more prominent during pandemic, indicating the high interest in understanding and addressing the challenges of false or misleading information spread especially in the context of social media and digital literacy.

TABLE 6
Keyword-wise Distribution of Publications (Top 20 Keywords)

Sr. No.	Pre-COVID (2016-2019)			Post-COVID (2020-2023)		
	Keywords	Numbers out of 1294	Percentage (%)	Keywords	Numbers out of 2042	Percentage (%)
1	Media Literacy	137	10.59	Media Literacy	239	11.70
2	Human	35	2.70	Social Media	76	3.72
3	Education	28	2.16	Human	64	3.13
4	Students	27	2.09	Humans	55	2.69
5	Humans	26	2.01	Literacy	52	2.55
6	Female	25	1.93	Students	39	1.91
7	Literacy	25	1.93	Article	37	1.81
8	Media Education	22	1.70	Female	36	1.76
9	Social Media	20	1.55	Male	33	1.62
10	Adolescent	19	1.47	Critical Media Literacy	32	1.57
11	Male	19	1.47	Fake News	30	1.47
12	Mass Media	19	1.47	Digital Literacy	29	1.42

13	Controlled Study	17	1.31	Misinformation	28	1.37
14	Mass Medium	17	1.31	Media Education	27	1.32
15	Child	16	1.24	Adolescent	26	1.27
16	Health Literacy	14	1.08	Adult	25	1.22
17	Critical Thinking	13	1.00	COVID-19	24	1.18
18	Media	13	1.00	Education	23	1.13
19	Article	12	0.93	Media Literacy Education	23	1.13
20	Information Literacy	12	0.93	Disinformation	21	1.03

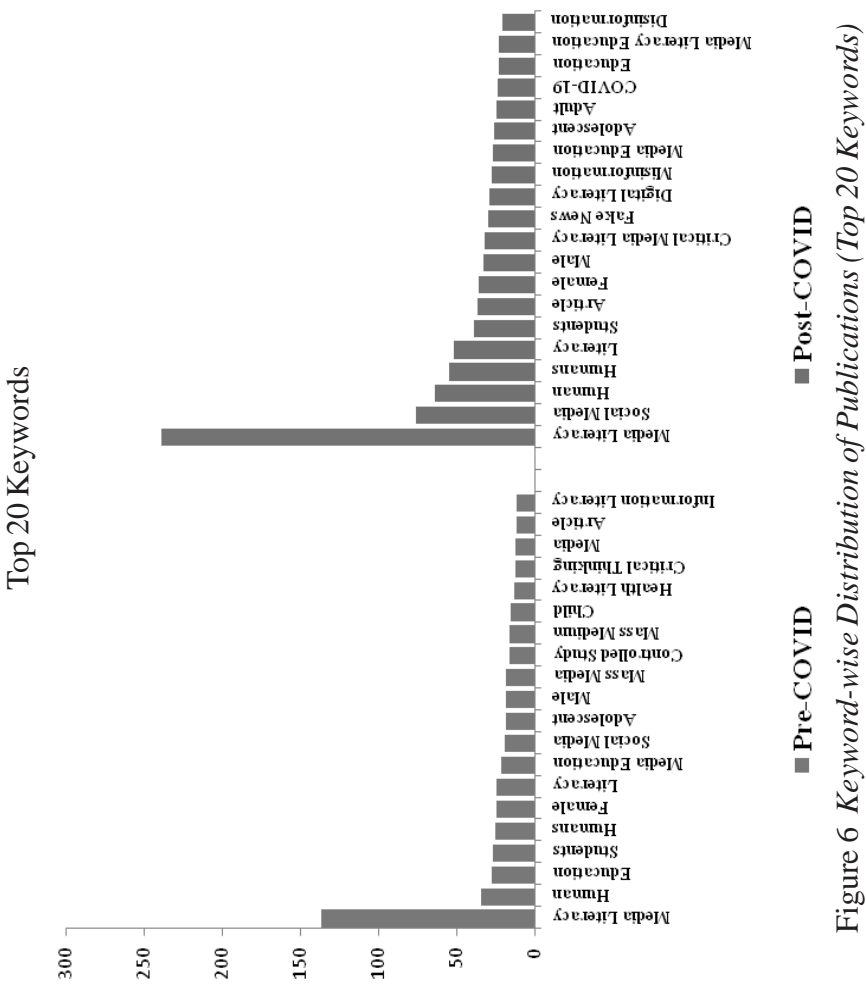


Figure 6 Keyword-wise Distribution of Publications (Top 20 Keywords)

It is worth commenting that social media surge as a significant area of research as it was at ninth position in Pre-COVID while occupy second position in Post-COVID period. Misinformation and disinformation concepts secure significant position during 2020 to 2023. Top of Form

This change as reflected through **Table 6**, highlighting a growing concern and emphasis on combating the spread of false information and improving media literacy to help people better discern trustworthy information from misleading content in the digital age. The surge in these keywords signifies a response to the challenges posed by the pandemic, where the rapid dissemination of information online created a critical need to address and understand the impact of misinformation and disinformation on society.

46 NETWORK VISUALIZATION OF CO-AUTHORSHIP PATTERNS

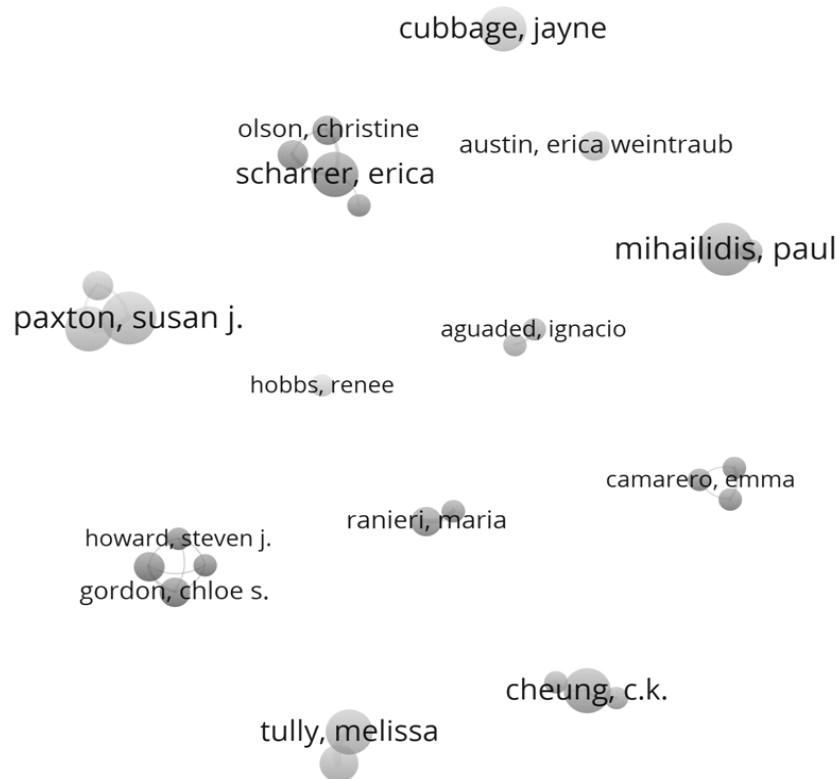


Fig. 7 Network Visualization of Co-authorship Patterns during Pre-COVID

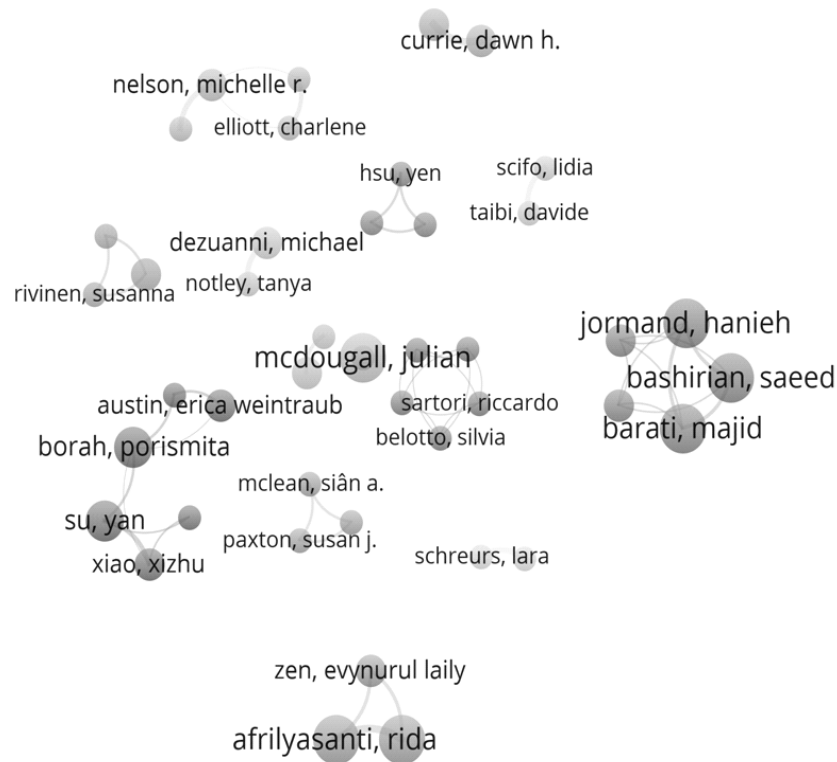
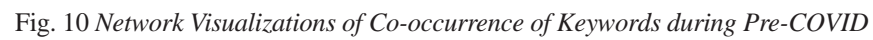


Fig. 8 Network Visualization of Co-authorship Patterns during Post-COVID

47 NETWORK VISUALIZATIONS OF CO-OCCURRENCE OF KEYWORDS

The network visualization is constructed to present co-authorship patterns by using VOSviewer based on a similar criterion as thresholds (i.e. a minimum of 3 documents and 3 citations per author) for both periods and presented in Figure 7 & 8. The analysis reveals that out of 731 authors, only 28 (12 clusters) met these thresholds in pre COVID Period while 49 (20 clusters) out of 1232 authors met these criteria in the post-COVID period. In both analyses, connections between authors reflected their collaborations and were weighted based on shared documents.



6 CONCLUSION

The above given comprehensive analysis reveals the evolution of media literacy research and helps in getting important insights into how this field has changed over time. Looking at the number of publications Pre-COVID and Post-COVID indicate a significant increase in scholarly output. This increase figured out a growing interest in media literacy, reflecting how the COVID-19 crisis impacted, how information is shared and consumed globally. Digging deeper into changes, there is an evident increase in researchers working together, seen in the larger author groups and more interconnected research themes during Post-COVID period.

Contribution of various countries to the research on media literacy shows differences, having a sense of regional priorities and influences shaping media literacy discussions. Looking at the keywords used in research before and after the pandemic highlighted a visible shift, with more attention on topics like social media literacy, fake news, misinformation, disinformation and critical thinking and digital engagement during Post-COVID period. Visualizing how these keywords appeared together showed how media literacy research themes are interconnected.

REFERENCES

- 1 MALLIDI (P) (2021). Impact of COVID-19 on literacy rate. Readers' blog by Times of India. Available at: indiatimes.com.
- 2 TE, (VD) (2021). Media literacy: A scientometric study based on a web of science during 1989-2020. *Journal of Library & Information Technology*. 41(4)203-207. doi:10.14429/djlit.41.4.16301.
- 3 KUMAR(A), PACHUAU (L) and BURAGOHAIN (D) (2021). Media literacy and its significance for the past one decade: a study of literature published by Springer link database through the bibliometric lens. *Library Philosophy and Practice*. 1-24.
- 4 KUTLU-ABU(N) and ARSLAN(R) (2023). Evolving trend of media literacy research: A bibliometric analysis. *Journal of Media Literacy Education*. 15(1): 85-98. doi:10.23860/JMLE-2023-15-1-7.
- 5 DUMITRU (EA), IVAN (L) and LOOS (E). A generational approach to fight fake news: In search of effective media literacy training and interventions. In: Gao, (Q), Zhou, (J), Ed. *Human Aspects of IT for the Aged Population. Design, Interaction and Technology Acceptance*. 2022; 291-310. Springer, Cham. doi:10.1007/978-3-031-05581-2_22.

- 6 MISAL(D) (2019). Here's how India is fighting the problem of fake news. Analytics India Magazine (AIM). Available at: analyticsindiamag.com.
- 7 DOS SANTOS(L M) (2022). Online learning after the COVID-19 pandemic: Learner's motivations. *Frontiers in Education*, 7. 1-13. doi:10.3389/feduc.2022.879091.
- 8 ASADZANDI(S) and et. al. (2013). A scientometric study of media literacy literature based on Scopus record through 2011. *Journal of Paramedical Sciences*. 4(1): 49-55.
- 9 ZHANG (L), ZHANG (H) and WANG (K) (2020). Media literacy education and curriculum integration: A literature review./*International Journal of Contemporary Education*./3(1): 55-64.
- 10 ZAKARIA (R) and et. al. (2021). Worldwide melatonin research: a bibliometric analysis of the published literature between 2015 and 2019. *Chronobiology International*. 38(1): 27– 37. doi: 10.1080/07420528.2020.1838534.