

BIBLIOMETRIC ANALYSIS OF LIBRARY ANXIETY RESEARCH DURING THE YEAR 2003-2022

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Abstract : The present study uses bibliometric analysis methods to evaluate publishing trends and current status in the field of library anxiety research output between 2003 and 2022. A total of 153 records were retrieved from the Elsevier Scopus database. *MS Excel and Vos viewer were used to analyze the collected data.* It was found that the highest number of papers (9.15%) were published in 2016 and the lowest number of papers (1.31%) were published in 2005 and 2009. M. A. Anwar has produced the most number of contributions in the field of library anxiety with 14 publications from 2003 to 2022. The United States contributed about 54.90% of total contributions. This study may be able to describe and explicate the patterns of performance and the impact of library anxiety research as well as find ways to further develop this field.

Keywords- Scopus, Bibliometrics, Citation analysis, Library Anxiety, Visualization

1.0 Introduction

The concept of library anxiety can be tracked back to Constance Mellon study of 1986. Since then various research have engaged with the concept of library anxiety. As a result, the last 20 years have seen many attempt to define, validate & further conceptualise the various facet of library anxiety. *The ultimate objective of library establishment has been compromised due to phenomenon of library anxiety among library users.* Library anxiety refers to the feelings of fear, stress, and apprehension that individuals may experience when using library resources or engaging in library-related activities (Kuhltau, 1988). It is a phenomenon that affects a significant portion of library users, particularly students, and can have adverse impact on their information-seeking behaviour and overall academic performance.

Bibliometrics is a field of study that focuses on analyzing, measuring various aspects of scientific literature, including the impact and influence of scholarly publications. It involves the use of statistical methods and techniques to quantitatively assess a wide range of bibliographic data, such as citation counts, authorship patterns, and publication trends. Bibliometric analysis provides valuable insights into the productivity, visibility, and impact of individual researchers, research institutions, and scientific disciplines. It plays a crucial role in evaluating the quality and significance of scientific output, aiding in decision-making processes for funding, promotion, and research policy. Additionally, bibliometric analysis helps identify emerging trends, collaborations, and knowledge gaps, thus contributing to the advancement of scientific knowledge and the improvement of research processes (Patel et al., 2022). This introduction aims to provide an overview of the key concepts and applications of bibliometrics and highlight its importance in the academic and research community.

An analysis of bibliometric data has been carried out on the research in the field of Library anxiety to understand the latest trend and pattern of publication distribution. This study is restricted to the period 2003-2022.

2.0 Review Of Literature

Numerous studies have been conducted on bibliometrics. During the study, some literature related to the topic was reviewed.

Trabelsi and Parambil (2023) in their study use the bibliometric and visual analysis method to highlight recent trends and future direction research in the application of AI in suspicious activity recognition. Total 1713 documents retrieved from the Scopus database. The finding indicates that the highest number of publication and H index value from Chinese Academy of Sciences followed by Indian & US institution dealing with machine learning, anomaly detection, behavioural research. Jingli et al. (2023) examined 1872 documents retrieved from the Scopus database in order to perform a bibliometric analysis of literature causing anxiety, depression etc. reality. This study identified G. Riva as prominent author, The annual Review of Cybertherapy and telemedicine as most relevant journals and university of Washington as top institution in research outputs on Virtual reality-anxiety and depression during the study period 1995-2002.

Luo et al. (2022) Conducted similar study for the period between 1990 –2020 in health technology field. The study analysed the 6663 articles retrieved from Web of science database found that publication in health technology are increasing exponentially diverse in twenty core research topics specially in COVID 19 prevention and e-health. Helmy et al. (2022) conducted a bibliometric analysis of COVID-19 anxiety related publications. In total, 796 papers were retrieved from Web of Science for the period 2020-2021. They found that Chen Lei is most prolific author and international journals of Environmental research and public health is preferred source for publishing research articles. The most productive countries for COVID-19-related publications were Turkey and the United States.

Likewise, Gardijan (2021) performed a literature review of Library Anxiety concluded that library anxiety is real phenomenon have negative impact on well-being of library users that can be alleviated by library staff. Using bibliometric techniques, Garg and Singh (2020) analyze the papers published in the DESIDOC Journal of Library and Information Technology (DJLIT) for the period 1992-2019. A total of 16,98 articles were published in the period 2012-2015 by 39 countries. The highest percentage of articles were published by Indian authors (86.1%), followed by American authors.

3.0 Objective Of The Study

The following are the main objectives of this study:

- To Investigate the year-wise distribution of papers and citation during the studied period
- To find out most prolific author & authorship pattern of Publication
- To find out Institutional distribution of contributors
- To explore geographical distribution of Publication
- To determine the document type distribution of Library anxiety research
- To find out the frequency of co-occurrence of keywords

4.0 Methodology

The data presented in this paper were accessed from Elsevier’s Scopus database. In order to conduct the study, the basic data relating to total publications for the period 2003-2022 has been collected. This search was conducted using the terms library anxiety. To avoid bias caused by daily database updates, the search was conducted on one day, 19 April 2023. This study included only original articles, book chapters, conference papers, and reviews. A total of 153 items were found that met the inclusion criteria. An extensive investigation was conducted using Microsoft Excel to provide the details for all retrieved data and Vos Viewer software is used for data visualization.

5.0 Data Analysis & Interpretation

Table 1 examine the growth of research papers published in library anxiety research from 2003-2022. Out of total 153 publications, 14 (9.15%) were the highest numbers which were published in 2016, and the lowest numbers 2 (1.31%) of publication published in the year 2005 and 2009 respectively. 153 articles in library anxiety research received 1847 citations. The number of citations peaked in the year 2021 at 248 (13.43%), whereas in the year 2005, there were only 8 (0.43%) citations. Overall, the average number of citations per paper is 12.07. The variation in AGR is due to the fact that the number of publications does not increase consistently every year.

Table 1 : Showing year-wise distribution of papers & citations

YEAR	TP	TP (%)	TC	TC (%)	ACPP	AGR (%)
2003	4	2.61	0	0.00	0.00	0
2004	12	7.84	10	0.54	0.83	200
2005	2	1.31	8	0.43	4.00	-83.33

2006	3	1.96	17	0.92	5.67	50
2007	4	2.61	26	1.41	6.50	33.33
2008	3	1.96	30	1.62	10.00	-25.00
2009	2	1.31	24	1.30	12.00	-33.33
2010	6	3.92	64	3.47	10.67	200.00
2011	12	7.84	100	5.41	8.33	100.00
2012	5	3.27	58	3.14	11.60	-58.33
2013	8	5.23	71	3.84	8.88	60.00
2014	7	4.58	96	5.20	13.71	-12.50
2015	12	7.84	97	5.25	8.08	71.43
2016	14	9.15	187	10.12	13.36	16.67
2017	8	5.23	130	7.04	16.25	-42.86
2018	6	3.92	94	5.09	15.67	-25.00
2019	11	7.19	186	10.07	16.91	83.33
2020	9	5.88	196	10.61	21.78	-18.18
2021	13	8.50	248	13.43	19.08	44.44
2022	12	7.84	205	11.10	17.08	-7.69
Total	153	100.00	1847	100.00	12.07	

TP= Total Publication, TC=Total Citation,ACPP= Average Citation Per Publication,AGR=Annual Growth Rate

AGR stand for annual growth rate represent the annual increase or decrease in the number of publications in a particular area. In this study below given formula is used to determine the AGR:

$$AGR = \frac{TP1 - TP0}{TP0} \times 100$$

Here

AGR = Annual Growth Rate in percentage

TP0 = Total Publication in Base year

TP1 = Total Publication in Current year

As indicated in Table 2 shows the top contributor in field of Library anxiety research. M.A. Anwar is in the first rank with 14 publications followed by A J Onwuegbuzie and M.A. Naveed, with 2nd and 3rd rank respectively. In case where total number of documents contributed by two or more authors is same than it those case their total citation is used for deciding their rank in the field of Library anxiety research.

Table 2: Top 10 Prolific author in the field of Library Anxiety Research

Rank	Authors	TP	TC
1	M. A. Anwar	14	228
2	A J Onwuegbuzie	9	267
3	M.A. Naveed	9	104
4	N.H.Karim	8	76
5	Q.G. Jiao	7	202

6	S.U. Jan	7	92
7	N.F.Warraich	4	57
8	K.M.T. Collins	3	60
9	N.A. Ansari	3	39
10	S. Black	3	28

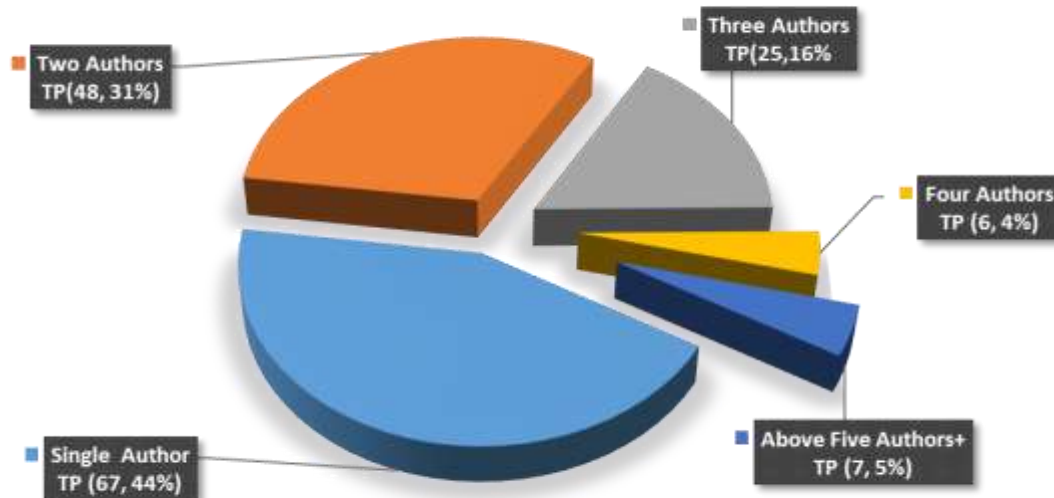


Figure 1. shows the authorship pattern in the field of Library Anxiety research

The co-authorship analysis is a vital measure to identify the collaborative pattern in research output across all fields. The co-authorship network of authors with ≥ 2 documents including 23 nodes (authors) was drawn in 8 clusters represented with various colours in figure 2. This network map reveals that scholars working on Library anxiety have low cohesion and operate in small groups.

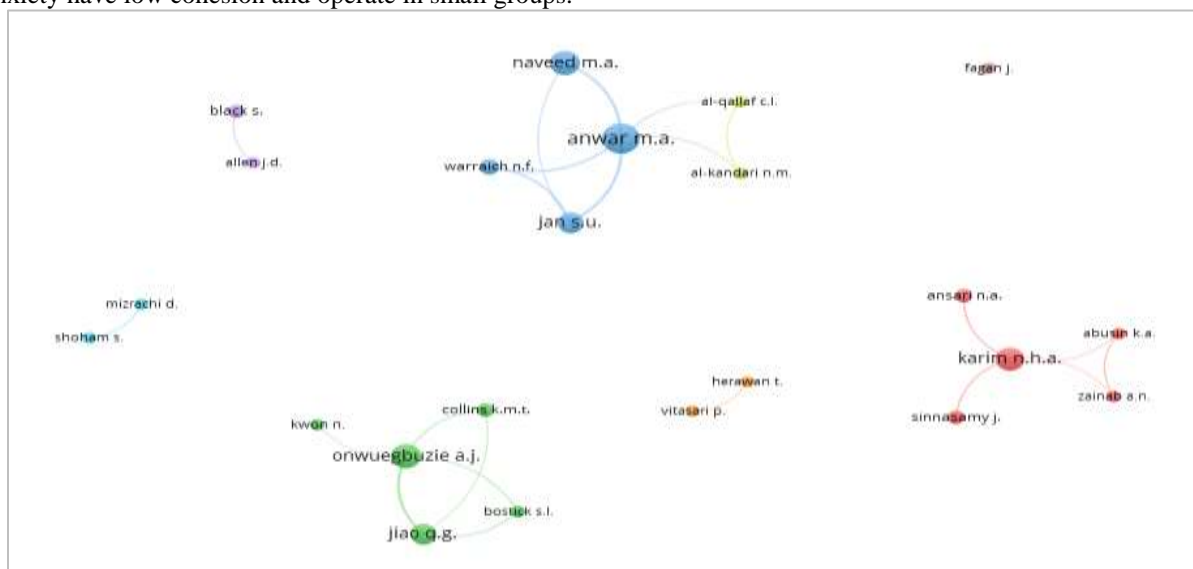


Figure 2 shows the co-authorship network of authors in Library anxiety

Figure 3 reveals that in the field of library anxiety research, articles rank as the preferred communication method with 131 (85.62%), followed by review papers with 10 (6.54%), books with 7 (4.58%), and editorials with 3 (1.96%) and 2 (1.31%), respectively.

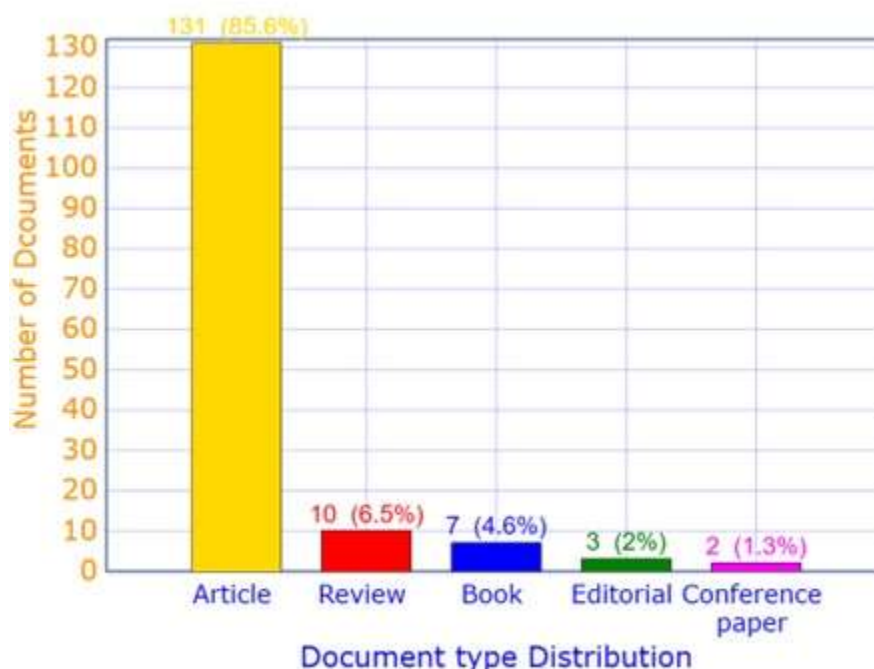


Figure 3 show the number of Document according to its type.

Table 3 reveal that out of 153 articles, the highest number 84 (54.90 %) has been contributed by United states researcher which are followed by 15 (9.80 %) by Pakistan's authors, Malaysia is in the 3rd rank with 12(7.84%) articles. Among all publications, 99.69% are published in English Language , while one is published in Persian and Spanish.

Table 3 : Geographical Distributions Of Publications

Countries	No. of Papers	Percentage
United States	84	54.90
Pakistan	15	9.80
Malaysia	12	7.84
Iran	5	3.27
Australia	4	2.61
Canada	3	1.96
India	3	1.96
Jamaica	3	1.96
Jordan	3	1.96
Nigeria	3	1.96

Table 4 present the major institutions who significantly contributed ≥ 3 articles in the study period 2003-2022. The university of the Punjab is in the top rank with 13 (19.70%) documents followed by Universiti Malaya with 11 (16.67 %) documents etc.

Table 4 : List of Major Affiliations

Institutions	Documents	Percentage
University of the Punjab, Lahore	13	19.70
Universiti Malaya,	11	16.67
City University of New York	7	10.61
University of South Florida, Tampa	7	10.61
Baruch College, New York	7	10.61
University of Sargodha	6	9.09
University of Arkansas	3	4.55
University of Ibadan	3	4.55
Long Island University	3	4.55
Allama Iqbal Open University	3	4.55
Kuwait University	3	4.55

As indicated in Table 5, a journal titled "Library Philosophy and Practice" is ranked first with 13 publications, followed by "College and Research Libraries" and "Public Services Quarterly" for publication in field of library anxiety research.

Table 5: Top 10 Academic Journals in the field of Library anxiety

S. No.	Journal	Country	Number of Publication
1	Library Philosophy and Practice	USA	13
2	College And Research Libraries	USA	8
3	Public Services Quarterly	USA	8
4	Journal Of Academic Librarianship	UK	7
5	Malaysian Journal of Library and Information Science	Malaysia	7
6	College And Undergraduate Libraries	USA	6
7	Library Review	UK	6
8	Reference And User Services	USA	6
9	Library And Information Science Research	UK	5
10	Evidence Based Library and Information Practice	Canada	4

6.0 Keyword analysis

The keywords define the major subject of the scholarly paper (Mashroofa et al., 2023; Patel et al., 2021). Occurrence analysis of keywords is done by VOS viewer visualization software. Out of the 374 total keywords, there were 83 highly occurring terms, with a minimum of 2 occurrences and at least 2 total link strengths, as visualised in Figure 4. The term "Library Anxiety" has the highest retrieval strength with 80 occurrences and 200 total link strength (TLS), followed by "Academic Libraries" with 23 occurrences and 63 total link strength, "Information Literacy" with 17 occurrences and 58 total link strength; "Students" with 11 occurrences and 43 total link strength; and others with less than 10 number of occurrences.

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