

# Global Scientific Trends on Library Anxiety from 1927 to 2025: A Data-Driven Bibliometric Analysis

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## ABSTRACT

This study examines the global scientific literature on library anxiety. This study employs bibliometric analysis using the Lens.org database. Using the lens.org database, 560 data points were extracted. The study examines author productivity, journal productivity, and the correlation between PlumX metrics. The study uses R Studio, SPSS, and Lens.org for performance and science mapping analysis. The finding reveals a significant growth in research on library anxiety literature, reflecting growing scholarly interest in this domain. Anthony J. Onwuegbuzie was the most prolific author, Nature was the most productive journal, while Springer Science and Business Media LLC was the leading publisher, with 156 articles. The PlumX metric analysis demonstrated a strong correlation between citation counts, captures, and mentions but no significant relationship with article usage or social media activity. The United States dominated library anxiety research, followed by Canada and Australia. This research offers a systematic bibliometric and altmetric analysis of library anxiety research. The research presents new information on research trends, influential authors, and usage patterns, which can guide subsequent studies and library management practices for improving the student experience.

**Keywords:** Library anxiety; Bibliometric analysis; PlumX metrics

## 1. INTRODUCTION

Library anxiety is a psychological barrier that hinders students' ability to effectively use library resources<sup>1</sup>. It encompasses fear, stress, and discomfort when engaging with library materials, searching for information, or interacting with librarians and staff<sup>2-3</sup>. Onwuegbuzie & Jiao<sup>3</sup> further explored the antecedents and consequences of library anxiety, linked to academic performance, information-seeking behaviours, and research efficacy. Modern conceptualisation of library anxiety includes technological barriers, acknowledging that digital library interfaces and online databases can also include anxiety, especially among students with poor information literacy skills<sup>4</sup>.

Bibliometric research offers a systematic approach to studying the scholarly environment of a field, enabling authors to analyse its development and international impact, with previous studies utilising Web of Science and Scopus databases.

The Lens.org database, an extensive open-access bibliometric resource, has not yet been used in a study on library anxiety. It provides a robust platform for examining academic literature across various disciplines, combining metadata from patents, research papers, and institutional repositories<sup>5</sup>.

This study uses Lens.org to conduct a bibliometric analysis of library anxiety, providing an organised overview of research, scholarly importance, major contributors, and new themes. The results will enhance knowledge on library anxiety and inform future research and policy advice on academic libraries and enhancing student resource usage.

### 1.1 Objectives

- To examine the annual productivity.
- To investigate the author's productivity per number of articles, citations, and institutions.
- To study the journal's productivity per number of articles, publisher, and journal.
- To examine country productivity.
- To study keyword analysis.
- To investigate the most productive articles.
- To investigate the correlation between PlumX metrics.

## 2. LITERATURE REVIEW

### 2.1 Library Anxiety

Mellon<sup>1</sup> identified library anxiety as a phenomenon, library anxiety encompasses the emotions of inadequacy, stress, apprehension, and cognitive disarray that individuals, particularly college students, may encounter when seeking information through library resources<sup>3</sup>. Many

students experience discomfort during library visits<sup>6</sup>, which significantly impacts students' academic success and overall well-being<sup>7</sup>. Factors contributing to library anxiety include the size of the library, lack of knowledge about resource locations, and unfamiliarity with research processes<sup>6</sup>.

## 2.2 Conceptual Framework

Constance A. Mellon's seminal 1986 article, "Library Anxiety: A Grounded Theory and Its Development"<sup>1</sup>. It is widely recognised as the foundational work in library anxiety. For measuring the level of anxiety, by Bostick<sup>8</sup> developed a scale and identified five factors- "barriers with staff", "affective barriers", "comfort with the library", "knowledge of the library", and "mechanical barrier"<sup>8</sup>. Several internal and external factors influence library anxiety-environmental factors include the library's size and complexity, the staff's perceived inaccessibility, and restrictive institutional regulations<sup>9</sup>. Personal factors also play a significant role in anxiety levels, including low self-efficacy in research, unpleasant library experiences in the past, and a lack of confidence in retrieving knowledge<sup>3</sup>. Additionally, technological factors have become increasingly relevant in modern academic settings, such as a lack of digital literacy training, fear of electronic search tools, and difficulty navigating online databases, contributing to increased library anxiety<sup>10-11</sup>. A published literature revealed that various obstacles, namely "barriers with staff", "affective barriers", "comfort library barriers", "knowledge of the library", "mechanical barriers", and "resource barriers", significantly influence attitudes toward the use of the digital library system<sup>12</sup>. Similarly, Popoola and Olajide<sup>13</sup> states that library anxiety and computer literacy skills affect the use of information resources.

Library anxiety has several negative consequences for students. Previous research indicates that decreased academic performance and information access problems influence research quality and writing ability<sup>14</sup>. It also influences avoiding library resources<sup>10</sup> and lower information literacy skills<sup>15</sup>.

## 2.3 Library Anxiety Impact on Students

The negative consequences of library anxiety extend beyond students' temporary discomfort. It also has a significant impact on their well-being and academic performance. Numerous studies have found a link between poorer academic performance and higher levels of library anxiety<sup>1,7,15-18</sup>. Students' anxiety is frequently linked to their lack of confidence in their information literacy abilities, which subsequently hinders their capacity to finish tasks and achieve academic success<sup>15</sup>. Onwuegbuzie & Jiao<sup>3</sup> further demonstrated that library anxiety contributes to academic procrastination, where students delay research activities due to feelings of intimidation and self-doubt. Similarly, Kwon<sup>17</sup> highlights

that students with poor critical thinking dispositions tend to have higher levels of library anxiety, further exacerbating their difficulties in engaging with academic resources. Moreover, psychological factors and environmental and institutional aspects also play a crucial role in library anxiety. Van Kampen<sup>19</sup> validated the multidimensional library anxiety scale, which highlights mechanical barriers, staff interaction, and comfort levels within the library space as contributing factors. If students recognise library staff as unapproachable or if library layouts are difficult to navigate, their anxiety increases, reducing the likelihood of practical library usage<sup>16</sup>. For instance, a study conducted by Gardijan<sup>20</sup> reveals that undergraduate students feel a higher level of anxiety in comparison to graduate students.

Similarly, Adeeko & Adetimirin<sup>21</sup> found that 85 % of college freshmen had a moderate level of anxiety, with insufficient knowledge being the most common barrier. Conversely, Sinha and Brar<sup>22</sup> reveal that postgraduate students face challenges due to insufficient knowledge in utilising libraries, a lack of familiarity with technology-based services and tools, as well as diminished self-confidence. Academic success significantly affects the use of library resources<sup>23</sup>.

This study contributes to the literature by offering a detailed bibliometric assessment of research on student library anxiety. It provides a unique perspective on the field's evolution, identifies key authors, journals, and geographical trends, and examines alternative impact metrics through PlumX analysis. The findings are a foundation for future research and policy development, helping libraries and educators enhance student engagement and academic success.

## 3. METHODOLOGY

In this study, the researcher used the Lens.org database, which hosts more than 200 million academic papers, to carry out a bibliometric analysis of studies on students' library anxiety. Lens.org is a powerful database for mapping research-innovation links<sup>5</sup>. This study is based on library anxiety among students and analyses significant bibliometric analyses such as annual productivity, productive journals, most prolific authors, productive institutions, and field of study mapping. A well-crafted search query (Table 1) was created to retrieve relevant studies, resulting in 560 data points. The data was systematically analysed using Microsoft Excel, R statistical package (Biblioshiny), and SPSS (Statistical Package for the Social Sciences). Table 2 offers a descriptive analysis of the extracted dataset, which highlights important trends and distributions. The Journal Citation Reports (JCR) 2024 was also used to evaluate the Impact Factor (IF) of the most productive journals within the discipline. PlumX is used for altimetric analysis. PlumX is an online platform that offers insights into the utilisation and influence of research and academic outputs. It is part of a growing niche community of altimetric data providers<sup>24</sup>.

**Table 1. Search query performed in lens.org**

Data base	Search query
Lens.org	( Title: ( “library anxiety,” OR ( “library stress,” OR ( “library satisfaction,” OR ( “library issues,” OR ( “library concerns,” OR ( “student library experiences,” OR “library usage anxiety” ) ) ) ) ) OR ( Abstract: ( “library anxiety,” OR ( “library stress,” OR ( “library satisfaction,” OR ( “library issues,” OR ( “library concerns,” OR ( “student library experiences,” OR “library usage anxiety” ) ) ) ) ) OR Full Text: ( “library anxiety,” OR ( “library stress,” OR ( “library satisfaction,” OR ( “library issues,” OR ( “library concerns,” OR ( “student library experiences,” OR “library usage anxiety” ) ) ) ) ) ) AND ( Title: ( Students OR ( “University Students” OR “College Students” ) ) OR ( Abstract: ( Students OR ( “University Students” OR “College Students” ) ) OR Full Text: ( Students OR ( “University Students” OR “College Students” ) ) ) ) ).
Query performed	25-2-2025

**Table 2. Descriptive analysis**

Description	Results
<b>Main information about the data</b>	
Timespan	1927:2025
Sources (journals, books, etc.)	249
Documents	560
Document average age	16.6
References	8883
<b>Document contents</b>	
Author’s keywords (DE)	58
<b>Authors</b>	
Authors	3483
Authors of single-authored docs	186
<b>Authors collaboration</b>	
Single-authored docs	209
Co-authors per doc	6.61
<b>Document types</b>	
Undefined document type	94
Book	12
Book chapter	16
Conference proceedings	1
Conference proceedings article	1
Dissertation	12
Journal article	415
Journal issue	1
Lib guide	6
Preprint	2

## 4. RESULT

### 4.1 Annual Growth Rate

Figure 1 depicts library anxiety research productivity. The publication growth remained minimal until the 1950s-60s when small spikes appeared. After decades of limited activity, research significantly increased around 1995. The field saw rapid growth from 2000 to 2020, peaking around 2015 with around 38 annual publications. Recent years indicate a decline in research outputs.

### 4.2 Author Productivity

#### 4.2.1 Most Productive Authors Based on the Number of Articles

Figure 2 shows that Anthony J. Onwuegbuzie (28 articles) and Qun G. Jiao (21 articles) dominate library anxiety research, producing 49 publications. A noteworthy productivity gap exists between these leading authors and others in the field. While Noor Harun Abdul Karim (7), Diane Mizrahi (6), and Janaki Sinnasamy (5). Five researchers have four publications each; this concentration suggests that a small group of dedicated scholars has primarily advanced library anxiety research.

#### 4.2.2 Top 20 Highly Cited Authors

Figure 3 shows the top 20 highly cited authors in the field of library anxiety, Anthony J. Onwuegbuzie is the most highly cited author in the niche field with 2944 citations, significantly surpassing all competitors. This citation pattern reinforces Onwuegbuzie’s status as the leading scholar in library anxiety research.

#### 4.2.3 Top Authors by Institutions

Table 3 highlights the most productive authors along with their respective institutions. Anthony J. Onwuegbuzie and Qun G. Jiao are the most productive authors with 18 publications each, affiliated with the City University of New York. Followed by Noor Harun Abdul Karim, with 6 publications, the second-highest contributing author affiliated with the University of Malaya. The findings show a clear concentration among a small number of prolific authors and suggest that library anxiety research has flourished within specific academic environments. The authors of the City University of New York have dominated the field of library anxiety, accounting for nearly 56 % of publications among the top five institutions, and reflect its important role in developing library anxiety research.

### 4.3 Journal Productivity

#### 4.3.1 Most Productive Journal Based on the Number of Articles

Nature leads the niche field with 28 articles and the highest impact factors (50.5), followed by College & Research Libraries with 15 articles (IF=1.4). This distribution shows that library anxiety research is found

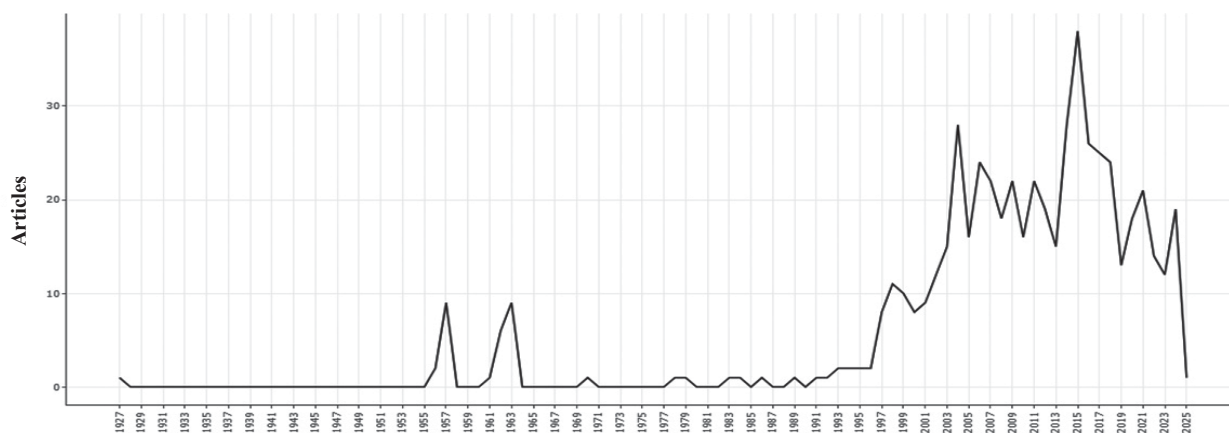


Figure 1. Annual growth rate.

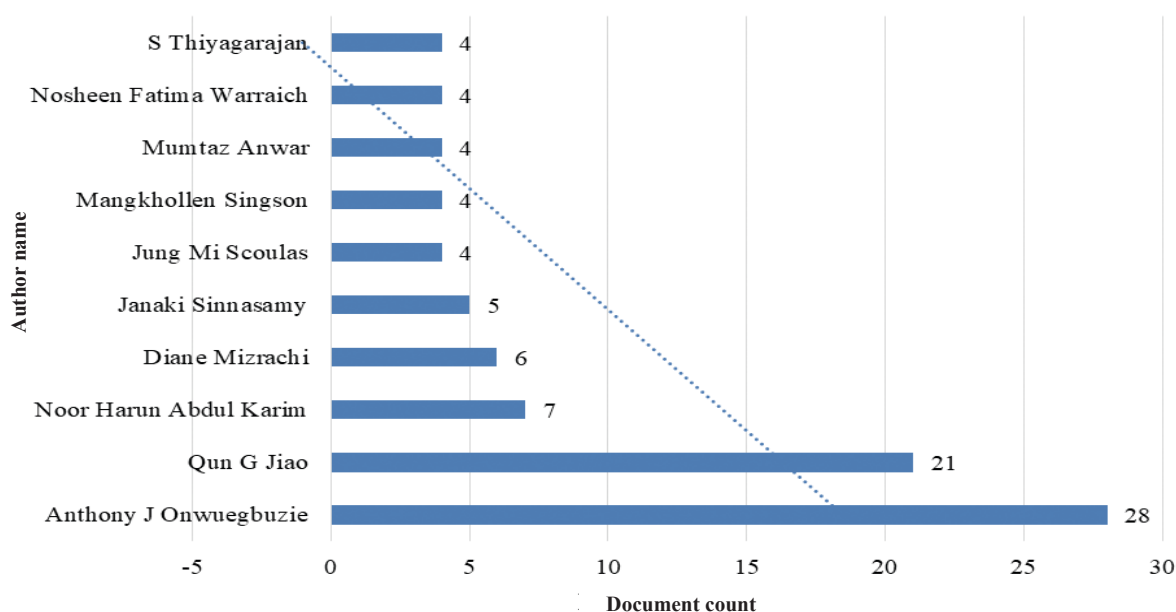


Figure 2. Most prolific authors.

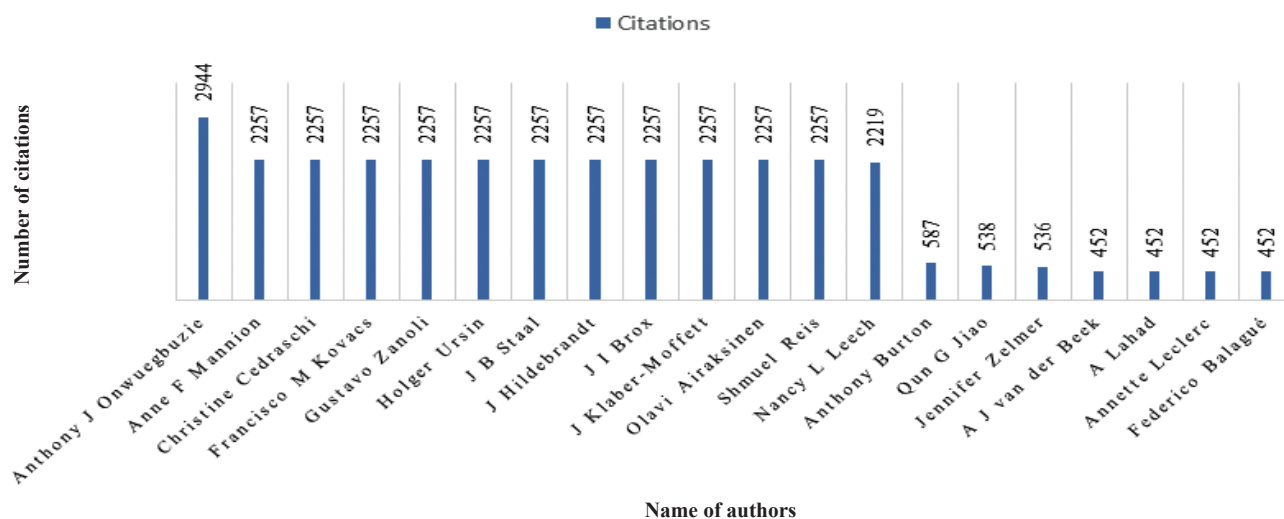
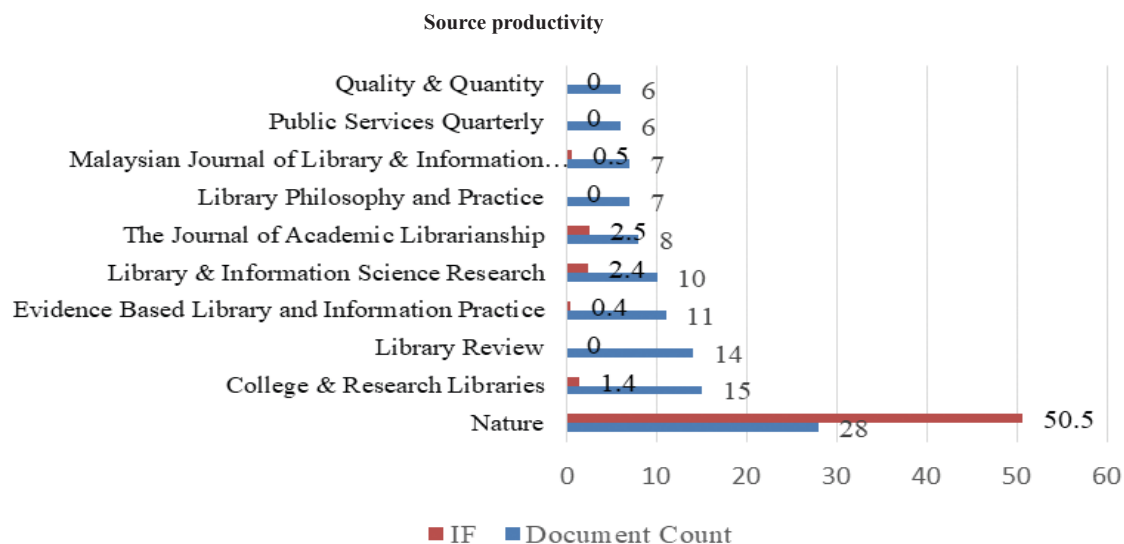


Figure 3. Top 20 highly cited authors.

**Table 3. Top authors by institutions**

Institute name	Authors name	Number of articles
City University of New York $\Sigma=40$	Anthony J Onwuegbuzie	18
	Qun G Jiao	18
	Sharon L Bostick	2
	Art A Lichtenstein	1
	Kathleen M T Collins	1
University of Malaya $\Sigma= 14$	Noor Harun Abdul Karim	6
	Novera Afaq Ansari	3
	Awang Ngah Zainab	2
	K A Abusin	2
	Amirul Mukminin	1
Kuwait University $\Sigma =8$	Charlene L Al-Qallaf	2
	Mumtaz A Anwar	2
	Noriah M Al-Kandari	2
	A A Barros-Filho	1
	A A Darekar	1
Cochrane Collaboration $\Sigma = 5$	Bertil Bouillon	1
	Daniel Galandi	1
	Gerd Antes	1
	Jaana Sellman	1
	Jani Ruotsalainen	1
Long Island University $\Sigma =5$	Eamon Tewell	1
	Katelyn Angell	1
	Katherine Boss	1
	Kimberly Mullins	1
	Natalia Tomlin	1

**Figure 4. Most productive journals based on the number of articles.**

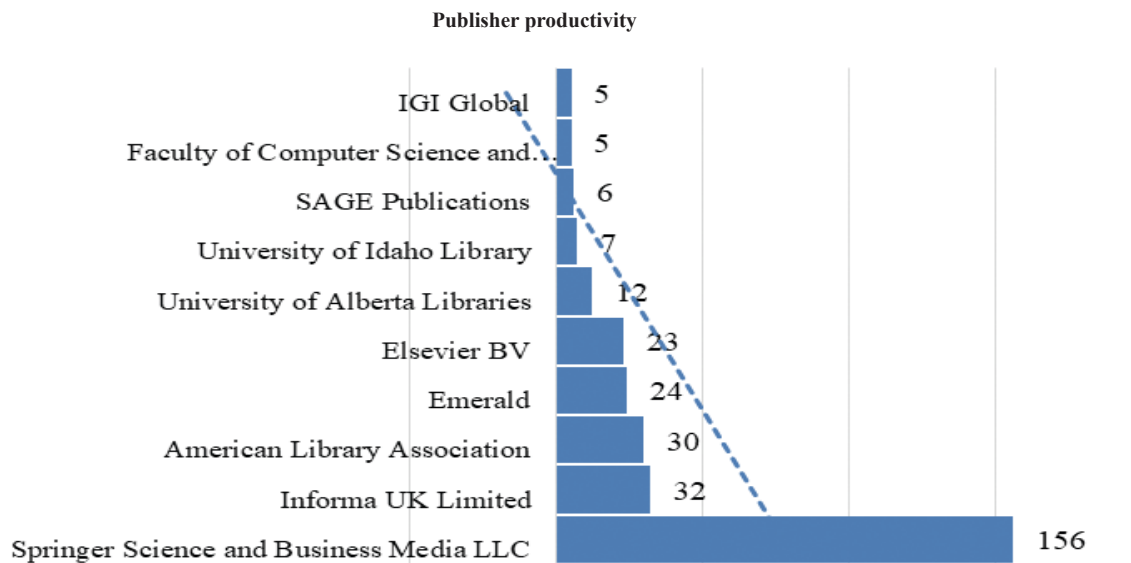


Figure 5. Most productive publishers.

Table 4. Top journals by publishers

Publisher name	Journal name	Number of articles
Springer Science and Business Media LLC $\Sigma = 44$	Nature	28
	Quality & Quantity	6
	Tech Trends	4
	Intensive Care Medicine	3
	Social psychiatry and psychiatric epidemiology	3
American Library Association $\Sigma = 29$	College & Research Libraries	13
	Reference & User Services Quarterly	5
	College & Research Libraries News	4
	Reference and User Services Quarterly	4
	Information Technology and Libraries	3
Elsevier BV $\Sigma = 23$	Library & Information Science Research	10
	The Journal of Academic Librarianship	8
	Information Processing & Management	2
	Procedia - Social and Behavioral Sciences	2
	Journal of Academic Librarianship	1
Emerald $\Sigma = 21$	Library Review	14
	Reference Services Review	4
	Collection and Curation	1
	Information and Learning Science	1
	Library Hi Tech	1
Informa UK Limited $\Sigma = 18$	Public Services Quarterly	6
	College & Undergraduate Libraries	3
	Journal of Library Administration	3
	New Review of Academic Librarianship	3
	The Reference Librarian	3



in both prestigious scientific journals and specialised library science publications, indicating its relevance across various disciplines (Fig. 4).

#### 4.3.2 Most Productive Publisher

Springer Science and Business Media LLC leads in library anxiety research publishing with 156 documents (Fig. 5), almost five times more than its closest competitor, Informa UK Limited, which has 32. The American Library Association has 30 publications, followed by Emerald with 24, and Elsevier BV with 23, rounding out the top five. University publishers play a significant role, with the University of Alberta Libraries (12) and the University of Idaho Library (7) cited among the top publishers. This demonstrates that library anxiety research encompasses both commercial and academic publishing venues.

#### 4.3.3 Top Journals by Publishers

The most prominent journals on library anxiety include Nature (28), College & Research Libraries (13), Library & Information Science Research (10), and Library Review. These journals represent the leading publishers in this research area Table 4.

#### 4.4 Top 10 Most Active Countries

The country productivity analysis of library anxiety studies identifies the United States (131 articles) as the most productive nation, implying its comparative advantage

Fig. 6 Followed by Canada (14 articles) and Australia (13 articles), demonstrating a significant contribution, which can be attributed to their strong research interest in student library experiences. The geographic pattern shows library anxiety studies centered in Western countries, with expanding interest in Asia. This international pattern reflects student use of library resources that concern the world.

#### 4.5 Keyword Analysis

##### 4.5.1 Field of Study Word Cloud

Figure 7 shows key terms with higher frequencies and density in a larger typeface, and indicates visually appealing information. Results highlight keyword “Psychology (237)” has the highest frequency among other keywords. Followed by the “Library Anxiety (221)” and “Medical Education (143)”. According to this finding these key terms emphasise their central role in the discussion.

#### 4.6 Most Productive Articles

Analysis reveals that the most cited academic articles on library anxiety are across various disciplines, including education, psychology, economics, and medical research Table 5. “Chapter 4. European Guidelines for the Management of Chronic Nonspecific Low Back Pain” (2257 citations, JIF 2.6), highlighting its significant impact on medical research. “A Typology of Mixed Methods Research Designs” (1293 citations) and “A Call for Qualitative Power Analyses” (682 citations)

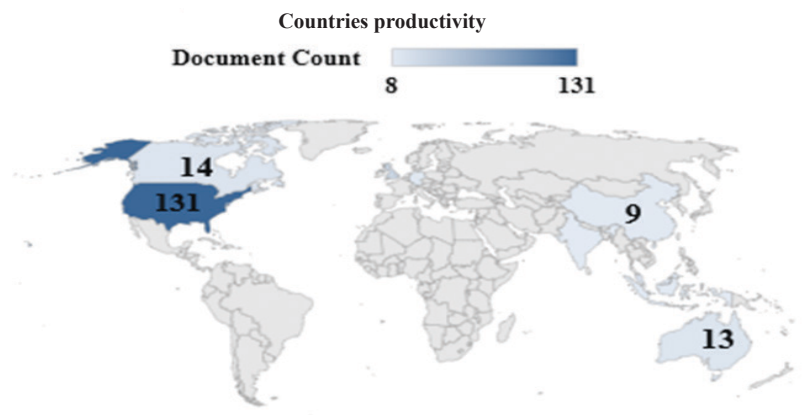


Figure 6. Most productive countries.



Figure 7. Field of study word cloud.

**Table 5. Most productive articles.**

Title	Citations	Journal	Publishers	JIF	AAS
Chapter 4. European guidelines for the management of chronic nonspecific low back pain	2257	European spine journal	Springer science and business media LLC	2.6	57
A typology of mixed methods research designs	1293	Quality & quantity	Springer science and business media LLC	NA	2
A call for qualitative power analyses	682	Quality & quantity	Springer science and business media LLC	NA	6
Linear public goods experiments: a meta-analysis	536	Experimental economics	Springer science and business media LLC	1.7	13
Chapter 2. European guidelines for prevention in low back pain: november 2004	452	European spine journal	Springer science and business media LLC	2.6	NA
Library anxiety: a grounded theory and its development	391	College & research libraries	Association of college and research libraries	1.4	27
The efficacy and safety of exogenous melatonin for primary sleep disorders. A meta-analysis	390	Journal of general internal medicine	Springer science and business media LLC	4.3	86
Dispatcher-assisted telephone cardiopulmonary resuscitation using a french-language compression-ventilation pediatric protocol	339	Critical care (London, England)	Springer science and business media LLC	NA	1
Taking the “q” out of research: teaching research methodology courses without the divide between quantitative and qualitative paradigms	290	Quality & quantity	Springer science and business media LLC	NA	5
Influences affecting the development of students’ critical thinking skills	270	Research in higher education	Springer science and business media LLC	1.9	1

**Table 6. Correlation between plumX metrics**

		PlumX citation	Usage	Capture	Mention	Social media
PlumX Citation	Pearson correlation	1	-.106	.846**	.485**	-.003
	Sig. (2-tailed)		.576	.000	.007	.987
	N	30	30	30	30	30
Usage	Pearson correlation	-.106	1	-.090	-.090	.990**
	Sig. (2-tailed)	.576		.636	.638	.000
	N	30	30	30	30	30
Capture	Pearson correlation	.846**	-.090	1	.337	.004
	Sig. (2-tailed)	.000	.636		.069	.983
	N	30	30	30	30	30
Mention	Pearson correlation	.485**	-.090	.337	1	-.007
	Sig. (2-tailed)	.007	.638	.069		.970
	N	30	30	30	30	30
Social media	Pearson correlation	-.003	.990**	.004	-.007	1
	Sig. (2-tailed)	.987	.000	.983	.970	
	N	30	30	30	30	30

\*\*. Correlation is significant at the 0.01 level (2-tailed)



reflect strong academic interest in research design. The most relevant work related to library anxiety is “Library Anxiety: A Grounded Theory and Its Development” (391 citations, JIF 1.4), a key contribution to the field. Other articles focus on public health, sleep disorders, and experimental economics, demonstrating a diverse range of high-impact research.

#### 4.7 Correlation Between PlumX Metrics

Table 6 illustrates PlumX metrics correlations in the library anxiety literature. The correlation between the top 30 highly cited articles’ findings shows a strong positive correlation between PlumX citations and capture ( $r = .846$ ,  $p < .01$ ), highlighting that higher citation counts align with more recorded capture. PlumX citations also moderately correlate with mentions ( $r = .485$ ,  $p < .01$ ), suggesting that frequently cited work receives more discussion in academic and public forums. Additionally, PlumX citations negatively correlate with usage ( $r = -.106$ ,  $p = .576$ ), suggesting that article downloads or views do not necessarily lead to citations. Social media activity is not significantly correlated with PlumX Citations ( $r = -.003$ ,  $p = .987$ ), showing its limited role in academic impact. Lastly, Usage and social media correlate very closely ( $r = .990$ ,  $p < .01$ ), suggesting that articles that are higher in downloads or views will be shared more on social media.

## 5. DISCUSSION

This study offers a complete and data-driven viewpoint on the scholarly background of library anxiety research covering almost a century (1927–2025). The study outcomes both reiterate proven knowledge and disclose new understandings into how this field has progressed. Until the mid-1990s, library anxiety was a fairly niche apprehension. The growth in publication is associated with the growing academic focus on library services. The study findings are aligned with the published literature, indicating that the 20<sup>th</sup> century marked a turning point where library anxiety research became significant<sup>1,3</sup>.

A small group of researchers, especially Anthony J. Onwuegbuzie and Qun G. Jiao, contributed highlighted a strong attention to proficiency in library anxiety studies. The confinement of the author reflects a specialised field where a small group outlines the subject discourse<sup>25</sup>. Likewise, institutional examination presented that City University of New York encourages research collaboration that energises specialised topics. Considering journal productivity, Nature publication indicates that library anxiety has multidisciplinary significance, interconnecting arenas like psychology, education, information science, and medical education. The geographic dissemination and global leanings indicate that library anxiety is progressively accepted as a global phenomenon. Keyword examination underlines that library anxiety is progressively connected to broader concepts such as psychology and medical education. The strong correlation concerning

traditional citations and PlumX captures and mentions recommends that highly cited works also gather wider scholarly attention over bookmarks, saves, and references in guiding. Nevertheless, the correlation with social media commotion designates that library anxiety research is limited to academic settings, with inadequate public dialogue supporting<sup>26</sup> findings.

## 6. CONCLUSION

The worldwide scientific literature on “library anxiety” was examined in this study. The analysis reveals that scholarly interest in the topic has increased dramatically. Findings indicate that literature related to library anxiety showed significant growth, indicating that researchers have become increasingly interested in this field. Anthony J. Onwuegbuzie is the most prolific author with 28 publications and 2944 citations and is affiliated with the City University of New York. Nature was the most active journal, with 28 articles and a 50.5 impact factor, and Springer Science and Business Media LLC was the most productive publisher, with 156 articles. Geographical trends show that the United States (US) dominates the field of library anxiety research with 131 publications followed by Canada with 14 and Australia with 13 publications, recommending a strong Western research presence. Moreover, emerging contributions from China (9) and India (8) highlight a growing interest in the topic in Asia.

The PlumX metric analysis demonstrated that citation counts strongly correlate with capture and mentions but do not necessarily correlate with article usage or social media activity. However, higher downloads or views significantly increase the likelihood of social media sharing. These findings underscore the importance of library anxiety research in understanding student experiences and optimising library resources to enhance academic success.

This study, while offering valuable insights, is not without its limitations. The analysis relies solely on data from the Lens.org database, which may not encompass all significant publications related to the topic. Furthermore, issues such as indexing inconsistencies, metadata inaccuracies, and excluding non-English literature could influence the findings. Future research could benefit from utilising multiple databases and incorporating qualitative analyses to provide a more comprehensive understanding of the subject.

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