

Who cares about rural libraries? Tracking a neglected research topic in library and information science

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Keywords: Rural libraries, Public libraries, Library and information science, Web of science, Journals, Research community, Visibility

Abstract: Rural libraries have historically received minimal attention from the academic community despite their critical role in providing access to information, education, and recreational resources in rural areas. The state of research on rural libraries was examined. Drawing on a corpus of 159 publications from the Web of Science database covering the period from 1970 to 2023, research on rural libraries remains limited in both volume and influence. The field demonstrates low interconnectivity with other disciplines, with approximately 70 % of publications appearing in Library and Information Science (LIS) journals. Additionally, the visibility of this research is low, with merely 8.6 % of articles published in top-tier journals based on their impact factor

1. Introduction

Rural libraries have been subject to limited study by academics in the Library and Information Science (LIS) community. This is even though public libraries in rural areas are essential to guarantee citizens' right of access to culture regardless of their place of residence. Given that 22% of the world's population lives in non-urban areas (Khor & UN-Habitat, 2022), rural libraries assume an essential role as a knowledge center, facilitating social inclusion, literacy and continuous education for a significant part of the population. In this context, with the aim of contributing to the development of this research topic within the field of LIS, this study analyzes research into rural libraries during the period from 1970 to 2023, identifying its evolution, focus areas, academic impact and main authors.

Public libraries form cultural networks characterized by their widespread presence and long tradition in the fabric of society. They are an essential element of the popular imagination (Newman, 2007), with numerous studies in the scientific literature exploring their role in the development and cohesion of communities (Sørensen, 2021; Wood, 2021; Appleton et al., 2018) and the vision of the public library as a public sphere (Appleton & Hall, 2023; Carlsson et al., 2023; Webster, 2014). Rural libraries encapsulate all these functions. Indeed, in many cases they are the only public space available in these environments for the promotion of cultural activities. Furthermore, rural libraries are key to reducing the inequalities that exist in rural areas in comparison to urban areas through access to and acquisition of information and reduction of the digital divide, thus helping communities to overcome obstacles to their

development (Hughes & Boss, 2021). They are also seen as hubs providing services for economic development, lifelong learning, cultural participation and physical and mental health, among others (Norton & Dowdall, 2017).

2. Problem statement

Despite the extensive body of scientific literature on Library and Information Science (Dora & Kumar, 2020; Tramullas Saz, 2020), studies specifically focused on rural libraries receive relatively limited attention. Although rural libraries are occasionally addressed within broader analyses of public libraries, their critical role in community development warrants dedicated research. Given their unique contributions and challenges, rural libraries deserve a distinct and focused space in academic research.

The level of consolidation of a discipline or thematic area is often gauged by the resources available to its professional community. In the context of rural libraries, there currently lacks a dedicated academic journal. Research on rural libraries is primarily published in broader Library and Information Science (LIS) journals, without a specialized journal analogous to those in academic librarianship, such as the *Journal of Academic Librarianship* or *College and Research Libraries*. Historically, the journal *Rural Libraries* was published by the University of Pennsylvania from 1981 to 2008, focusing on rural libraries within the United States. Issues published from 1981 to 2002 are accessible via the Pennsylvania Western University Library website (PennWest University Libraries, s. f.). This journal was produced under the auspices of the Center for the Study of Rural Librarianship at the same university, led by Bernard Vavrek, a prominent figure in U.S. rural library studies.

In the United States, the annual conference of the Association for Rural & Small Libraries (ARSL) is particularly noteworthy. Founded in 1982 under the aegis of the Center for the Study of Rural Librarianship, ARSL became an independent entity in 2007. By the following year, it had become an official affiliate of the American Library Association (ALA) and hosted its first annual conference, which has continued uninterrupted since. Although these conferences are attended by academics, they primarily focus on professional rather than scholarly pursuits and do not directly contribute to the body of scientific literature (Lenstra et al., 2023). However, they serve as valuable forums for garnering support for research initiatives. Similarly, the World Library and Information Congress organized by the International Federation of Library Associations and Institutions (IFLA) includes sessions dedicated to various types of libraries, encompassing those serving rural communities.

The main aim is to examine the characteristics of research on rural libraries, with three specific objectives (SO):

SO1: To carry out a quantitative analysis of the historical evolution of the scientific literature on rural libraries from the first indexed article through to 2023.

SO2: To determine the nature of articles on rural libraries (main journals and their thematic scope, media impact, author profiles, research funding sources, etc.).

SO3: To identify the main research topics and subtopics and the networks of authors publishing articles on rural libraries.

3. Literature review

Current research on rural libraries and their functions highlights several key trends, with a strong emphasis on digital inclusion (Strover et al., 2020; Real et al., 2014). These studies underscore the pivotal role of rural libraries in providing access to digital resources and training for digital literacy, particularly in regions where they often serve as the sole gateway to the

digital ecosystem due to limited internet access. Rural libraries offer a reliable framework for local communities to engage with digital tools and resources. Additionally, there is substantial focus on the libraries' role in delivering health information (DeGuzman et al., 2020; Flaherty, 2013), positioning them as vital sources for health-related information and literacy, and even as potential access points for telemedicine services. Research also explores the relationship between rural libraries and community social capital (Reid & Howard, 2016; Johnson & Griffis, 2014), aligning with broader studies in Library and Information Science (LIS) on the social impact and communal integration of library services.

There are very few systematic studies offering an overview of the evidence regarding rural libraries. These reviews tend to address different topics and subtopics (Samsuddin et al., 2020), such as the identification of library-driven practices and their contribution to economic development in communities (Flores Fernández et al., 2022) and the development of information services and their sustainability (Hoq, 2015). The study by (Samsuddin et al., 2020) consisted of a review structured into seven main topics and 30 subtopics. Covering scientific literature published between 2009 and 2018, it identified patterns and trends in rural library research, focusing on aspects such as roles, services, usage, resources, activities, challenges and the impact of the library itself on its environment. Meanwhile, Flores Fernández et al. (2022) focused on the contribution by rural libraries to the economic development of communities, identifying the specific practices contributing to such development that are considered genuine library practices. This study also pointed to the lack of measurement of the actions carried out as a limitation on the expansion and growth of such activities, as well as devoting special attention to the professional profile of librarians and emphasizing their contribution to community development and their participation in local communities. The study by Hoq (2015) emphasized the need to specialize library services and the specialist role of rural libraries as a service for local communities, even proposing a model of library services based on certain key elements. It also highlighted the role of rural library staff and the increasingly influential role of ICT in these services.

The above reviews of the literature on this topic gives an idea of the limited output, particularly in comparison to the considerable research into other topics in the field of LIS such as makerspaces (Kim et al., 2022), corporate social responsibility (Eid & Hussin, 2023) or digital libraries (Alipour-Hafezi & Khedmatgozar, 2016).

4. Methodology

The study consists of a retrospective descriptive analysis of the academic literature relating to rural libraries in the Web of Science database. This database was chosen as the data source because it is a selective resource that brings together the most prestigious international journals (Singh et al., 2021).

4.1. Search and inclusion criteria

The search was performed on 03/11/2023 on the Web of Science Core Collection platform, which includes the Science Citation Index (SCI), Social Sciences Citation Index (SSCI), Arts & Humanities Citation Index (AHCI), Emerging Sources Citation Index (ESCI), Conference Proceedings Citation Index (CPCI) and Book Citation Index (BCI). The search equation used was:

TS= ("rural librar" OR "rural public librar*" OR "village librar*" OR "joint-use librar*" OR "joint-use public librar*" OR "joint-use public librar*") AND TS= ("rural" OR "village")*

The label 'TS' indicates that a search is performed of the title, abstract and keywords. This allowed an exhaustive search of the scientific literature, avoiding leaving out documents that did not have a more obvious link with the subject. The search terms were based on keywords from LIS literature (Ma & Lund, 2021; Mokhtarpour & Khasseh, 2021), as well as the words suggested by Web of Science search tools.

The initial search yielded a total of 186 results, which were finally reduced to 159 after screening and application of the inclusion and exclusion criteria. In relation to the screening, the following criteria (C) were used to select the documents resulting from the search:

- C1 - Document type: research articles, reviews and publication of proceedings.
- C2 - Type of access: documents available in open access and also those accessible through the authors' institutional subscriptions.
- C3 - Publication date: no limitation was applied in this sense, meaning that the entire history of publications on the subject was analyzed. The oldest paper in the sample dates from 1970 and the most recent from 2023.
- C4 - Language: no limitation was applied regarding the language of the text.

4.2. *Data collection and coding*

After completing the search and screening process, the information downloaded from Web of Science was recorded in a spreadsheet adding the following variables:

- **Type:** this defines the text as research, informative, editorial, etc. Coding: 1. Academic (research text); 2. Professional (informative, editorial, etc.)
- **Author gender:** indicating whether the authors are men, women or both. To verify this information, the data provided in the articles themselves were used, consulting the directories of the researchers' institutions in the event of any doubt. Coding: 1. The authors are men only; 2. The authors are women only; 3. The authors are both men and women; 4. Unable to be determined.
- **Author affiliation:** this identifies the authors' affiliation, indicating their links to academic institutions (universities, research centers, etc.) and the professional sphere (library services). Coding: 1. The authors are academics only; 2. The authors are professionals only; 3. The authors include both profiles; 4. Unable to be determined.
- **Research methods:** the method used in each study was recorded as follows: Coding: 1. Qualitative methods; 2. Quantitative methods; 3. Hybrid qualitative-quantitative methods; 4. Not applicable (in the case of non-research papers).
- **Funding:** indicating whether the article received funding. Coding: 1. Indication that funding was provided; 2. Indication that no funding was provided; 3. No indication whether funding was provided.

The bibliometric impact data of the journals were downloaded using Journal Citation Reports 2022 by Clarivate Analytics as a reference.

4.3. *Display of the results*

In addition to the descriptive statistics generated from the various fields downloaded from Web of Science, the different topics linked to the topic *rural library* and the relationships established through co-citation were represented graphically. The VOSviewer software tool was used to generate networks with elements connected by means of relationships (van Eck & Waltman, 2010) based on the bibliographic information downloaded, allowing graphical representation of the clusters. VOSviewer's smart local moving (SLM) algorithm was chosen for the graphical representation due to its efficiency for visualization of small and medium-sized networks (Waltman & van Eck, 2013).

5. Findings

5.1. Academic production

The analysis encompassed a total of 159 documents spanning from 1970, the year of the first located paper, to 2023, yielding an average of 2.9 articles per year. As illustrated in Figure 1A, the distribution of these articles is uneven across the historical timeline. Following minimal output in the initial decades, there was a significant increase in 2015 with 18 articles published. This was followed by several years of a notably higher average publication rate, peaking at 19 articles in 2020. When the 54-year period is divided into 9-year intervals (Figure 1B), a marked increase in production is evident in the most recent period, following decades of relative stability. Nevertheless, the overall output remains low, even during this recent period, which averages 11.9 articles per year.

As for specific years with higher production, 1980 stands out due to the publication of a monographic issue of *Library Trends*¹ bringing together different publications on culture and the rural environment, including papers directly linked to rural libraries. A similar situation arose in 1995 following another monographic issue published in *Library Trends*, this time devoted to information services in rural libraries.² In 2015, the first major production peak, it can be seen that the publications are widely dispersed, with a total of 18 articles distributed in seven publications. It should be noted that 12 of these articles are in Russian and are published in three different Russian journals, including the Tomsk State University Journal of Cultural Studies and Art History, which accounts for seven articles. As for the rest of the years, 2020 stands out as the year with the highest production (19 articles), but there is no relationship between the number of publications and monographic issues or related scientific conferences. It should also be noted that while 2020 was the year with the highest number of publications to date, there is no link to the COVID-19 pandemic in any of these articles.

[Figure 1. Chronological evolution of production relating to rural libraries: Figure 1A: Annual evolution of production; Figure 1B: Evolution of production by periods.]

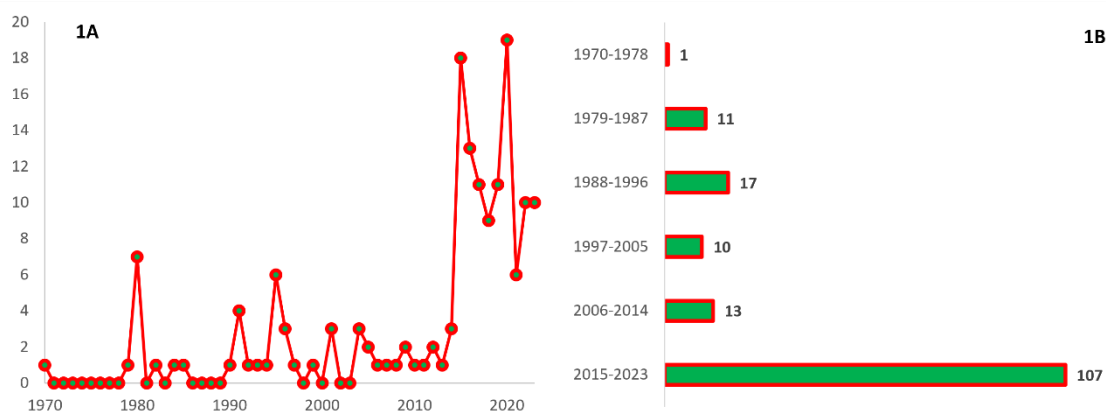


Table 1 summarizes the variables for the entire sample. In terms of document type, the vast majority are research articles, with only 12 papers (7.5%) being professional informative articles

¹ This monographic issue entitled "Current Trends in Rural Public Library Service" was published in Volume 28(4) of *Library Trends*.

² This monographic issue entitled "Rural Libraries and Information Services" was published in Volume 44(1) of *Library Trends*.

or editorial columns. Regarding author gender, women constitute the majority, representing 69.2% of the total sample.

Moreover, a significant majority of the articles were authored by individuals with academic profiles (67.3%), while just over one-fifth were written by library professionals. Only 8.8% of the papers involved collaborative authorship between academic and professional profiles. Articles by authors with a purely professional background (n=33) are underrepresented in the sample. Specifically, only four papers (2.5% of the total sample and 12.1% of the professional subgroup) were authored by individuals professionally affiliated with rural library services.

In terms of methodological approach, qualitative studies predominate, accounting for 37.7% of the sample (n=60), followed by quantitative studies, which make up 23.2% of the total. Additionally, 35 papers were identified as theoretical or opinion pieces, lacking empirical data. A temporal analysis of methodological preferences reveals no clear trends, primarily due to the generally low publication volume.

It is notable that only 17% of the research on rural libraries is derived from funded studies, indicating that much of the scholarship in this field is conducted with limited financial support, thus restricting its potential for significant impact.

[Table 1. Descriptive variables of the sample analyzed.]

Dimension	Variable	N	%
Type	Academic	147	92.5
	Informative	12	7.5
Gender	Male	49	30.8
	Female	63	39.6
	Mixed	47	29.6
Affiliation	Academic	107	67.3
	Professional	33	20.8
	Mixed	14	8.8
	Unspecified	5	3.1
Methods	Qualitative	60	37.7
	Quantitative	37	23.3
	Mixed	27	17
	Not applicable	35	22
Funding	Yes	27	17
	No	132	83

A total of 69 journals have been identified as publishing studies on rural libraries, with articles widely dispersed across these journals, averaging 2.3 articles per journal. This dispersion likely reflects the absence of a dedicated publication for rural library studies. As shown in Table 2, *Library Trends* and *Public Library Quarterly* are the most prolific, with 19 and 18 articles, respectively. Most journals belong to the LIS field, contributing 110 articles (69.2%) of the total. Journals focused on rural studies are scarcely represented; for instance, the *Journal of Rural and Community Development* and the *Journal of Rural Studies* each published only one article. This suggests that research on rural libraries is largely confined to LIS journals, indicating its primary relevance within the LIS domain without significant influence on other fields.

A notable exception is the cluster of 22 articles published in various journals by Tomsk State University (Russia), which constitutes nearly half of the 49 articles outside the LIS field.

Excluding these publications would increase the proportion of articles in LIS journals to 80.3%, underscoring the limited presence of rural library studies in other disciplines.

Table 2 also highlights the impact of these journals based on their quartile rankings. Generally, these journals have low visibility in the Journal Citation Reports on the Web of Science platform, which provides bibliometric data on academic impact. Of the ten journals with the highest frequency of publication in this area, only six are included in the Social Sciences Citation Index (SSCI), which lists the most prestigious journals in the social sciences, and none are in the first or second quartiles. The remaining four journals are included in the newer Emerging Sources Citation Index (ESCI).

[Table 2. Most productive journals on rural libraries.]

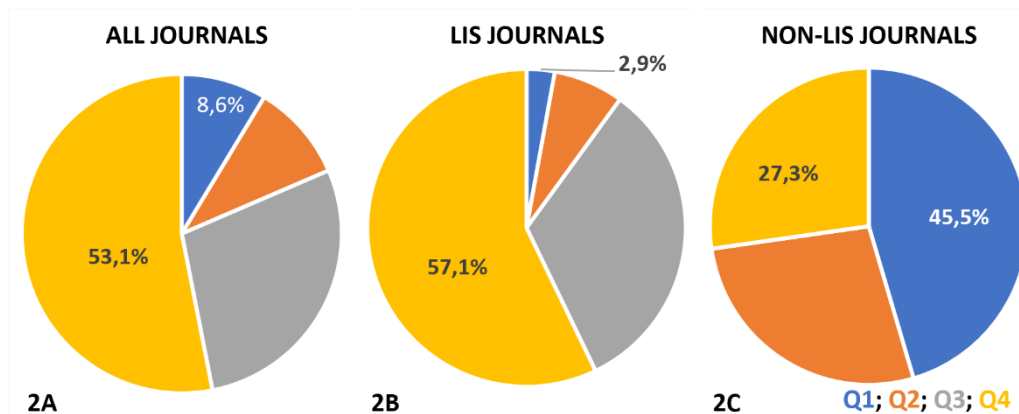
Journal	Country	Discipline	No. of articles	Index	Quartile JCR 2022
Library Trends	USA	Information Science & Library Science	19	SSCI	Q4
Public Library Quarterly	United Kingdom	Information Science & Library Science	18	ESCI	
Tomsk State University Journal of Cultural Studies and Art History	Russia	Humanities	14	ESCI	
Libri	Germany	Information Science & Library Science	7	SSCI	Q4
Journal of Librarianship and Information Science	United Kingdom	Information Science & Library Science	7	SSCI	Q3
Library Quarterly	USA	Information Science & Library Science	6	SSCI	Q3
The International Information & Library Review	United Kingdom	Information Science & Library Science	6	SSCI	Q4
Tomsk State University Journal	Russia	Multidisciplinary Sciences	4	ESCI	
IFLA Journal	United Kingdom	Information Science & Library Science	4	ESCI	
Information Development	United Kingdom	Information Science & Library Science	3	SSCI	Q3

An analysis of all the articles published in journals indexed in the SCI and the SSCI³ reveals that only seven articles have been published in first quartile journals (8.6%). Considering only articles in journals in the field, this percentage drops to 1.3%, i.e. only two articles were published in first quartile journals on LIS (1.3%).⁴ Figure 2 shows the distribution by quartiles of the scientific production on rural libraries according to the type of journal in which the article was published.

³ The quartile of the journal was determined using Journal Citation Reports 2022 as a reference. If the journal was not indexed in that year, the quartile of the last year with available data was taken.

⁴ These consisted of an article published in Information Processing and Management and another in Telematics and Informatics, with impact indices of 10.883 and 3.907 respectively.

[Figure 2. Distribution according to journal quartiles (SCI and SSCI) of production on rural libraries. Figure 2A: All journals (n=81); Figure 2B: LIS journals (n=70); Figure 3C: Non-LIS journals (n=11).]



The average number of citations per paper in the sample was 4.2. Out of the total, 25 papers (15.7%) garnered 10 or more citations each. Conversely, more than half of the papers (53.4%) received either one citation (18.9%) or no citations at all (34.6%). This indicates that research on rural libraries has relatively low visibility and influence within the LIS field and remains somewhat marginal to the key areas of interest and impact in this discipline. Additionally, the majority of citations for these papers come from journals indexed in Library and Information Science (63.7%), followed by those in Computer Science Information Systems (8.9%), suggesting a modest connection to technological topics. Table 3 lists the most cited articles, along with their respective journals and publication years.

[Table 3. Most cited articles on rural libraries.]

Authors	Title	Source Title	Citations	Year
Real, B; Bertot, JC; Jaeger, PT	Rural Public Libraries and Digital Inclusion: Issues and Challenges	INFORMATION TECHNOLOGY AND LIBRARIES	58	2014
DeGuzman, PB; Bernacchi, V; Cupp, CA; Dunn, B; Ghamandi, BJB; Hinton, ID; Jameson, MJ; Lewandowski, DL; Sheffield, C	Beyond broadband: digital inclusion as a driver of inequities in access to rural cancer care	JOURNAL OF CANCER SURVIVORSHIP	36	2020
Griffis, MR; Johnson, CA	Social capital and inclusion in rural public libraries: A qualitative approach	JOURNAL OF LIBRARIANSHIP AND INFORMATION SCIENCE	32	2014
Mehra, B; Sikes, ES; Singh, V	Scenarios of technology use to promote community engagement: Overcoming marginalization and bridging digital divides in the Southern and Central Appalachian rural libraries	INFORMATION PROCESSING & MANAGEMENT	22	2020

Julien, H; Breu, RD	Instructional practices in Canadian public libraries	LIBRARY & INFORMATION SCIENCE RESEARCH	21	2005
Reid, H; Howard, V	Connecting with Community: The Importance of Community Engagement in Rural Public Library Systems	PUBLIC LIBRARY QUARTERLY	20	2016
Alemna, AA	The periodical literature of library and information in Africa: 1990-1995	INTERNATIONAL INFORMATION & LIBRARY REVIEW	20	1996
Flaherty, MG	Consumer Health Information Provision in Rural Public Libraries: A Comparison of Two Library Systems	LIBRARY QUARTERLY	18	2013
Mahmood, K	Multipurpose community telecenters for rural development in Pakistan	ELECTRONIC LIBRARY	18	2005
Strover, S; Whitacre, B; Rhinesmith, C; Schrubbe, A	The digital inclusion role of rural libraries: social inequalities through space and place	MEDIA CULTURE & SOCIETY	17	2020

5.2. Thematic and co-citation networks

The most frequently used keywords to describe the articles in the study are listed below. Predictably, *rural library* is the most common term, followed by *public library*, *community*, *reading*, and *library services*, all of which are directly related to the main topic. However, despite the centrality of rural libraries in the research sample, *rural library* appears as a keyword in only 31.4% of the articles. This, combined with the occurrence of *public library* in 26.4% of cases, suggests that studies on rural libraries do not have a distinctly defined identity, unlike those on university libraries or digital libraries.

The graphical representation of keyword co-occurrence illustrates their significance in the network and the associations between them. The main clusters are centered around *rural library*, *public library*, and *community*, with connections to other relevant topics such as *library management* and *poverty*, which are linked to *rural library*. Additionally, *older people* and *voluntarism* are connected to *public library*, while *social capital* and *inclusion* are associated with *community*. Logical relationships are evident within both the major and minor clusters. This graphical representation not only describes the existing scientific literature but also highlights potential areas of interest for future research in rural libraries.

[Figure 3. Co-occurrence network.]

blue), which includes D'Silva, J.L., Bolong, J., and Omar, S.Z., also from Malaysian institutions. Additionally, two other zones (orange and green) have strong connections to the red and purple communities. The orange cluster features Sikes, E.S., D'Arpa, C., and Hughes, C. from the United States, while the green cluster includes Johnson, C.A., Griffis, M.R., and Skinner, M.W., all affiliated with Canadian universities. Overall, these relationships and clusters reflect a network that is limited in structure and dispersed.

In terms of the most prolific authors, there is some alignment between the number of publications and their influence within the citation network, as illustrated in Figure 4. Prominent authors include Mehra, B. (n=7), Shafril, H.A.M. (n=5), Bishop, B.W. (n=5), Samsuddin, S.F. (n=4), Parte, R.P. (n=4), and Omar, S.Z. (n=3). Lenstra, N. (n=6), though not as central in the co-citation network, stands out for his publication count. All of these authors have academic profiles and are affiliated with universities in the United States and Malaysia.

6. Discussion

This research presents a historical overview of scientific production on rural libraries indexed in the Web of Science databases. The analysis of 159 papers published over 54 years (from the first study in 1970) across 69 different journals reveals the limited dissemination and visibility of this subject, which is predominantly concentrated in LIS journals. Notably, there is no specific journal dedicated to rural libraries, with *Library Trends* and *Public Library Quarterly* being the most prolific in publishing on this topic.

The study indicates that rural libraries are rarely a subject of focused research and show limited connections to other disciplines. Despite the topic's initial low production, there has been an upward trend since 2015, with an average of 11.9 articles per year in recent years, compared to an overall average of 1.9 articles per year since the first indexed publication. Peaks in publication activity are observed around special issues in 1980 and 1995, illustrating that thematic issues can significantly boost scholarly output on specific topics.

Unlike other topics such as metric studies of information or academic libraries, there is no structured and cohesive scientific community based around this subject and it does not appear as one of the discipline's main focal points of interest, as confirmed by various studies. For example, Hsiao & Chen (2020) identified *Library Trends & Related Issues* as one of the main subfields of the discipline, but *rural libraries* does not appear among the keywords describing this field. Likewise, other studies such as Li et al. (2019) have traced the main topics of study in the field of LIS and their evolution over time and rural libraries have not been found to generate sufficient interest among either researchers or professionals, who are more focused on subjects such as information technology, knowledge management and scientometrics. A previous analysis of theses and master's theses indexed in Proquest also failed to identify rural libraries as a key topic (Prebor, 2010). Interestingly, the articles cited above emphasize the interdisciplinary nature of LIS research. However, this aspect was not observed in this study, since most of the articles are published in LIS-specific journals and are also cited mainly by journals in the same field.

The small number of publications in non-LIS journals points to the limited capacity this subject has to connect with different approaches to rural libraries, whether educational, sociological, technological or economic. Given that interdisciplinarity helps to develop the disciplines themselves beyond their boundaries and promotes collaboration and integration of different research approaches (Sampagnaro, 2023), it would be desirable to have a greater presence in areas such as those mentioned above in order to further develop the subject. In addition, nowadays libraries are more widely recognized as having an impact on communities than they

were in the past, making them susceptible to analysis in different areas of study. However, according to these results there is limited interconnection with areas outside LIS. This lack of connection, which points to the study of rural libraries as being a very specific topic, can also be seen as an opportunity to engage in studies that explore approaches beyond the scope of LIS.

On the other hand, the rural library research published in the field of LIS has little impact based on the journals in which it is published. As the research shows, the subject fails to position itself in the main publications in the category, resulting in limited visibility. It is also striking that there is no flagship journal for this discipline. A specialized publication on rural libraries could serve to orient and unite research and help further develop this subject in light of the aforementioned lack of visibility, among other issues.

The network of topics within the field of rural libraries is largely centered around the primary concepts of *rural library* and *public library*, which logically form the core of most research in this area. Notably, crucial aspects such as library management, budgets, personnel, and access to essential resources are addressed in only 10 articles, comprising a mere 6.3% of the total. This indicates a significant gap in attention to these fundamental operational factors, despite their critical importance. Promoting research on these key issues could provide valuable insights and support the advancement of rural libraries, aligning research efforts with the practical needs of these institutions and their communities. Conversely, there are underdeveloped areas that present opportunities for future research, such as topics related to the digital ecosystem (Fong et al., 2020; Lee, 2020).

Regarding the network of authors, it is both fragmented and widely dispersed. The citation network and literature review reveal that a substantial number of authors have limited contributions to the field, with 216 out of 248 authors having published only one article on rural libraries. This reflects their sporadic engagement and indicates a lack of specialized, mature author profiles. Geographically, institutions from the United States predominate among the contributors, with notable participation from Malaysia and Canada as well.

In terms of gender, women authors represent a majority (69.2%), reinforcing the perception of Library and Information Science (LIS) as a traditionally female-dominated field (Lund & Shamsi, 2023). However, gender ratios have shown a trend towards balance over time (Shah et al., 2023). Regarding the profiles of the authors, academic profiles predominate over professional ones, indicating that research on rural libraries is primarily driven by academic institutions. Only 2.5% of the articles are authored by individuals affiliated with library services in rural areas, highlighting the minimal involvement of rural library professionals in research about their own field. This limited participation is problematic, as it may lead to the neglect of topics crucial for the development of rural libraries. To address this, leading associations in the field should encourage greater professional engagement in research activities, potentially through funding specific projects that target the unique needs and challenges of rural libraries.

The study also reveals that most research on rural libraries is self-funded, which may constrain its scope and impact. It remains unclear whether this is due to a lack of interest from funding agencies or a shortage of funding requests for rural library projects, possibly influenced by the absence of a cohesive network of researchers in this area. Since the goal of such research is to enhance the understanding and development of rural libraries, efforts should be directed towards promoting funded research in this field. Securing financial support would enable broader studies with greater visibility and the potential to drive significant change.

Regarding methodological approaches, most of the research employs qualitative methods, although there is an increasing interest in hybrid approaches, reflecting recent trends. This mirrors the general tendency in LIS studies to apply a variety of methodologies to better

understand the phenomena under investigation, as seen in the evolving methodological preferences within the field (Ma & Lund, 2021).

6.1. *Limitations and future research*

The primary limitation of this research is its reliance on a single data source, namely the Web of Science platform. Additionally, the sample size is constrained, as it includes only 159 papers, despite covering the entire history of articles on rural libraries indexed by this database. Although Web of Science aims to index the leading scientific publications globally, it does not encompass all contributions on a specific topic (Repiso et al., 2018). A comprehensive study of rural libraries should therefore incorporate other sources, especially regional ones, to provide a more complete and nuanced perspective. This would enhance understanding of the unique characteristics of rural libraries based on their geographic contexts and support comparative studies.

7. Conclusions

Overall, research on rural libraries is notably limited when compared to other major topics in LIS. The findings indicate modest development and minimal attention from the academic community. To address this, it is essential to increase resources dedicated to rural library research, fostering the development of a more extensive and robust ecosystem around this subject. Such efforts would likely enhance the production of scientific literature, encourage the exploration of various subtopics, and help build a stronger research community focused on rural libraries. In conclusion, achieving a deeper commitment to research and broader dissemination will ultimately serve the interests and needs of rural libraries.

References

- Alipour-Hafezi, M., & Khedmatgozar, H. R. (2016). E-lending in digital libraries: A systematic review. *Interlending & Document Supply*, 44(3), 108-114. <https://doi.org/10.1108/ILDS-01-2016-0001>
- Appleton, L., & Hall, H. (2023). The public library as public sphere: A longitudinal analysis. *Journal of Documentation*, 79(1), 112-126.
- Appleton, L., Hall, H., Duff, A. S., & Raeside, R. (2018). UK public library roles and value: A focus group analysis. *Journal of Librarianship and Information Science*, 50(3), 275-283. <https://doi.org/10.1177/0961000618769987>
- Carlsson, H., Hanell, F., & Engström, L. (2023). Revisiting the notion of the public library as a meeting place: Challenges to the mission of promoting democracy in times of political turmoil. *Journal of Documentation*, 79(7), 178-195. <https://doi.org/10.1108/JD-03-2023-0061>
- DeGuzman, P. B., Bernacchi, V., Cupp, C. A., Dunn, B., Ghamandi, B. J. F., Hinton, I. D., Jameson, M. J., Lewandowski, D. L., & Sheffield, C. (2020). Beyond broadband: Digital inclusion as a driver of inequities in access to rural cancer care. *Journal of Cancer Survivorship: Research and Practice*, 14(5), 643-652. <https://doi.org/10.1007/s11764-020-00874-y>
- Dora, M., & Kumar, H. A. (2020). National and international trends in library and information science research: A comparative review of the literature—Mallikarjun Dora, H. Anil Kumar, 2020. *IFLA Journal*, 46(3), 234-249. <https://doi.org/10.1177/0340035219886610>

- Eid, E. M. A., & Hussin, A. R. C. (2023). Library Corporate Social Responsibility: A Systematic Literature Review. *Journal of Library Administration*, 63(2), 231-270. <https://doi.org/10.1080/01930826.2022.2159243>
- Flaherty, M. G. (2013). Consumer Health Information Provision in Rural Public Libraries: A Comparison of Two Library Systems. *The Library Quarterly*, 83(2), 155-165. <https://doi.org/10.1086/669548>
- Flores Fernández, C., Avilés Cañón, P., Caviedes Romero, S., Civilo Becerra, M., Galdames Nanculeo, C., & Liberona Ramírez, V. (2022). Bibliotecas públicas rurales: Espacios de colaboración para la acción comunitaria. Revisión sistematizada. *Serie Bibliotecología y Gestión de Información*, 120, 1-24.
- Fong, K. C. H., Au, C. H., Lam, E. T. H., & Chiu, D. K. W. (2020). Social network services for academic libraries: A study based on social capital and social proof. *The Journal of Academic Librarianship*, 46(1), 102091. <https://doi.org/10.1016/j.acalib.2019.102091>
- Hog, K. M. G. (2015). Rural library and information services, their success, failure and sustainability: A literature review. *Information Development*, 31(3), 294-310. <https://doi.org/10.1177/0266666913515693>
- Hsiao, T.-M., & Chen, K. (2020). The dynamics of research subfields for library and information science: An investigation based on word bibliographic coupling. *Scientometrics*, 125(1), 717-737. <https://doi.org/10.1007/s11192-020-03645-9>
- Hughes, C., & Boss, S. (2021). How Rural Public Libraries Support Local Economic Development in the Mountain Plains. *Public Library Quarterly*, 40(3), 258-281. <https://doi.org/10.1080/01616846.2020.1776554>
- Johnson, C. A., & Griffis, M. R. (2014). The effect of public library use on the social capital of rural communities. *Journal of Librarianship and Information Science*, 46(3), 179-190. <https://doi.org/10.1177/0961000612470278>
- Khor, N. & UN-Habitat. (2022). *World cities report 2022: Envisaging the future of cities*. United Nations Human Settlements Programme (UN-Habitat).
- Kim, S. H., Jung, Y. J., & Choi, G. W. (2022). A systematic review of library makerspaces research. *Library & Information Science Research*, 44(4), 101202-.
- Lee, P.-C. (2020). Technological innovation in libraries. *Library Hi Tech*, 39(2), 574-601. <https://doi.org/10.1108/LHT-07-2020-0163>
- Lenstra, N., Slater, S., Pollack Porter, K. M., & Umstattd Meyer, M. R. (2023). Rural Libraries as Resources and Partners for Outside Active Play Streets. *Health Promotion Practice*, 24(3), 575-580. <https://doi.org/10.1177/15248399211073602>
- Li, P., Yang, G., & Wang, C. (2019). Visual topical analysis of library and information science. *Scientometrics*, 121(3), 1753-1791. <https://doi.org/10.1007/s11192-019-03239-0>
- Lund, B., & Shamsi, A. (2023). Women authorship in library and information science journals from 1981 to 2020: Is equitable representation being attained? *Journal of Information Science*, 49(5), 1335-1343. <https://doi.org/10.1177/01655515211050026>
- Ma, J., & Lund, B. (2021). The evolution and shift of research topics and methods in library and information science. *Journal of the Association for Information Science and Technology*, 72(8), 1059-1074. <https://doi.org/10.1002/asi.24474>
- Mokhtarpour, R., & Khasseh, A. A. (2021). Twenty-six years of LIS research focus and hot spots, 1990–2016: A co-word analysis. *Journal of Information Science*, 47(6), 794-808. <https://doi.org/10.1177/0165551520932119>
- Newman, J. (2007). Re-Mapping the Public. *Cultural Studies*, 21(6), 887-909. <https://doi.org/10.1080/09502380701470916>
- Norton, M. H., & Dowdall, E. (2017). *Strengthening Networks, Sparking Change: Museums and Libraries as Community Catalysts* (Institute of Museum and Library Services). Institute of Museum and Library Services (U.S.).

- PennWest University Libraries, C. (s. f.). *University Archives Digital Collections: Rural Libraries*. Recuperado 25 de noviembre de 2023, de <https://library.pennwest.edu/pwclarionarchivesdigitalcollections/rurallib>
- Prebor, G. (2010). Analysis of the interdisciplinary nature of library and information science. *Journal of Librarianship and Information Science*, 42(4), 256-267. <https://doi.org/10.1177/0961000610380820>
- Real, B., Bertot, J. C., & Jaeger, P. T. (2014). Rural Public Libraries and Digital Inclusion: Issues and Challenges. *Information Technology and Libraries*, 33(1), 6-24. <https://doi.org/10.6017/ital.v33i1.5141>
- Reid, H., & Howard, V. (2016). Connecting with Community: The Importance of Community Engagement in Rural Public Library Systems. *Public Library Quarterly*, 35(3), 188-202. <https://doi.org/10.1080/01616846.2016.1210443>
- Repiso, R., Ahedo, J., & Montero, J. (2018). The presence of the encyclicals in Web of Science: A bibliometric approach. *Scientometrics*, 115(1), 487-500. <https://doi.org/10.1007/s11192-017-2636-z>
- Sampagnaro, G. (2023). Keyword occurrences and journal specialization. *Scientometrics*, 128(10), 5629-5645. <https://doi.org/10.1007/s11192-023-04815-1>
- Samsuddin, S. F., Shaffril, H. A. M., & Fauzi, A. (2020). Heigh-ho, heigh-ho, to the rural libraries we go! - A systematic literature review. *Library & Information Science Research*, 42(1), 100997. <https://doi.org/10.1016/j.lisr.2019.100997>
- Shah, U. U., Gul, S., & Bhat, S. A. (2023). Gender difference in library and information science research. *Journal of Librarianship and Information Science*, 45(3), 101255. <https://doi.org/10.1177/09610006231196596>
- Singh, V. K., Singh, P., Karmakar, M., Leta, J., & Mayr, P. (2021). The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis. *Scientometrics*, 126(6), 5113-5142. <https://doi.org/10.1007/s11192-021-03948-5>
- Sørensen, K. M. (2021). Where's the value? The worth of public libraries: A systematic review of findings, methods and research gaps. *Library & Information Science Research*, 43(1), 101067. <https://doi.org/10.1016/j.lisr.2020.101067>
- Strover, S., Whitacre, B., Rhinesmith, C., & Schrubbe, A. (2020). The digital inclusion role of rural libraries: Social inequalities through space and place. *Media, Culture & Society*, 42(2), 242-259. <https://doi.org/10.1177/0163443719853504>
- Tramullas Saz, J. (2020). Temas y métodos de investigación en Ciencia de la Información, 2000-2019. Revisión bibliográfica. *El profesional de la información*, 29(4), e290417. <https://doi.org/10.3145/epi.2020.jul.17>
- 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>
- Waltman, L., & van Eck, N. J. (2013). A smart local moving algorithm for large-scale modularity-based community detection. *The European Physical Journal B*, 86(11), 471. <https://doi.org/10.1140/epjb/e2013-40829-0>
- Webster, F. (2014). *Theories of the Information Society* (4.^a ed.). Routledge. <https://doi.org/10.4324/9781315867854>
- Wood, E. (2021). Libraries Full Circle: The Cross Section of Community, the Public Sphere, and Third Place. *Public Library Quarterly*, 40(2), 144-166. <https://doi.org/10.1080/01616846.2020.1737491>