"Elderly tourism management: A bibliometric approach"

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ELDERLY TOURISM MANAGEMENT: A BIBLIOMETRIC APPROACH

Abstract

Elderly tourism constitutes an important sector within the sustainable development of the tourism industry, attracting an increasing body of research focused on market development. This study aims to outline the progression of elderly tourism research within the past five years (2019–2023) and determine prospective research trajectories and opportunities in the subject. Employing CiteSpace visual analysis technology, this investigation constructs knowledge graphs of authors, institutions, and countries from 332 English-language academic articles from the Web of Science and culminates a keyword co-occurrence knowledge graph. Next, cluster and burst analyses revealed the prevailing trends and focal points in elderly tourism research. The results underscore that while many researchers have been drawn to elderly tourism, the collaborative relationships between these scholars remain tenuous, resulting in the relatively disparate study and the absence of a lead author group. China dominates the field, producing a far greater quantity of studies than other nations. Hence, this study encourages different countries, higher education institutions and disciplines to strengthen cooperation in the management and development of elderly tourism, especially paying attention to the importance of elderly tourism services, quality management and technology integration for the sustainable development of elderly tourism.

INTRODUCTION

The dynamism of the tourism sector is undoubtedly reflected in the evolving demographics of tourists worldwide (Butler, 2020). One significant trend in this respect is the rise of elderly or senior tourism, primarily driven by the aging global population and changing social attitudes toward travel in later life (Otoo & Kim, 2020). This paper embarks on an empirical journey to unpack the key trends and perspectives that define the present and future of elderly tourism. It employs a bibliometric approach, shedding light on the policy, societal, economic, and technological aspects shaping this critical sector.

Elderly tourism is often influenced by regulations and initiatives both at national and international levels (Hwang et al., 2020). Policies can stimulate or hinder the growth of this sector, affecting accessibility, affordability, and quality of tourism services for the elderly (Rebelo et al., 2022). Considering societal aspects, senior tourism delves into the changing societal norms and attitudes toward aging, leisure, and travel (Zhang, 2023). Increasingly, seniors are brewed as active, adventurous individuals seeking to enjoy retirement by exploring new places and cultures (Zielińska-Szczepkowska, 2021). The shift in perception has significantly impacted elderly tourism, promoting it as a means for

seniors to enhance their quality of life (Hwang & Lee, 2019). This study is beneficial to understand these societal trends better and how they might evolve.

Recent years have witnessed considerable advancements in geriatric tourism, a testament to the evolution of academic scholarship in this area (Asjh, 2022; Hwang et al., 2020). The application of visualization technology for the analysis of the tourism market or related topics is now a well-established approach (Pencarelli, 2020). Yet, the visual analysis findings pertaining to geriatric tourism remain scant, predominantly comprising studies of literature data prior to 2018 (Pestana, Parreira, et al., 2019; Pestana, Sánchez, et al., 2019; Pestana et al., 2020). After this period, the field experienced profound transformations owing to digital technological advancements and the ramifications of the COVID-19 pandemic (Li et al., 2022). Consequently, novel progress has been made in geriatric tourism research post-2019 (Hwang et al., 2020). Thus, it is imperative to comprehensively understand and project the trends of the research outcomes pertaining to this subject over the past five years.

1. LITERATURE REVIEW

Elderly tourism, also known as senior or silver tourism, refers to travel activities and services tailored specifically for older adults, typically retired, who generally have more free time and a decent disposable income, allowing them to travel more frequently and for longer durations than other groups (Stončikaitė, 2022). Tourism providers catering to this group consider several factors, such as accessibility, healthcare services, the pace of activities, guided tours, cultural and educational opportunities, comfort, and luxury (Stončikaitė, 2022). It is becoming an important niche market for travel agencies, tour operators, and hospitality businesses worldwide (Zhang, 2023).

Tourism's importance in enhancing seniors' well-being perception is underscored by Hwang et al. (2020). They explored the significance of well-being perception in the senior tourism industry in South Korea, showing the desire of senior tourists to enhance their quality of life through travel experiences. Bao and Wu (2021) shifted focus to the technological aspects of tourism, constructing an obstacle factor model of elderly online tourism information-sharing behavior. This research is particularly relevant in the age of intelligent tourism, providing insights into the barriers seniors face when engaging with digital platforms. In a novel approach to examining the benefits of tourism, Hailiang et al. (2023) explore the association between tourism experiences and mortality in Chinese individuals aged 65 or above. Their results show the tangible health benefits of tourism for older adults.

This body of literature provides a comprehensive insight into elderly tourism. It shows its multifaceted nature, ranging from motivations, well-being enhancement, and health implications to the influence of message framing on consumption and the potential of ecological solutions to aging population pressures.

The studies reviewed here represent a broad cross-section of such bibliometric research, covering various topics within the tourism sector. Bibliometric analysis has become an increasingly popular tool in tourism research as scholars attempt to map the progression, identify key themes and trends, and suggest future directions in their fields (Luo et al., 2022). Del Río-Rama et al. (2020) employed bibliometric and bibliographic analysis to identify and analyze the scientific production indexed in the Scopus database concerning tourism's use of cultural and natural resources in island ecosystems. It is essential to understand how tourism intersects with natural and cultural resources in unique ecological contexts like islands (Hall, 2012).

Halal and Islamic tourism has emerged as a significant research topic (Suban et al., 2021). Suban et al. (2021) used bibliometric techniques to explore the publications indexed in the Scopus database on this subject from 2004 to 2021. That work provides a comprehensive understanding of the trajectory of halal and Islamic tourism research. Similarly, Hassan et al. (2022) reviewed the literature on halal tourism using bibliometric analysis, providing a more in-depth exploration of this increasingly prevalent concept in tourism studies. Singh and Bashar (2023) systematically reviewed

e-tourism literature using bibliometric analysis. They retrieved 146 research articles from the Web of Science data from 2004 to 2020 and conducted a co-occurrence and cluster analysis for major trends or themes of e-tourism. The findings shed light on the most cited papers, key contributors, and significant trends in e-tourism research. Dahalan et al. (2023) examined how emerging technologies can fulfill accessible hospitality and tourism services for people with disabilities, a topic of growing significance to hospitality and tourism scholars and practitioners. Koseoglu et al. (2022) traced the historical development in tourism and hospitality research over the past 30 years using a novel interdisciplinary approach, combining both corpus linguistics and bibliometric analysis. They identified the most frequently discussed and newly emerging topics, providing a comprehensive overview of the field's evolution. Marco-Lajara et al. (2023) provided a bibliometric analysis of 588 publications on wine tourism published between 1998 and 2021, giving an in-depth understanding of this niche area within tourism research.

Overall, the literature review demonstrates the significant strides made in using bibliometric analysis to understand various facets of tourism research. The slot only provides an overview of the current knowledge state and sets the agenda for future research in these areas. Table 1 summarizes the current exposition of the tourism industry using the bibliometric method.

Table 1. The systematic analysis in the tourism industry using a bibliometric method

Topics	Sources
Use of resources in island ecosystems	del Río-Rama et al. (2020); Hall (2012)
Halal and Islamic tourism	Suban et al. (2021); Hassan et al. (2022)
E-tourism	Singh and Bashar (2021)
Emerging technologies in the tourism industry	Dahalan et al. (2023)
Post-Covid-19 management strategies in the hospitality and tourism industry	Khan et al. (2021)
Historical development in tourism and hospitality	Koseoglu et al. (2022)
HRM in tourism and hospitality	Bahuguna et al. (2023); Oncioiu et al. (2022)
Tourism crises and disasters	Sampaio et al. (2023); Zenker and Kock (2020)
Wine tourism	Marco-Lajara et al. (2023)

Hence, no related bibliometric tool reveals elderly tourism, especially in the last five years. The study of elderly tourism has become increasingly important given the rise of an aging global population with interest and means to travel (Li & Chan, 2021). As this demographic continues to grow, so does the need for a more nuanced understanding of the trends, preferences, motivations, and experiences of elderly tourists (Li & Alencar, 2023). Visual bibliometric analysis, a method that uses graphical representations to depict patterns and trends in literature, offers several significant benefits in studying elderly tourism. Given the importance of the elderly tourism market and the societal, economic, and technological factors shaping it, visual bibliometric analysis provides a powerful tool for researchers and stakeholders. It can illuminate the state of current research, inform policy and business strategies, and ultimately contribute to a more inclusive, accessible, and satisfying tourism experience for an aging population.

Using a bibliometric analysis, this study aims to offer a comprehensive picture of the key trends and perspectives defining the field, ultimately contributing to the discourse on how best to foster a vibrant and sustainable elderly tourism sector in the future.

2. METHOD

The study conducted an extensive examination of 332 English documents, sourced from the Web of Science (WoS). The selection of these documents are guided by a predefined formula that incorporated specific keywords such as "elderly tourism," "elderly travel," and "elderly tour." Notably, the analysis was confined to English literature published within the last five years (2019 onward). Subsequently, employing the CiteSpace visual analysis tool, these 332 documents underwent a comprehensive visual analysis.

Bibliometrics is a quantitative method used in information science and research to measure and analyze published information (Donthu et al., 2021). It is often used to provide quantitative analysis of academic literature (Ninkov et al., 2022). It can be used for various purposes, such as evaluating the impact of a particular piece of research's

impact, determining an individual researcher's effectiveness, or assessing the output of a whole institution or country. Metrics commonly considered in bibliometric analyses include citation counts, the h-index, etc.

CiteSpace, a widely recognized visual analysis tool, was employed in this study. This tool is extensively utilized across various disciplines, including tourism, healthcare, education, and management (Ninkov et al., 2022). The search formula employed was as follows:

$$TS = (elderly)\ AND$$
$$TS = (tourism)\ OR\ (TS = (elderly\ ))\ AND$$
$$TS = (travel)\ OR\ (TS = (elderly\ ))\ AND \quad (1)$$
$$TS = (tour)$$

In order to ascertain the current state and prospects of elderly tourism, this study leverages the visual analysis capabilities offered by CiteSpace. This analysis examined the publication trends and collaborative networks of authors, institutions, and countries, followed by an in-depth investigation of the co-occurrence patterns of keywords. By interpreting the implications of these keywords, cluster analysis and burst analysis were conducted, thereby shedding light on the outcomes of the keyword analysis and unveiling potential directions for future research.

3. RESULTS

Table 2 depicts the publication trends in terms of time, indicating a notable peak in 2020. A real breakthrough is observed compared to the previous year (2019), where the number of publications substantially increased. However, a gradual decline in publishing has been evident post-2021, which can be attributed to several factors. Firstly, the global tourism industry has been significantly impacted by the COVID-19 pandemic, leading to heightened concerns among older adults, considered a high-risk group, regarding safety and health issues (Lu et al., 2022). Travel restrictions, lockdown measures, and quarantine protocols have limited the ability of older adults to engage in tourism activities, thereby potentially shifting

researchers' focus to alternative research areas (Zielinski & Botero, 2020).

Furthermore, the increasing aging population and the associated trend toward an older demographic make elderly tourism a vital research field (Li & Alencar, 2023). However, over time, preliminary research in this area has been primarily completed, prompting researchers to divert their attention to new and emerging research topics and fields that have garnered greater interest. Consequently, the number of publications in elderly tourism research has declined. Additionally, research on tourism among older adults has accumulated several results and knowledge in recent years, leading researchers to prioritize synthesizing and applying existing knowledge rather than undertaking new research endeavors.

Moreover, researchers may have shifted their interests to other fields or topics, such as sustainable or digital tourism (Akhtar et al., 2021; Tiago et al., 2021). The emergence of these unexplored areas may have captured the attention of researchers, consequently diminishing the number of studies focused specifically on elderly tourism. The trend serves as a reflection of the academic community's attention to the topic of elderly tourism while also highlighting the presence of significant research barriers that await further exploration and breakthroughs.

Table 2. Publishing trends of elderly tourism

Year	Publications
2019	46
2020	101
2021	89
2022	84
2023	12
Total	332

Author's collaboration map analysis is a valuable visual and analytical technique employed to investigate and comprehend the collaboration patterns among authors in scientific research. By analyzing co-authorship networks, this method offers insights into the structure and dynamics of collaborative relationships within a specific research domain (Luo et al., 2022). The application of the author's collaboration map analysis is instrumental in comprehending the intricate dynamics

Figure 1. Knowledge map of authors' cooperation

and structural characteristics of collaborative endeavors, facilitating interdisciplinary collaborations, and informing research strategies and decision-making processes.

Figure 1 presents the author's cooperation map in elderly tourism. Analyzing the density of author distribution, it becomes evident that so many authors research this topic. However, the interconnections between authors could be more pronounced, forming relatively few collaborative groups. The varying sizes of the nodes make it challenging to discern authors who have made significant contributions, and there needs to be leading pioneers in this research domain.

Table 3 presents the top 10 authors with their relative contributions. However, upon examination of the data, it is evident that their contributions are limited, as all authors have a contribution value of 2. Notably, the majority of contributions from these authors are concentrated after 2020, as observed in Table 3. Although these authors' contributions are not ranked sequentially, it is worth mentioning that Witlox has conducted earlier research on the topic. Conversely, more recent contributions have been made by authors such as Zhang, Dong, Saghapour, Tayebeh, Moridpour, Sara, and Li, Zao, among others.

Thus, from an author-centric perspective, there is no apparent trend of author cooperation, and there is a lack of a clear leading author in elderly tourism. This highlights the need to attract more authors to research this field. Furthermore, it is imperative to generate greater attention among authors, particularly regarding sustainable research. Encouraging diverse authors to contribute to the sustainable development of elderly tourism research is paramount.

Table 3. The top 10 authors contributing to elderly tourism

Counts	Year	Authors
2	2022	Zhang, Dong
2	2020	Zhan, Fengping
2	2019	Witlox, Frank
2	2020	Smith, Margaret E
2	2020	Shi, Yuji
2	2022	Saghapour, Tayebeh
2	2020	Nuliyalu, Ushapoorna
2	2020	Nathan, Hari
2	2022	Moridpour, Sara
2	2022	Li, Zao

Institutional collaboration knowledge map analysis is crucial in understanding and visualizing collaboration patterns among institutions within a specific research field. This method encourages researchers and institutions to comprehensively
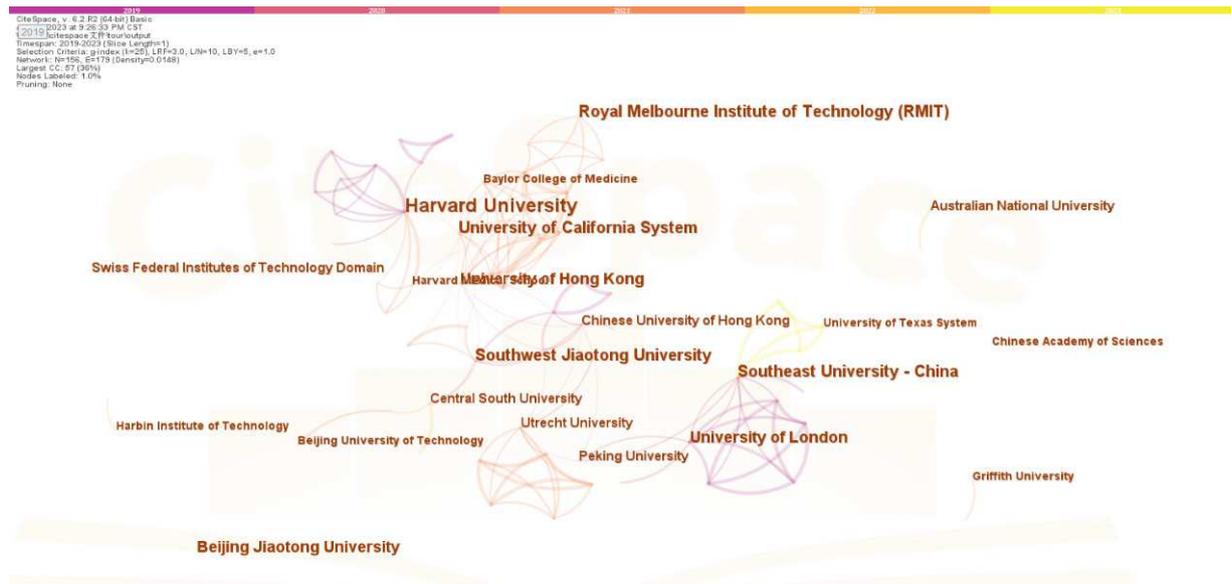
Figure 2. Knowledge map of the institutions' cooperation

understand collaboration patterns, identify key players and research clusters, assess research productivity, explore interdisciplinary collaborations, and facilitate strategic partnerships (Luo et al., 2022). It provides valuable insights into the collaborative landscape of research, developing research networks, and advancing collaborative research efforts.

Figure 2 presents an analysis of the contributions made by different institutions in elderly tourism. The central area of the map exhibits relatively close cooperation among institutions, yet it is evident that there still needs to be more research activity in this field. Table 4 summarizes the top 10 institutions contributing significantly to senior tourism research. Notably, Harvard University demonstrates a prominent advantage in this regard. Additionally, Chinese universities such as Southwest University, Southwest Jiaotong University, Beijing Jiaotong University, and Central South University have made noteworthy contributions. RMIT University, the University of California System, and the Swiss Federal Institutes of Technology Domain also exhibited commendable performance in 2020. However, these achievements alone are insufficient to drive breakthroughs in academic research.

Considering the vital role of higher education institutions in senior tourism research, it is necessary to encourage the participation of more universities in this domain. The current findings indicate that research on senior tourism in higher education institutions is less prevalent than expected. While higher education institutions are recognized as the main drivers and research centers for sustainable social development, the disparity between rhetoric and practice is apparent. These results might be somewhat disappointing, but they also offer insights into the challenges and issues higher education institutions face in the realm of elderly tourism or careers for the elderly.

Table 4. The top 10 institutions contributing to elderly tourism

Counts	Year	Institution
9	2019	Harvard University
6	2019	Southeast University-China
6	2020	Southwest Jiaotong University
6	2020	Royal Melbourne Institute of Technology (RMIT)
6	2020	University of California System
5	2019	University of London
5	2020	University of Hong Kong
5	2020	Beijing Jiaotong University
4	2020	Central South University
4	2020	Swiss Federal Institutes of Technology Domain

Table 4 illustrates the counts of collaborations among different institutions during specific years. Notably, Harvard University stood out with nine collaborations in 2019, signifying a robust research collaboration network. Southeast University-China also engaged in six collaborations in the same year. Although

the specific collaborating institutions are not provided, these collaborations likely involved partnerships with other research organizations. In 2020, Southwest Jiaotong University and the Royal Melbourne Institute of Technology (RMIT) participated in six collaborations, underscoring their active involvement in research partnerships and networks. The University of California System, encompassing multiple institutions, also displayed six collaborations in 2020, indicating vibrant research collaborations within the system.

Furthermore, the University of London and the University of Hong Kong participated in five collaborations in 2019 and 2020, respectively, while Beijing Jiaotong University also engaged in five collaborations in 2020. These institutions emphasize research collaborations as institutions during the respective years. Central South University and the Swiss Federal Institutes of Technology Domain participated in four collaborations in 2020, underscoring their research collaborations with other institutions or organizations.

In conclusion, the presented data offer insights into the number of collaborations involving various institutions during specific indicators of the level of collaborative engagement and partnerships among the mentioned institutions, even though specific collaborating institutions are not disclosed in the available information.

Figure 3 provides a comprehensive depiction of the global significance of the current research. Notably, the countries depicted on the map primarily consist of economically developed nations. These countries, characterized by their aging populations, have made substantial and noteworthy contributions to research on aging. The proximity of the interconnected polished map serves as a source of inspiration for fostering globalization in senior tourism research.

Table 5 outlines the top 10 countries significantly contributing to senior tourism research. While most of these countries recognized the importance of research on elderly tourism in 2019, China (109) stands out with a remarkable number of research outputs, followed closely by the United States (61). However, there remains to be a considerable gap between the research output of China and that of the United States. Other countries, including Australia, Japan, Italy, the United Kingdom, South Korea, the Netherlands, and Spain, have also achieved notable advancements in this field. However, due

Figure 3. Knowledge map of countries' cooperation on elderly tourism
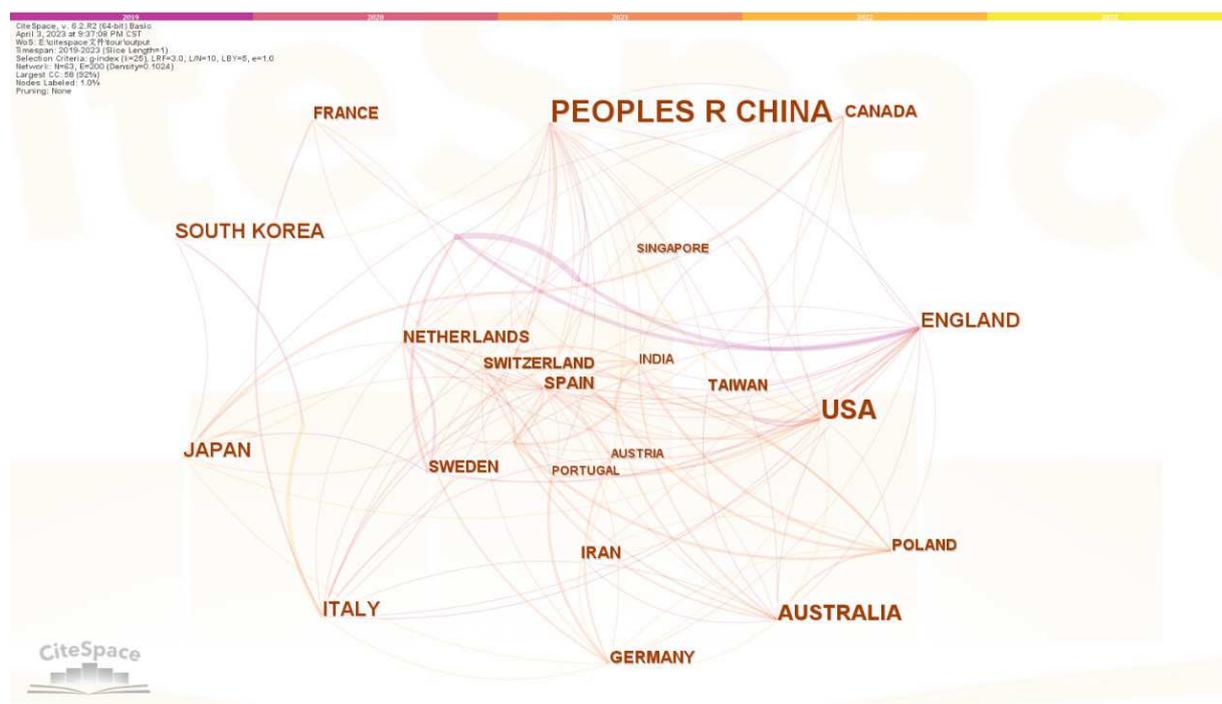
to varying circumstances, these countries still exhibit specific disparities in the research field of elderly tourism compared to China and the United States.

Therefore, this study encourages these countries to engage in senior tourism actively. As significant representatives of aging societies, these countries must join forces and prioritize the attention given to senior tourism or living. Additionally, senior tourism, being a global research issue, is more than just the responsibility of economically developed countries. Developing nations should also actively participate in the research efforts and contribute to senior tourism under the guidance of research pioneers in developed countries. Many tourist destinations, such as Thailand, the Philippines, Vietnam, and other Southeast Asian countries, possess abundant tourism resources for the elderly and attract many senior European tourists each year. They are responsible and obligated to undertake relevant research and support national development. Similar situations are observed in various tourist destinations across Africa, where research endeavors have inspired these countries to actively join the research alliance on tourism development for the elderly.

Table 5. The top 10 countries contributing to the research on elderly tourism

Counts	Year	Country
109	2019	The People's Republic of China
61	2019	The USA
22	2019	Australia
20	2019	Italy
20	2019	Japan
19	2019	England
19	2019	South Korea
12	2020	Germany
12	2019	The Netherlands
11	2019	Spain

3.1. Keyword co-occurrence knowledge map of elderly tourism research

Table 6 presents the number of occurrences ("Counts") for specific keywords in a set of documents (such as academic papers, articles, books, etc.) for a given year ("Year"). Each row provides a keyword count for a specific keyword for a particular year.

The keyword "older adults" was found 29 times in the documents in 2019, "behavior" was found 26 times in the same year, "health" and "mobil-
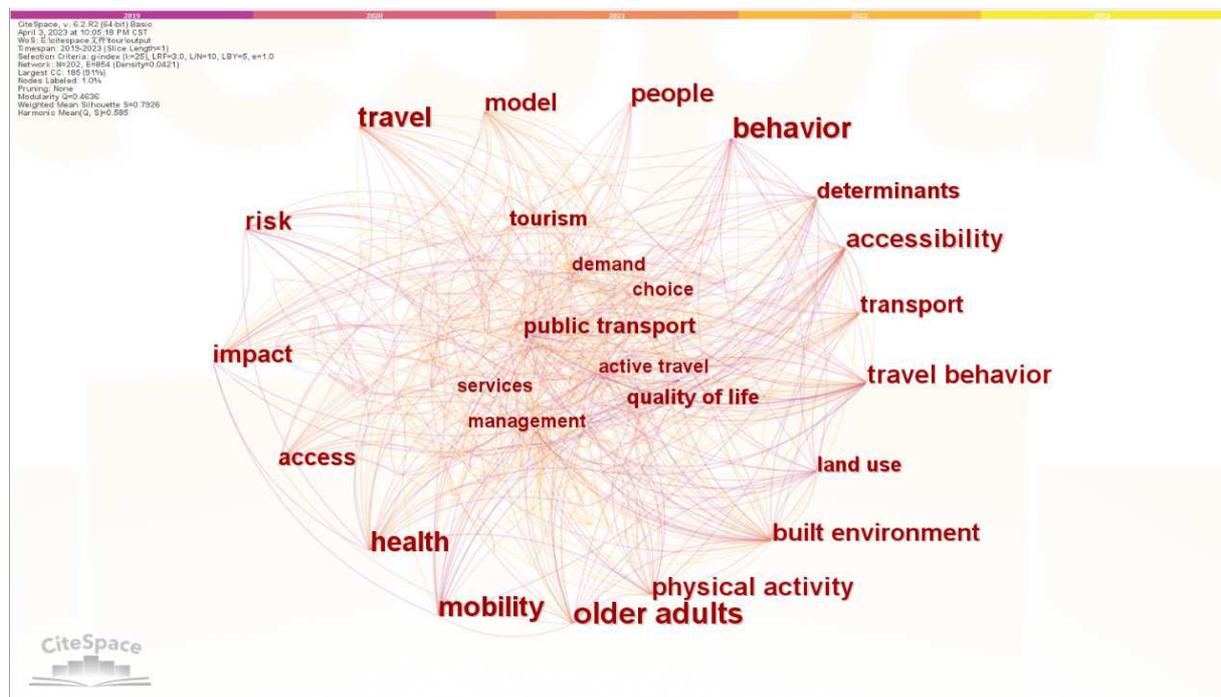

Figure 4. Keyword co-occurrence knowledge map of elderly tourism research

ity" were found 22 times in 2019, and so on. In 2020, the keywords "travel" and "people" were found 22 and 18 times, respectively. In this case, the keywords are related to travel, mobility, health, and behavior, suggesting these documents might be about travel behavior and the health of older adults.

Table 6. Major keywords in elderly tourism research

Counts	Year	Keyword
29	2019	older adults
26	2019	behavior
22	2019	health
22	2020	travel
22	2019	mobility
18	2020	people
17	2019	risk
17	2019	travel behavior
17	2019	accessibility
17	2019	physical activity
16	2019	built environment
16	2019	model
15	2019	impact
14	2019	transport
14	2019	access

Keyword cluster analysis identifies and analyzes clusters of related keywords in scientific literature (Shi & Liu, 2019). It is based on the analysis of co-occurrence patterns of keywords and can provide insights into the thematic structure of a research field. The keyword cluster analysis is significant for identifying the research themes, visualizing thematic landscapes, exploring the interdisciplinary connection, tracking the research trends over time, supporting the literature review and information retrieval, and guiding the research directions and collaborations.

Figure 5 is the knowledge map of keyword cluster analysis on elderly tourism, showing 6 clusters.

Table 7, as the keyword cluster analysis results, reveals distinct thematic clusters within the field of research.

Cluster 0: Older adults. This cluster consists of 41 articles primarily focusing on travel behavior among older adults. The keywords indicate research areas such as understanding the factors influencing travel choices, using weighted regression analysis, examining the impact of dockless bike-sharing, and studying spatiotemporal variations in travel patterns. The cluster reflects a growing interest in understanding the travel behavior of the elderly.

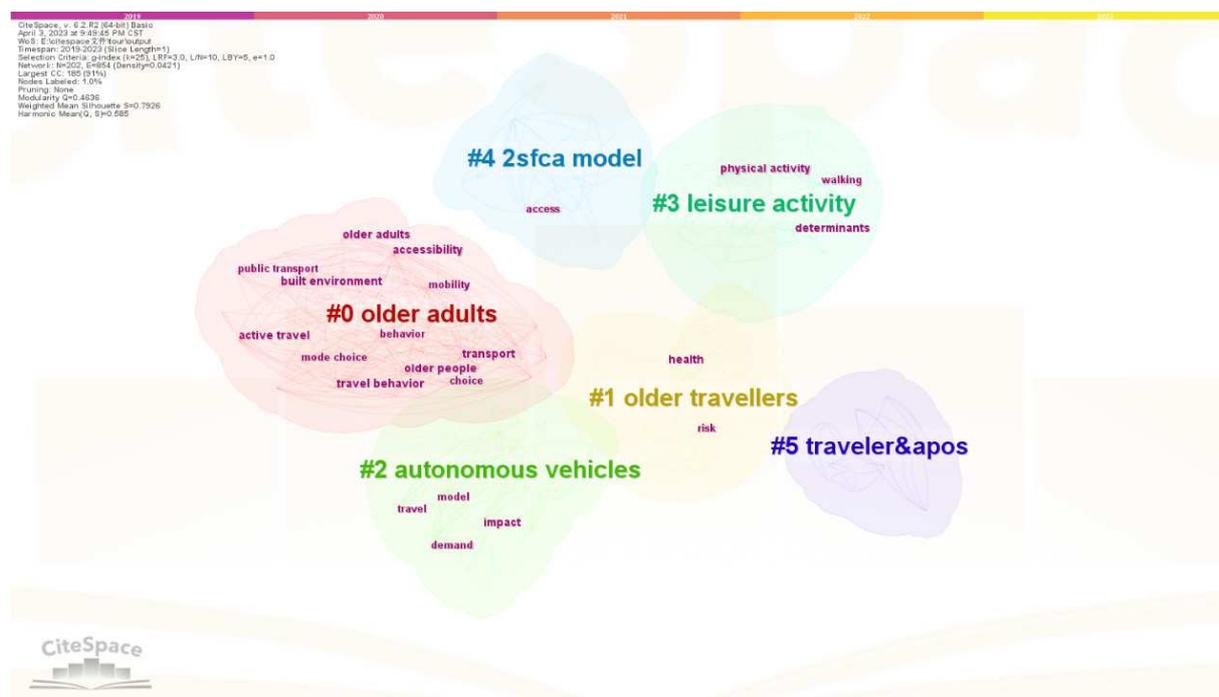Cluster 1: Older travelers, with 36 articles, revolves

Figure 5. Keyword cluster analysis map of elderly tourism research

around the topic of older travelers. Research within this cluster encompasses travel medicine, systematic reviews on older travelers, malaria prevention, the relationship between arterial stiffness and travel, and the application of logistic regression models. The cluster highlights the importance of addressing older individuals' specific travel needs and health concerns.

Cluster 2: Autonomous vehicles, focusing on autonomous vehicles, includes 32 articles exploring the travel behavior of autonomous vehicles, survey methods for understanding travel patterns, improving accessible transportation options, and analyzing behavior associated with autonomous vehicles. The cluster signifies the rising interest in the intersection of transportation technology and the travel behavior of older adults.

Cluster 3: Leisure activity, comprises 22 articles centered around leisure activity among older adults. Topics explored include the impact of population aging on leisure activity, temporal trends in leisure engagement, and prediction models for understanding travel behavior related to leisure activities. The cluster reflects the recognition of the significance of leisure activities in the lives of older adults and their impact on travel behavior.

Cluster 4: 2sfca model, consists of 16 articles focusing on urban parks, spatial equity, multiple traffic modes, and service coverage analysis using the 2sfca model. The keywords indicate research investigating the accessibility and equity of urban parks and transportation services, particularly concerning older adults. The cluster suggests ensuring equitable access to urban amenities for older individuals.

Cluster 5: Traveler & apos, with 16 articles, encompasses keywords related to risk factors, clinical manifestations, viral diseases, health informatics, and critical care. The specific focus of this cluster needs to be evident from the provided information, as the keyword label appears to be truncated. Further analysis would be required to interpret the significance of this cluster.

In summary, Table 7 identifies several critical thematic areas within the field of research related to older adults and travel. These clusters cover various topics, including travel behavior, health considerations, technological advancements, leisure activities, urban planning, and accessibility. The analysis provides insights into the field's main themes and research directions, facilitating literature reviews, highlighting research gaps, and guiding future research and collaborations.

The keyword burst analysis plays a significant role in understanding specific keywords' temporal dynamics and emergence within a research field. This analysis helps researchers understand the temporal dynamics of keywords within a research field, identify emerging trends, and make informed decisions. It provides valuable insights into the evolving research focus, influential concepts, and emerging topics of interest, aiding in advancing knowledge and planning research strategies (Luo et al., 2022; Ninkov et al., 2022; Shi & Liu, 2019).

Table 8 refers to the results of the keyword burst analysis of elderly tourism research from 2019 to 2023. The 15 keywords are land use, residential self-selection, walking, transmission, mortality, quality, disease, community, public health, adults, management, seniors, the elderly, tourism, and services.

Table 7. Keyword clustering analysis results and representative keywords of elderly tourism research

Cluster ID	Cluster name	Size	Mean year	Keywords
0	Older adults	41	2020	travel behavior; weighted regression; dockless bike-sharing; spatiotemporal variation; vertical equity
1	Older travelers	36	2020	travel medicine; systematic review; malaria prevention; arterial stiffness; logistic regression model
2	Autonomous vehicles	32	2020	autonomous vehicles; travel behavior; travel survey methods; accessible transportation; behavior analysis
3	Leisure activity	22	2020	leisure activity; population aging; temporal trends; travel behavior prediction
4	2sfca model	16	2020	urban parks; spatial equity; multiple traffic mode; service coverage analysis
5	Traveler&apos	16	2020	risk factor; clinical manifestation; viral disease; health informatics; critical care

Table 8. Keyword burst of elderly tourism research

Keywords	Year	Strength	Begin	End	2019–2023
Land use	2019	2.9	2019	2019	
Residential self-selection	2019	1.65	2019	2019	
Walking	2019	1.37	2019	2019	
Transmission	2020	1.59	2020	2020	
Mortality	2020	1.59	2020	2020	
Quality	2020	1.59	2020	2020	
Disease	2020	1.59	2020	2020	
Community	2020	1.59	2020	2020	
Public health	2021	1.77	2021	2021	
Adults	2021	1.51	2021	2021	
Management	2020	1.45	2021	2021	
Seniors	2021	1.32	2021	2021	
The elderly	2022	2.61	2022	2023	
Tourism	2020	1.47	2022	2023	
Services	2020	1.39	2022	2023	

Land use, residential self-selection, and walking were prominent keywords in 2019, indicating a high occurrence and relevance within the research context. These keywords in 2019 suggest research trends related to urban planning, housing choices, and the impact of walking on various aspects such as health, transportation, and urban design.

Transmission, mortality, quality, disease, and community emerged as significant keywords in 2020, suggesting their moderate occurrence and importance within the research focus of that year. These keywords in 2020 indicate research trends related to infectious diseases, public health, healthcare quality, and community health. The emphasis may have been on understanding disease transmission, mortality rates, healthcare systems, and community interventions.

Public health, adults, management, and seniors gained prominence in 2021, indicating their moderate occurrence and significance within the research context of that year. These keywords in 2021 suggest research trends related to public health interventions, health management strategies, and issues specific to adult and senior populations. The focus may have been on addressing health needs, developing management approaches, and improving healthcare services for these demographic groups.

The elderly, tourism, and services became prominent in 2022 and continued until 2023, suggesting their sustained relevance and occurrence within

the research focus across those years. These keywords from 2022 to 2023 reflect research trends related to the elderly population, the tourism industry, and service-oriented sectors. The research might have explored elderly care, travel behavior, tourism management, and service quality.

Overall, the research trends indicated by the keywords highlight a range of topics, including urban planning, public health, disease management, healthcare quality, and the specific needs and experiences of adult, senior, and elderly populations. The keywords provide insights into the prominent research focus areas and the temporal evolution of these themes from 2019 to 2023.

4. DISCUSSION

The bibliometric analysis of the past five years of elderly tourism research offers a comprehensive understanding of the trends and future possibilities within the field (Luo et al., 2022; Ninkov et al., 2022; Shi & Liu, 2019). The value of elderly tourism is increasingly recognized and evident in the growing body of research focused on its sustainable development and market progression (Hwang et al., 2020). Despite this, the analysis also highlights a critical weakness within the field: a need for collaborative relationships among researchers, potentially restricting the development of robust, interconnected research networks that could drive more profound, comprehensive insights.

Pestana, Parreira, et al. (2019), Pestana, Sánchez, et al. (2019), and Pestana et al. (2020) conducted the visual exploration of senior tourism prior to 2018 contributed to the development of certain knowledge landscapes; it primarily encapsulates discussions on senior tourism pre-COVID-19. This analysis concentrates on decoding the fundamental characteristics of the research, for example, collaborations among authors and across nations. By comparison, the visualization methodology employed in this study integrates keyword analysis, facilitating the identification of research trends emerging post-2019.

The fragility of cooperative relationships also extends to the institutional level, where prominent higher education institutions like Harvard University and several Chinese institutions show contributions but lack strong collaboration. Previous research, with the University of Queensland contributing most prominently in this area (Pestana, Sánchez, et al., 2019), shows that lack of cooperation of ideas may lead to research inefficiencies, as work may be unintentionally duplicated or valuable insights not shared across institutions.

In terms of geographic contribution, before 2018, the United States had an absolute advantage (Pestana, Parreira, et al., 2019). However, the dominance of China underscores the country's growing influence and investment in elderly tourism research after 2019. Hence, more international contributions and collaboration could broaden perspectives and enrich understanding of this complex and multifaceted topic.

Current research focal points in elderly tourism – such as tourism planning, health and risk in tourism, transportation, and tourism services – provide valuable directions for future research. The heightened focus on the quality of services for older people in tourism and management strategies for elderly tourism indicates an industry keenly aware of its aging clientele's unique needs and preferences.

Based on the summary provided, here are some relevant tourism management inspirations for scholars and the market in the field of elderly tourism.

Collaborative research networks: The analysis reveals a need for stronger collaborative relationships among researchers in elderly tourism. Establishing collaborative research networks can lead to shared resources, knowledge exchange, and more comprehensive insights into elderly tourism, ultimately driving innovation and advancement in the field.

International collaboration: Given the dominance of Chinese institutions in elderly tourism research, scholars and the market should strive for greater international collaboration. By fostering partnerships and collaborations with researchers from different countries, diverse perspectives can be integrated into the research, leading to a broader understanding of elderly tourism and its global implications.

Focus on service quality: The study highlights that the quality of services for older people in tourism and management strategies for elderly tourism is a top research trend. Scholars and the market should continue to emphasize and invest in improving the services provided to senior tourists. This can involve training tourism professionals on age-friendly service delivery, integrating personalized experiences, and ensuring accessible information and communication channels.

Enhanced understanding of the elderly tourism market: The study emphasizes the importance of understanding the elderly tourism market. Scholars and the market should invest in market research and analysis to gain insights into senior tourists' preferences, needs, and behaviors. This understanding can inform the development of targeted marketing strategies, tailored products and services, and effective destination management for the elderly tourism segment.

Strengthened tourism management: The summary highlights the need for strengthening tourism management in elderly tourism. Scholars and the market should focus on developing strategies and frameworks for managing elderly tourism, including destination planning, infrastructure development, and policy formulation. This can contribute to the sustainable growth and development of the elderly tourism industry.

Technology integration: The integration of technology can play a significant role in improving the elderly tourism experience. Scholars and the market should explore technology solutions such as mobile applications, virtual reality, and intelligent devices to enhance accessibility, provide personalized recommendations, and facilitate seamless communication between senior tourists and service providers.

Future studies may delve deeper into how various environments and landscapes can be modified or used to promote senior-friendly tourism experiences. This could encompass urban planning that enables elderly access to tourist sites and rural tourism that provides unique experiences without compromising safety and comfort. Research about elderly tourism may evolve to explore further how seniors' residential choices affect their tourism behavior and how mobility aids can be better integrated into travel services to enhance the tourism experiences for those with mobility issues.

This study has several limitations. The analysis is based on 332 English-language articles from the Web of Science. This may introduce a language bias, as valuable research published in other languages could be excluded from the analysis. The findings may not fully represent the global landscape of elderly tourism research, limiting the generalizability of the conclusions. The analysis covers the past five years (2019 onward). This narrow time frame may exclude relevant research conducted before 2019 that could have impacted the current state of elderly tourism. It may also need to catch up on recent research developments and emerging trends that still need to be captured in the available literature.

The study identified a need for collaborative relationships among researchers in the field. However, the analysis is based on co-authorship data, which may not fully capture the extent of collaboration or the nature of intellectual contributions. Collaborative relationships and knowledge exchange might occur through informal networks, or other means not captured in the analysis.

It is essential to acknowledge these limitations to provide a balanced interpretation of the research findings and to highlight areas for future research and improvement in the study of elderly tourism.

CONCLUSION

Utilizing a bibliometric approach, this study aims to unveil vital trends and perspectives in elderly tourism research. The results show that one requires greater collaboration among researchers and institutions to harness the potential of collective insights. Strengthening these connections can create robust and comprehensive strategies that better serve the elderly tourism market, ultimately promoting sustainable growth.

The study also underscores the importance of broadening the perspective on elderly tourism. This involves a heightened focus on service quality, more robust management strategies, and an enriched understanding of the elderly tourism market. Recognizing these areas of interest paves the way for future research to delve into unexplored or underexplored territories.

Moreover, the study highlights the significance of international contribution and collaboration in elderly tourism research. A diverse blend of cultural, social, and economic perspectives can offer richer insights into this globally relevant field. In conclusion, this paper underlines the potential for growth, development, and innovation within the field of elderly tourism and calls upon researchers, institutions, and nations to pool their knowledge, experience, and resources to advance this critical sector of the tourism industry.

AUTHOR CONTRIBUTIONS

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