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## Traditional Sports and Physical Culture Studies in Turkology Literature: A Bibliometric Analysis



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### ABSTRACT

**Objective:** This study examined the structure, development, and thematic organization of research on traditional sports and physical culture within Turkology literature through a bibliometric approach.

**Methods and Materials:** Records were retrieved from the Web of Science Core Collection using a structured topic search. A total of 264 publications were included and analyzed through descriptive bibliometric indicators and science-mapping techniques. Publication trends, author productivity, country contributions, keyword patterns, co-occurrence structures, thematic clusters, and citation patterns were assessed.

**Findings:** The literature showed limited activity before 2010, followed by gradual growth and a clearer increase after 2015. Author productivity was widely dispersed, with no dominant author group or consolidated research core. Türkiye was the leading contributor, followed by Russia and the United States, while contributions from other countries indicated gradual internationalization. Keyword and thematic analyses showed that the field is mainly shaped by cultural, historical, and geographical perspectives. Sport-specific terms appeared less frequently and were usually embedded within broader socio-cultural discussions rather than treated as a separate sport-science domain. The citation structure also suggested a fragmented knowledge base with limited intellectual consolidation.

**Conclusion:** Traditional sports research within Turkology remains interdisciplinary, text-centered, and conceptually dispersed. Although academic interest has increased, the field still lacks a stable theoretical foundation and a clearly defined disciplinary identity. More focused, theoretically informed, and methodologically integrated studies are needed to strengthen the conceptual coherence of this research area.

**Keywords:** *bibliometric analysis; science mapping; keyword co-occurrence; thematic analysis; cultural heritage; Turkology*

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## 1. Introduction

Research on traditional sports within Turkology has become more visible in recent years. Nevertheless, the literature has generally approached these practices through historical texts, cultural narratives, linguistic materials, and ethnographic accounts rather than through sport science as a distinct disciplinary lens. In many studies, sport appears as part of a wider cultural setting and is interpreted indirectly through written sources, oral traditions, regional histories, and collective memory (1, 2). This pattern has made the academic position of traditional sports difficult to define with precision. Turkology is an inherently interdisciplinary field. Its sources include written documents, oral epics, historical records, linguistic materials, and cultural practices across broad geographical and chronological contexts. Within this framework, traditional sports are often presented as elements of social life, identity, ritual, military preparation, celebration, or cultural continuity. They are therefore rarely isolated as independent objects of sport-science inquiry. This text-centered and culturally embedded representation contributes to conceptual dispersion across the literature (3, 4). Although the number of publications has increased, the overall structure of this body of work remains insufficiently examined. Existing studies often focus on particular sports, regions, historical periods, or cultural communities. Such studies are valuable, but they do not fully show how the field has developed as a whole, which themes dominate it, which countries and authors contribute most strongly, or how its conceptual structure is organized. The limited use of quantitative and science-mapping approaches has therefore left an important gap in understanding the development of traditional sports research within Turkology (5). Bibliometric analysis offers a useful way to address this gap. By combining descriptive indicators with science mapping, it can reveal publication trends, productivity patterns, geographical distribution, keyword structures, thematic clusters, and citation relationships (6, 7). In this

study, these techniques were used to clarify how traditional sports and physical culture have been represented in Turkology literature. The analyses are summarized through one methodological table and eight figures. Table 1 presents the main methodological framework, while Figures 1–8 report the selection process, publication trends, author productivity, country distribution, keyword patterns, conceptual network, thematic map, and citation structure.

## 2. Methods and Materials

### 2.1 Study Design

This study was designed as a bibliometric analysis of traditional sports and physical culture studies in Turkology literature. Bibliometric methods were used to describe the development and organization of the field, while science-mapping techniques were applied to explore its conceptual and intellectual structure. The analysis relied on secondary bibliographic data retrieved from the Web of Science Core Collection; therefore, no human participants, clinical data, or identifiable personal information were involved.

### 2.2 Data Source and Search Strategy

The dataset was retrieved from the Web of Science Core Collection in January 2026. The search was conducted in the Topic field, which includes titles, abstracts, and keywords. The following query was used:

*TS = ("traditional sport" OR "traditional game" OR "physical culture" OR "folk sport\*" OR "wrestling") AND TS = ("Turkology" OR "Turkic" OR "Ottoman" OR "Central Asia" OR "Anatolia")*

No time restriction was applied, and all available years were considered. The dataset was limited to articles, review papers, and book chapters published in English or Turkish. Only records indexed in the Web of Science Core Collection were included. The inclusion and analytical framework are summarized in Table 1.

**Table 1.** Search strategy and bibliometric analysis framework

Component	Description
Database	Web of Science Core Collection
Search date	January 2026
Search field	Topic field: title, abstract, and keywords
Main concepts	Traditional sport, traditional game, physical culture, folk sport, wrestling, Turkology, Turkic, Ottoman, Central Asia, and Anatolia
Eligibility	Articles, review papers, and book chapters published in English or Turkish
Final dataset	264 records
Main analyses	Annual publication trend, author productivity, country distribution, keyword frequency, keyword co-occurrence, thematic mapping, and citation analysis
Software	R environment and the Bibliometrix package

2.3 Study Selection

The selection process followed the logic of the PRISMA 2020 reporting framework (8). As shown in Figure 1, 264 records were retrieved from the database. Because the

dataset was drawn from a single database and the query was applied directly to the defined bibliographic fields, no duplicate records were identified. Title, abstract, and full-record screening did not lead to exclusions, as all retrieved records were retained within the broad analytical scope of the study.

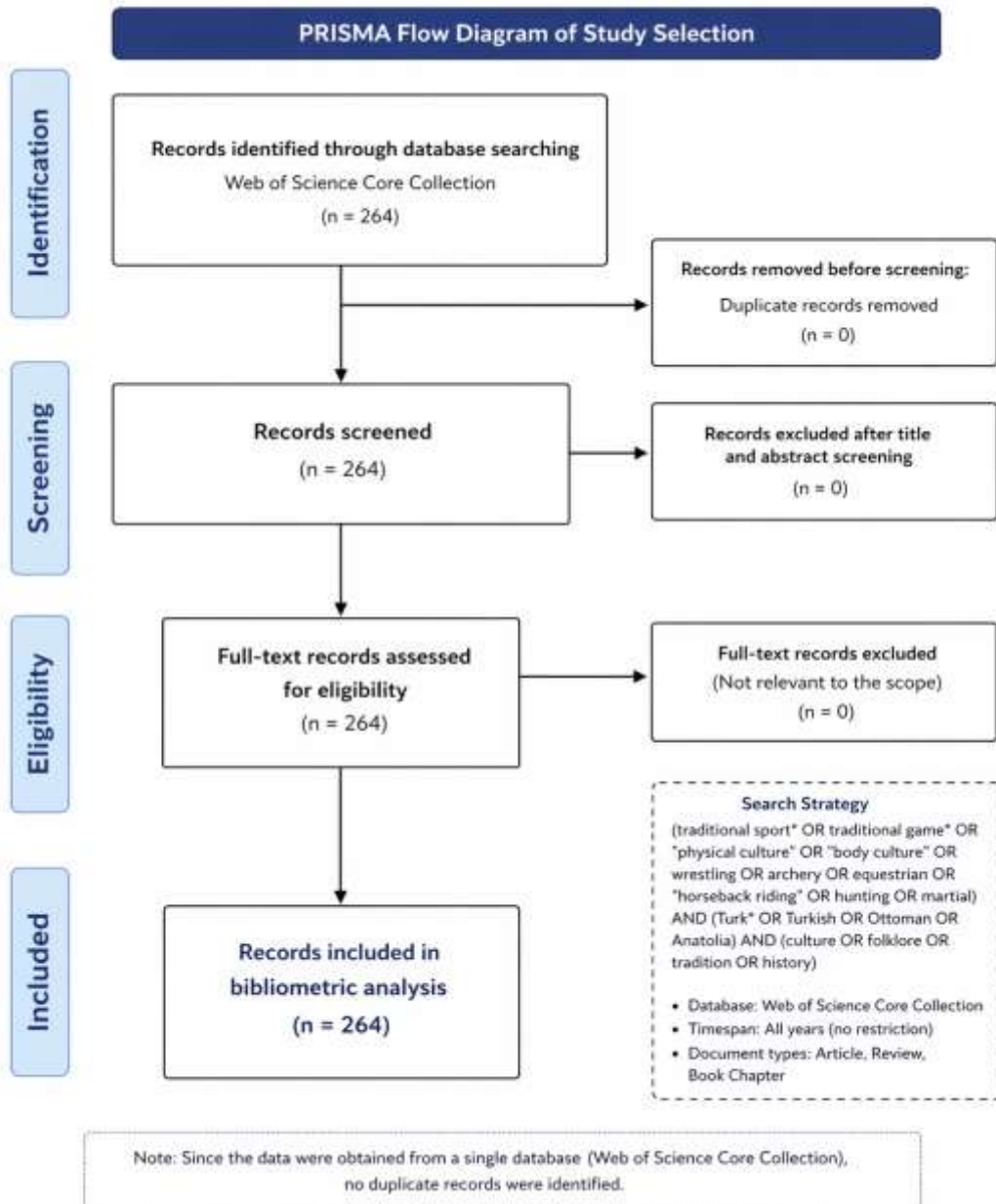


Figure 1. PRISMA flow diagram of the study selection process

2.4 Data Analysis

The bibliometric analysis was conducted using the R software environment and the Bibliometrix package (6). Descriptive indicators were used to examine annual scientific production, author productivity, and country

distribution. Science-mapping procedures were then applied to identify conceptual relationships in the literature. Keyword co-occurrence analysis was used to detect links between recurring research topics, and network visualization was used to display thematic clusters. A thematic map based on centrality and density classified themes into motor, basic,

niche, and emerging or declining categories. Citation analysis was also used to assess whether the field is organized around a stable intellectual core.

### 3. Results

The results are presented in relation to publication development, author productivity, geographical contribution, keyword structure, thematic organization, and citation patterns. Together, Figures 2–8 show that the field has grown over time but remains conceptually dispersed and only partly consolidated.

#### 3.1 Annual Scientific Production

Annual scientific production remained limited for a long period and began to increase more clearly after 2010. As shown in Figure 2, growth became more visible after 2015, suggesting increased academic attention to traditional sports and physical culture within Turkology. The highest activity appeared in the early 2020s. Any apparent decline in the most recent year should be interpreted cautiously because indexing delays may affect recent Web of Science records.

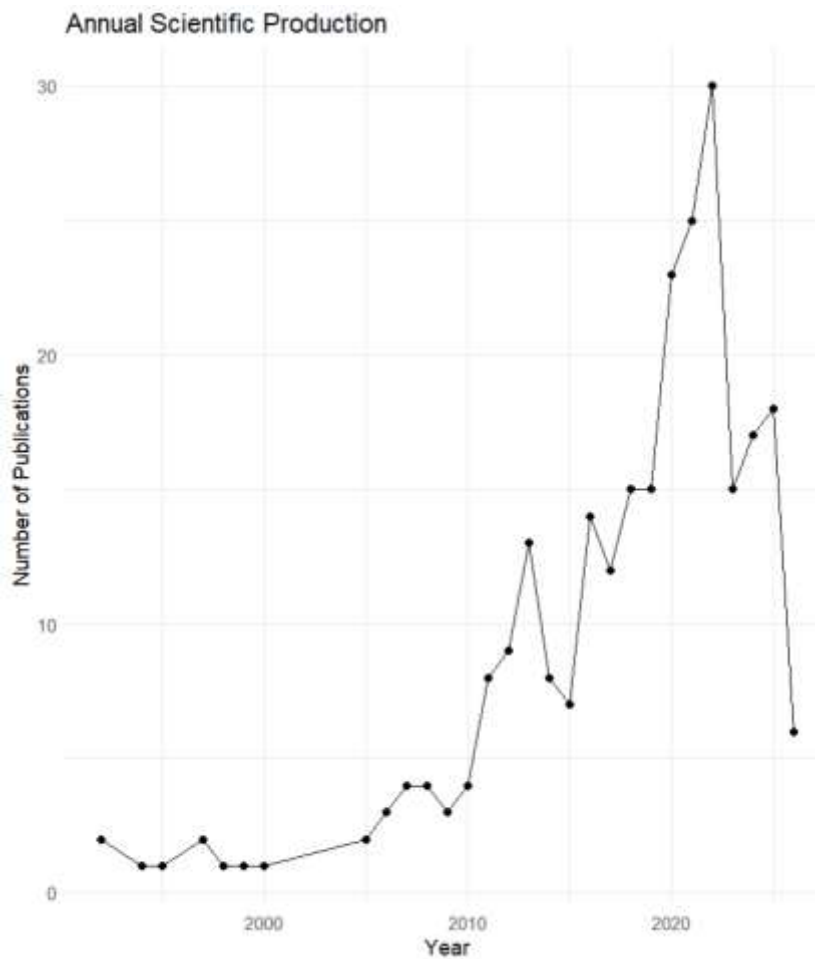


Figure 2. Annual scientific production on traditional sports and physical culture in Turkology literature

#### 3.2 Author Productivity

Author productivity was widely distributed across the dataset. Figure 3 shows that the most productive author

contributed four publications, while most other productive authors contributed two or three. This pattern indicates the absence of a dominant author group and suggests that the field is still developing without a clearly established research core.

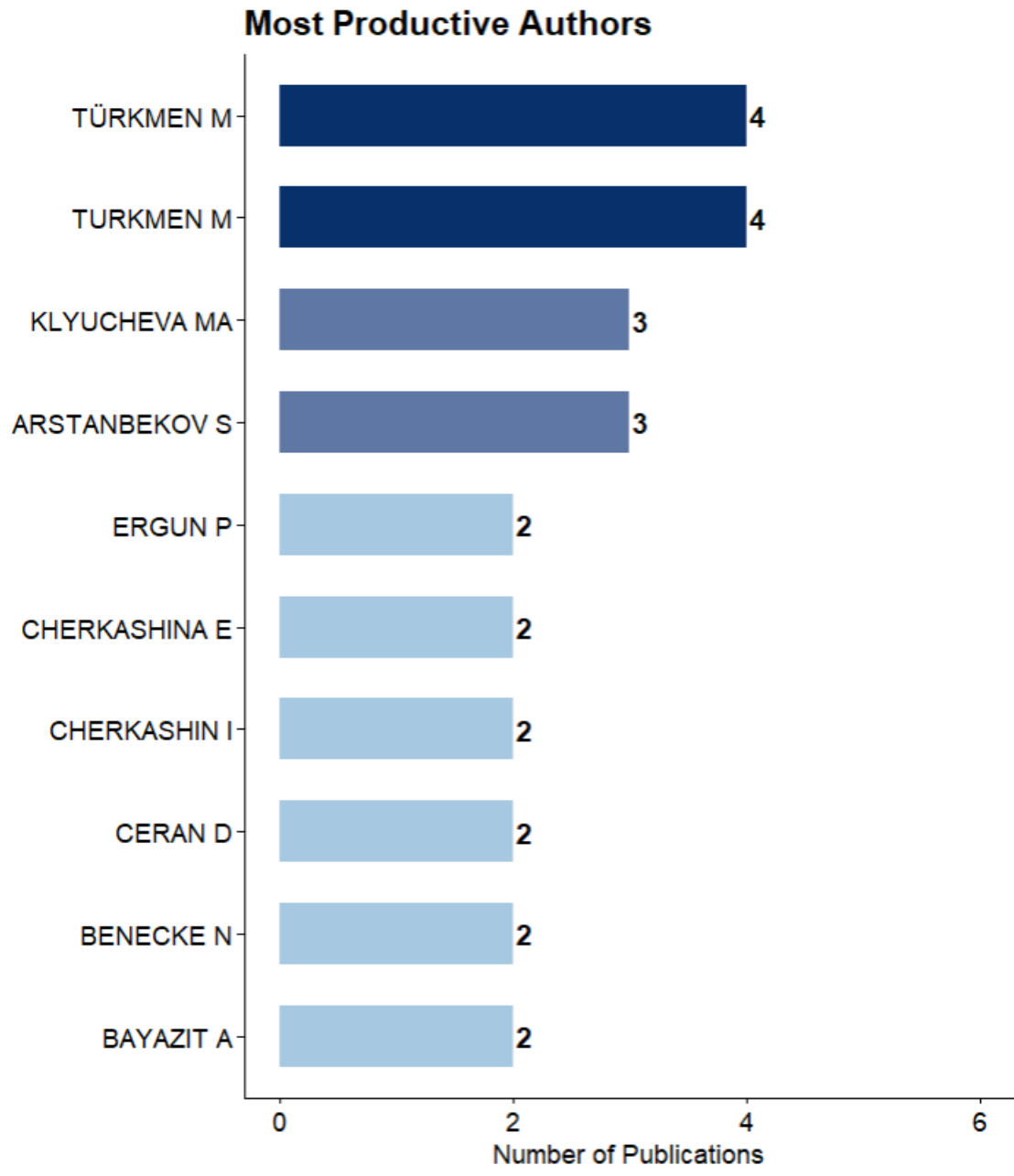
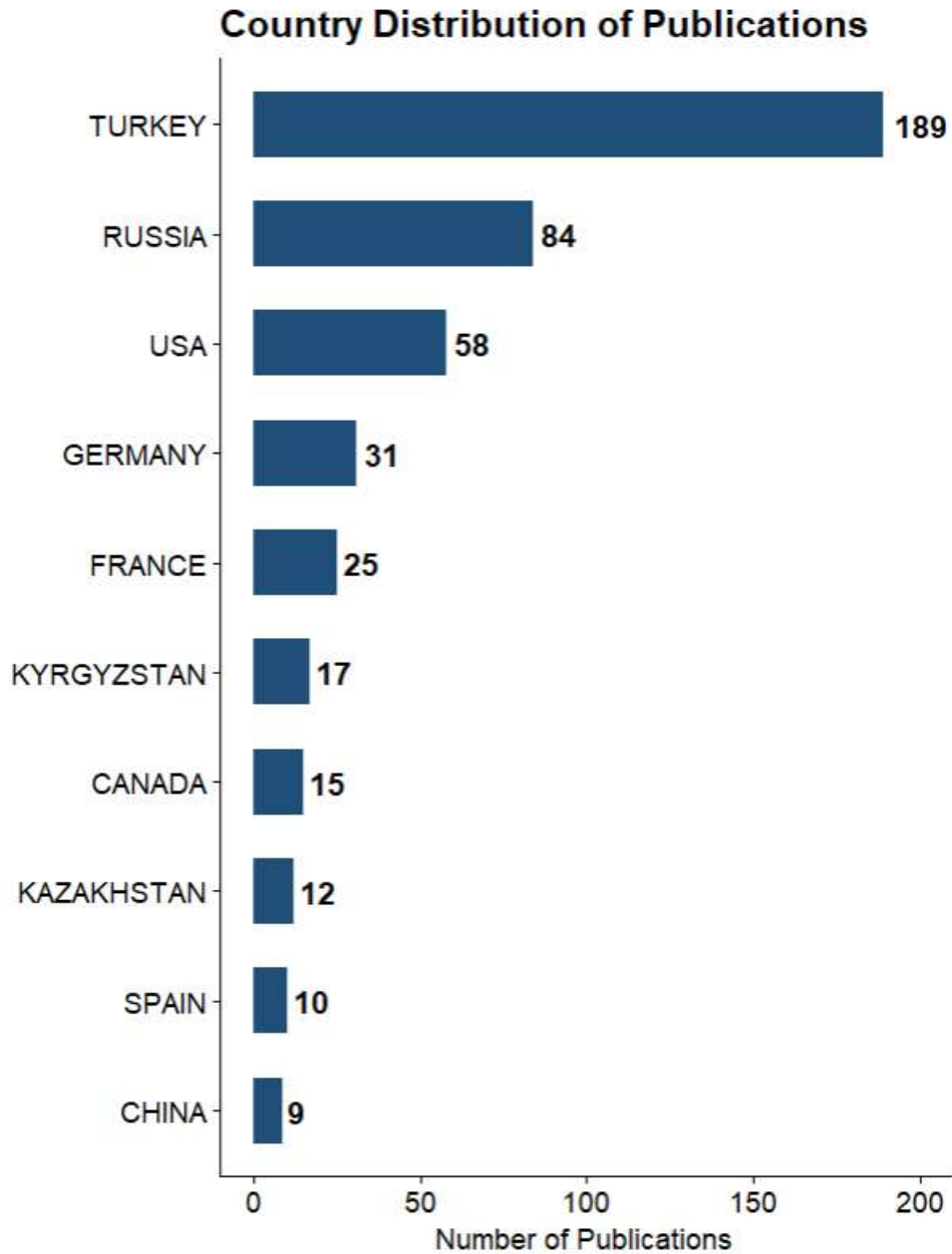


Figure 3. Most productive authors in the field

### 3.3 Country Distribution

The country distribution in Figure 4 indicates a strong concentration of publications in a limited number of countries. Türkiye was the leading contributor, followed by

Russia and the United States. This pattern is expected because traditional sports and Turkic cultural practices are historically and geographically connected to these contexts. At the same time, the presence of countries such as Germany and China suggests a gradual, although still limited, internationalization of the literature.

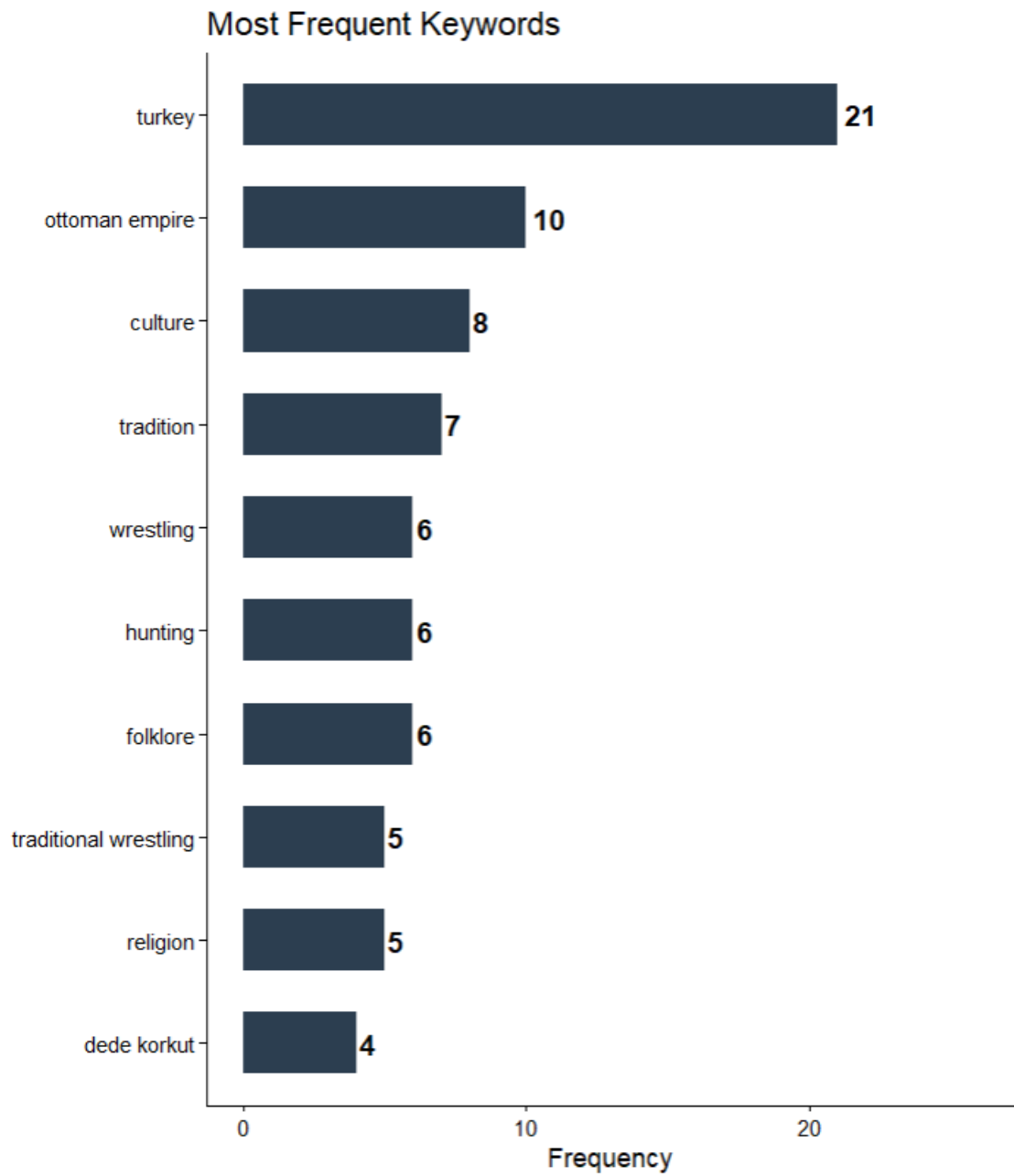


**Figure 4.** Country distribution of publications

### 3.4 Keyword Patterns

The keyword results show that the literature is strongly shaped by geographical, historical, and cultural descriptors. As Figure 5 illustrates, terms such as “Turkey” and

“Ottoman Empire” appeared prominently, while sport-specific terms such as “wrestling” and “traditional wrestling” were less frequent. This suggests that traditional sports are often examined within broader cultural and historical narratives rather than as independent sport-science phenomena.

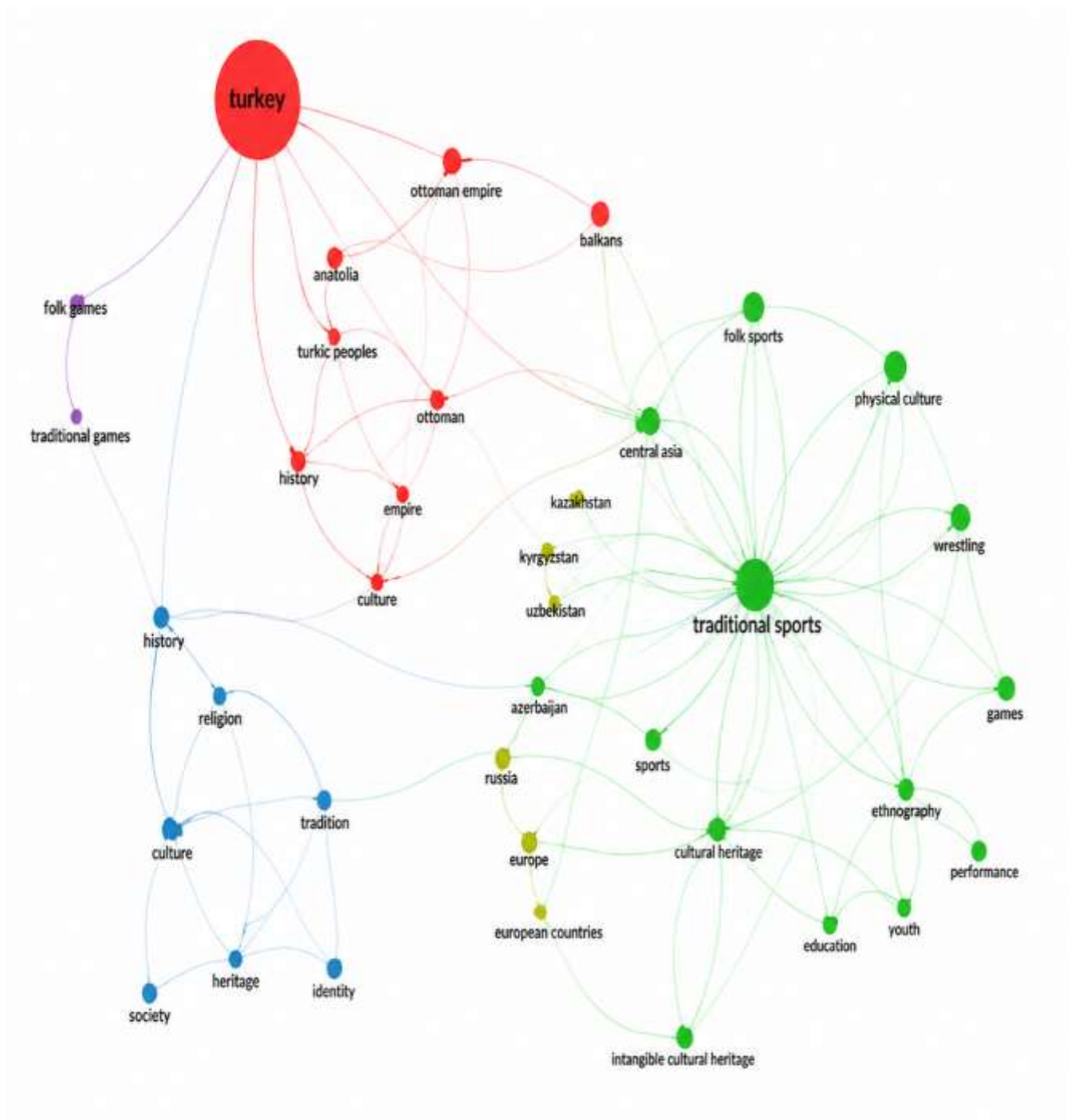


**Figure 5.** Most frequent keywords in the literature

### 3.5 Keyword Co-occurrence Network

The keyword co-occurrence network in Figure 6 reveals a fragmented conceptual structure. One cluster is organized around geographical and historical terms, including “Turkey,” “Ottoman Empire,” and “Balkans.” A second

cluster includes broader cultural concepts such as “tradition,” “culture,” and “history.” A third grouping reflects geographical diffusion through terms such as “Kazakhstan,” “Russia,” and “European countries.” The relatively weak links between these clusters suggest that research themes tend to develop in parallel rather than within a tightly integrated conceptual framework.



**Figure 6.** Keyword co-occurrence network in the literature

### 3.6 Thematic Structure

The thematic map in Figure 7 further supports the interpretation of a partially fragmented field. “Culture” appears as a motor theme, indicating both high relevance and comparatively strong development. “History” appears as a

basic theme, reflecting its broad importance but lower internal development. Peripheral themes such as “conservation” and “education” may represent specialized lines of inquiry, whereas terms such as “infection” and “mitochondrial-DNA” likely reflect indexing noise or peripheral records captured by the broad search strategy.

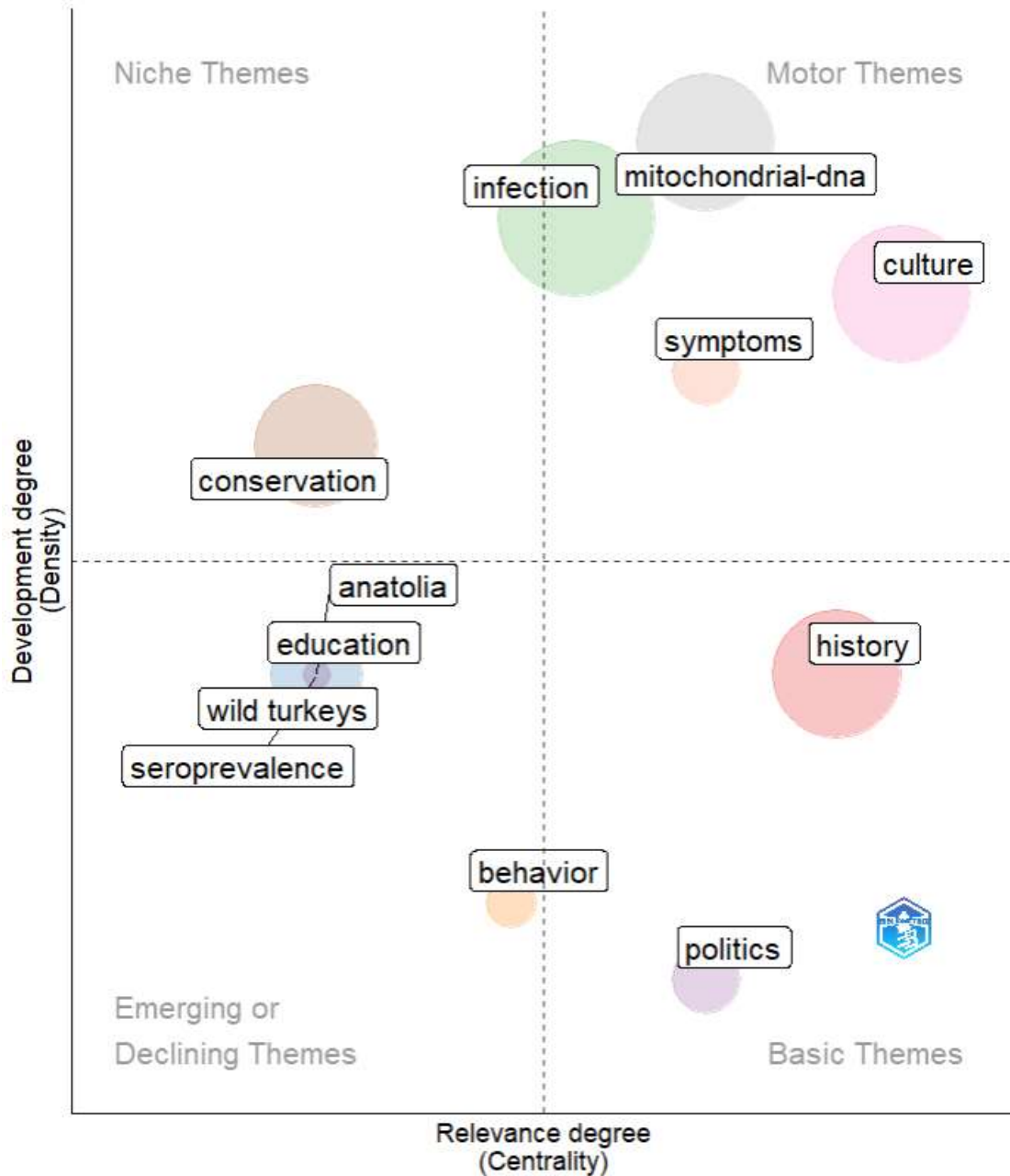


Figure 7. Thematic map of research topics in the literature

### 3.7 Citation Structure

Figure 8 presents the most cited references in the dataset. The citation pattern is relatively dispersed, with no single publication dominating the field. A small number of works

received higher citation counts, but the overall pattern suggests that knowledge accumulation is not yet centered on a stable set of foundational studies. This finding is consistent with the broader evidence that the field remains interdisciplinary and only weakly consolidated.

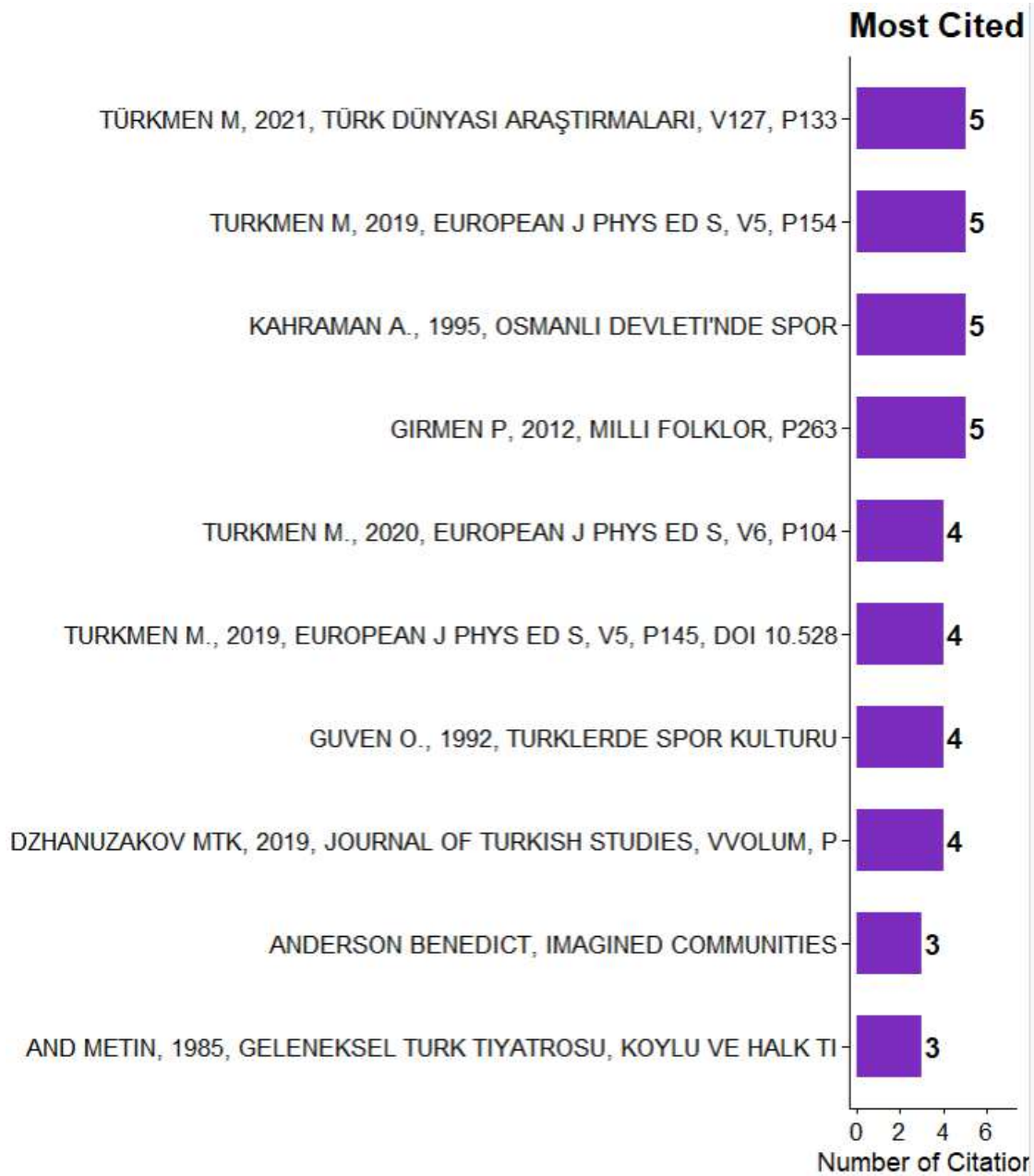


Figure 8. Most cited references in the literature

#### 4. Discussion

This study analyzed 264 Web of Science Core Collection records to clarify the structure and development of traditional sports and physical culture research within Turkology. The findings show a field that has gained visibility over the past decade, particularly after 2015, but that remains organized around dispersed authorship, uneven geographical distribution, and heterogeneous themes. The use of a single database enhanced the internal consistency of the dataset, although it may have excluded relevant

publications indexed in Scopus, regional databases, or non-indexed national journals.

The increase in publication output after 2010, illustrated in Figure 2, suggests that traditional sports have become more visible as components of cultural heritage, identity, and historical continuity. This growth is consistent with broader bibliometric observations that emerging interdisciplinary topics often expand gradually before achieving conceptual consolidation (7). However, the author productivity pattern shown in Figure 3 indicates that this growth has not yet produced a stable group of highly productive scholars. In this respect, the field resembles an emerging domain rather than

a mature and institutionally consolidated research area. The geographical distribution shown in Figure 4 highlights the central role of Türkiye and other countries connected to Turkic history, culture, or scholarship. This distribution reflects the cultural rootedness of the topic, but it also shows that the field has not yet become globally distributed. The presence of contributors from countries outside the core Turkic or Ottoman contexts may signal growing international interest, yet the literature remains concentrated in a relatively small number of national contexts.

The keyword and thematic findings provide the clearest evidence of the field's conceptual orientation. Figures 5 and 6 show that historical, geographical, and cultural terms dominate the keyword structure, while sport-specific terms are less central. This suggests that traditional sports are usually treated as cultural artifacts, historical practices, or identity markers rather than as a distinct domain of sport science. Figure 7 reinforces this interpretation by identifying "culture" as the main motor theme and "history" as a basic theme. The presence of peripheral and conceptually unrelated terms also indicates that the broad search strategy may have introduced noise into the dataset. The citation structure shown in Figure 8 further suggests that the field lacks a strongly consolidated intellectual core. Although some publications receive more citations than others, the overall distribution is fragmented. This pattern is consistent with Price's (1965) observation that citation networks can reveal the degree of intellectual organization within a research field (9). In the present case, the network suggests that traditional sports research within Turkology has not yet converged around a small body of foundational works. Overall, the findings indicate that traditional sports and physical culture studies in Turkology remain interdisciplinary, culturally grounded, and conceptually dispersed. This position is not necessarily a weakness; it reflects the richness of Turkology as a field that connects texts, languages, histories, rituals, and social practices. However, greater theoretical clarity would help strengthen the scholarly identity of traditional sports research. Future studies could benefit from clearer definitions, more controlled search strategies, comparative database coverage, and stronger integration between cultural studies and sport-science perspectives.

## 5. Conclusion

This bibliometric analysis shows that research on traditional sports and physical culture within Turkology has

expanded over time but has not yet developed into an independent and fully consolidated research domain. The literature remains largely shaped by cultural, historical, and geographical perspectives, with sport-specific concepts often embedded within broader socio-cultural narratives. The findings also reveal dispersed authorship, concentrated country contributions, fragmented keyword clusters, and a weakly consolidated citation structure. The study contributes to the literature by clarifying the current position of traditional sports research within Turkology and by identifying the main structural characteristics of the field. Its results suggest the need for more focused, theoretically informed, and methodologically rigorous studies. In particular, future research should position traditional sports not only as cultural heritage but also as phenomena that can be examined through sport sciences, sociology, anthropology, history, and cultural studies in a more integrated manner. Several limitations should be acknowledged. First, the analysis was restricted to the Web of Science Core Collection, which may have excluded relevant studies indexed in Scopus, regional databases, national journals, or books. Second, the search strategy was intentionally broad to maximize coverage, but this may have allowed the inclusion of peripheral records, as suggested by some unrelated keywords in the thematic map. Third, bibliometric results depend on database indexing practices, author keywords, and keyword standardization. Future studies should therefore use multiple databases, apply refined search strings, and conduct more detailed manual screening to improve conceptual precision.

## Authors' Contributions

Not applicable.

## Declaration

Artificial intelligence–assisted language editing tools were used only to improve clarity, academic tone, grammar, and readability. The author reviewed, verified, and approved the final content and remains fully responsible for the accuracy, integrity, and interpretation of the manuscript.

## Transparency Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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### Declaration of Interest

The author declares no conflict of interest.

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This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

### Ethical Considerations

This study was based exclusively on publicly indexed bibliographic metadata and did not involve human participants, biological samples, clinical records, private information, or intervention procedures. Therefore, formal ethics committee approval was not required. All analyzed records were used for scholarly and bibliometric purposes only.

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