Four Books and Five Classics as Key References in International Journal Communication: A Scopus-Based Visualization (1998-2023)

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Abstract. Using CiteSpace 6.1.R6 and Arcgis, this paper examines the publications on Confucian classics represented by the Four Books and Five Classics in the Scopus database from 1990 to February 2023. Grasping the overall situation of research on Four Books and Five Classics and the hot issues in detail, the study aims to understand the field’s status and cutting-edge topics. The results revealed that the main contributors are Chinese and Chinese-American scholars, and the publications are mostly disseminated by American publishers and influenced by the economy. Research on Four Books and Five Classics has gained more attention over the years, but the topics and methods are becoming more homogeneous. The paper suggests that more efforts are needed to promote the dissemination of Confucian classics and attract more scholars to join the frontier dialogue in this field. Academic journals can serve as a medium to promote the dissemination of classics to the world.

Keywords: Four Books and Five Classics; Communication; Visualization; CiteSpace; Arcgis.

1. Introduction

Confucianism has served as the spiritual foundation that helped develop Chinese society and advanced Chinese civilization for centuries. The Confucian classics carry systematic Confucian thoughts and showcase the essence of Confucianism. Notable works like The Great Learning, The Doctrine of the Mean, The Analects, Mencius, The Book of Songs, The Book of Documents, The Book of Rites, The Book of Changes, and The Spring and Autumn Annals, are collectively known as the Four Books and Five Classics, which have long been core sources studied by Confucian and non-Confucian scholars to advance the tradition. Now, as cultural exchange accelerates worldwide, more scholars recognize these seminal works hold wisdom applicable far outside China. Their nuanced reflections on ethics, governance, and humanism fuel important modern dialogues. Many academics have sought to introduce the rich insights of these ancestral texts on a global scale.

The Scientific Knowledge Graph(SKG) is a knowledge representation technique that visualizes the development and connections within scientific knowledge domains. Encompassing characteristics of both graphs and networks, SKG facilitates the exploration of knowledge as sequential lineages and complex structural associations. SKG thus presents complex relationships such as network structures, interactions, intersections, and evolution among knowledge units or knowledge communities[4]. The citation database has been the most important data source for knowledge graph research. Among the most prominent resources tapped are Web of Science (referred to as WoS, including core collections SCI-E, SSCI, A&HCI, CPCI-S and CPCI-SSH, etc.), Elsevier Scopus, and Chinese Citation Databases (CSCD and CSSCI)[4]. In recent years, knowledge graph analysis has increasingly enabled scholars to gain insights into the contextual development, prominent topics, and potential trajectories of various research domains. This technique has proven especially valuable within library and information science, education management, and computer applications. However, when it comes to translation studies, most academic work has centered on specific translators or experimental translation projects, with limited use of knowledge graph approaches. Rarely have Chinese classics served as the focal point for such analyses. According to China’s database, CNKI, only Yangyan[19] conducted a visual analysis of the translation research focused on ethnic minority classics in China, clarifying the trends in this
area and better informing future research by succeeding generations. Academic discourse is the constructive practice of subjective knowledge production and meaning interpretation[16]. Academic journals serve as an important medium for conducting and sharing the results of academic discourse. To some degree, they reflect the ongoing processes of knowledge production and dissemination within their respective fields. Studying the treatment of Confucian classics within overseas journals could provide insights into their influence abroad and contemporary research value. However, few scholars have employed visual analytical tools to map trends in how mainstream international journals disseminate and discuss these classic Chinese texts. Therefore, this study leverages the Scopus database and CiteSpace knowledge graph tool to visualize and analyze trends in foreign scholars' research on the Confucian Four Books and Five Classics. Meanwhile, GIS further serves to map the global propagation pathways of the Four Books and Five Classics as disseminated through leading international journals over time. Then this study can illuminate the developmental context, prominent topics of inquiry, and potential future trajectories of international scholarship focused on these classic Confucian texts.

2. Source and Materials

2.1 Data Source

The Scopus database is an abstract, reference, and citation database launched by Elsevier in 2004 and an important data search and navigation tool except for the Web of Science (WoS)[14]. It is one of the world’s largest abstract and citation databases of peer-reviewed literature, including scientific journals, books, and conferences. In the past decade, the global stature and utilization of the Scopus database have substantially grown within academic and research communities. Whereas the WoS database remains a pivotal resource, Scopus has expanded its footprint through broader index coverage. Most notably, Scopus indexes far more journals in the humanities and social sciences relative to WoS[14]. It thus has a more comprehensive understanding of the research and dissemination of Confucian classics in overseas academic circles. However, few scholars studied the circulation of the classics based on Scopus so far. This study utilizes the Scopus database to map trends in the global circulation of Confucian classics. Keyword searches were conducted for the nine major texts: the Four Books (Great Learning, Doctrine of the Mean, Analects, Mencius), Five Classics (Book of Songs, Book of Documents, Book of Rites, Book of Changes, Spring and Autumn Annals), including their transliterations. The search targeted the title, abstract, and keywords of papers in the database, applying no time limits. This broad scope aimed to capture literature discussing these Confucian works. To isolate academic research, a manual screening excluded conference reviews, advertisements, news articles, and other non-peer-reviewed materials. The validated set of over 459 scholarly publications forms the underlying evidence base, spanning 1990 to 2023.

This study utilizes geographic data from the World Physical Geography dataset on the Free GIS Datasets website. Using Google satellite maps for reference, key academic publishers and the 31 largest metropolitan areas in the United States were geo-located to compile their latitude and longitude coordinates. Complementing this, GDP data for 2021 was collected for each of the 31 metro areas from reliable economic reports accessible via the online financial platform Xueqiu.com.

2.2 Materials and Methods

CiteSpace is a knowledge graph software co-created by researchers at Drexel University and WISE Lab of Dalian University of Technology, which can measure literature in a specific field and visualize the relationship between highly prolific authors, cited literature, research hotspots, research funds, and development trends in the field. Drawn by this multiple, time-sharing, and dynamic citation analysis and visualization technology, it can concentrate the evolution of a knowledge field on a citation network map, and automatically identify the citation node literature and the research frontiers represented by co-citation clustering as the knowledge basis on the
map[18]. Before the visual analysis of Citespace, the filtered metadata RIS format is converted to WoS format and the documents are deduplicated. Create a new project in Citespace, set the Time Slicing to 1990-2023, select "author" and "institution", "country" and "keyword" in turn for the node type, and keep other settings default. The software is run by clicking “GO!” and the relevant knowledge network maps are generated and displayed. A geographic information system (GIS) is a database that integrates spatially referenced data to support spatial analyses and decision-making. It is seen as a quantitative spatial analysis tool based on positivism[8]. ArcGIS is a premier GIS software created by Esri that connects people, locations, and data through interactive maps and visualizes the results with the help of analytical tools. In this study, ArcGIS was leveraged to generate informative geographic representations. First, base map data of world boundaries was imported for contextual framing. Then, longitude and latitude coordinates for major international publishers were brought in to depict their global presence. Complementing this, independent datasets including elevation measurements and 2021 GDP statistics for 31 leading US metropolitan areas were sequentially incorporated. The geographic information maps of the world's major publishing houses and the United States were drawn respectively. To sum up, this study leverages two leading digital research platforms--CiteSpace and ArcGIS--to conduct a comprehensive examination of trends in the global circulation of Confucian classics.

3. Results and Analysis

This part analyzes research on Confucian classics from macro and micro perspectives. The macro analysis examines annual publication volumes, author/institution outputs, and global dissemination trends to grasp the overall state and trend. The micro-analysis identifies research hotspots through keyword networks and term bursts.

3.1 Dynamic Development

3.1.1 Overall Distribution of Literature Publications

Publications are the intuitive indicator of the quantity and popularity of research outputs in a given field[10]. Figure 1 shows the annual publication volume of overseas literature on the Four Books and Five Classics from 1900 to 2023. In the figure, the publication trend can be divided into three periods: slow development period (1990-2009), gradual maturity period (2010-2020), and deep development period (2021 to February 2023). International academics started to focus on the Four Books and Five Classics in 1990. During the slow development period, the academics published an average of about 5 articles per year. With little output, related research was almost marginalized. Meanwhile China's influence and soft power on the international stage were more constrained. As such, it may have been challenging to attract extensive in-depth research from overseas scholars focused specifically on Confucian thought and texts. Domestically, China prioritized economic and diplomatic development. Consequently, attention and investment devoted to nurturing the country's spiritual cultural heritage, including promotion and modern interpretation of classical philosophy, were likely more limited in scope. However, after 2010, annual publications related to Confucian classics within international scholarly literature began to increase more substantially. By that point, the average number of articles published annually had risen to approximately 25, with a peak of 37 articles in a single year. Over this period, China has gradually gained a foothold on the international stage, facilitating the broader propagation of Chinese philosophy, history, and traditions. The period of gradual maturity saw a peak in article publications, with 67 articles published in 2021 and 47 articles in 2022, both reaching record highs. In 2021, the Chinese government has vigorously developed and promoted the outstanding aspects of China's traditional culture, generating a supportive atmosphere conducive to flourishing research and scholarly exchange within the domestic and international academic communities.
3.1.2 Overseas Communication Paths

(1) Total Number of Countries

The number of publications originating from different countries provides insights into the global research focus and dissemination of ideas within a given scholarly domain. This study generates a cooperative knowledge map delineating international collaboration patterns based on country affiliations among contributing scholars. Then the data was imported into the Flourish online mapping platform, presenting an insightful visualization (Figure 2) of the worldwide dispersion of Confucian classical research. The circle sizing conveys the relative article publication volumes originating from each depicted country and the color of the circle represents different geographical areas. Figure 2 indicates research probing the Four Books and Five Classics from 1990 through 2023 has achieved truly global dissemination. Prolific outputs have been observed from numerous countries spanning diverse cultural regions including Asia, Europe, North America, South America, and Oceania. Publications from countries across East Asia and the broader Pacific Rim emerged as quantitatively foremost. Specifically, Chinese academic circles - encompassing mainland centers as well as Hong Kong, Macau, and Taiwan - demonstrated leadership through extensive scholarly output. Chinese scholars first published overseas articles in 1999, with a total of 139 articles. At the end of the 20th century, there was a Cultural Retro Movement in China, and its classics, especially Confucian classics, were widely revered. Chinese Professor Yang Naiqiao holds that this movement is the first comprehensive retrospective of traditional Chinese culture in modern China after the Cultural Revolution (1966-1976)[12]. At that time, university course enrollments and campus lectures focusing on traditions like Confucian thought saw extraordinarily high turnout. Furthermore, a proliferation of specialized academic journals and monographs emerged catering to this scholarly community. Chinese researchers began disseminating their findings internationally by sharing publications with worldwide Confucian studies. The bibliometric findings further highlight North America, and the United States in particular, as an important secondary center of rigorous Confucian studies scholarship worldwide. U.S. researchers first published articles in 1990, with a total of 139. Chinese scholar Wang Hongtao thinks From the mid-1900s onward, enhanced English translations of seminal Chinese texts and literary critical frameworks emerged[7]. During the mid-late 20th century, geopolitical dynamics saw the increasing prominence and engagement of the United States globally. As Sino-American relations developed further, American academic institutions had become world leaders in conducting rigorous Sinological inquiry. The North American comparative literature attracted significant interest and participation from Chinese and overseas Chinese scholars, many of whom are engaged in the English translation and research of classical Chinese literary theory[7]. American scholars then began to increase their translation of classical Chinese literature and published plenty of scholarly works. Publications from Europe and Central Asia also comprised a notable proportion of global outputs. The visualized network for these geographic areas features a larger collection of node shapes and a tighter interconnectedness, indicating that the Four Books and Five Classics have a wider influence and closer connection in Europe and Central Asia. In recent years, with the development of China’s society, Chinese classics
globally have become increasingly widespread, capturing interest across most world regions. However, it also reveals comparatively fewer research contributions to date in Africa as well as some areas of South America. Moving forward, scholars would benefit from thoughtful consideration of tailored strategies to further the internationalization and appreciation of Confucian wisdom on a truly inclusive, planetary scale. Particular focus should be dedicated to dissemination and research in developing countries.

(2) Total Number and Locations of Publishing Houses

Publishing is a content-based cultural industry. Publishing houses possess distinct advantages relative to other actors in the knowledge dissemination ecosystem by virtue of extensive author networks, editorial experience, production capacities, and distribution channels. Thus they are well-positioned to serve as leading drivers of research and experimentation surrounding digital content development[2]. Therefore, publications and the location of the publishing houses can reflect the driving force behind the research and the dissemination path. The Scopus indicates that overseas publishing houses have published as many as 100 articles, and as few as 1 in Four Books and Five Classics. Table 1 shows the top seven publishing houses, and it shows that Brill Press published the most on the Four Books and Five Classics, with 115 articles. Figures 3 leverage the Arcgis to map the headquarters of the top seven publishing houses contributing to the global discourse on Confucian classics like the Four Books and Five Classics. To generate the geospatial representations in Figures 3, a standard World georeferenced base map was first imported into the Arcgis. Next, specific coordinate data delineating the earthly locations of the top seven global scholarly publishers was incorporated via their latitude and longitude attributes. Then their physical positions could be visually rendered and analyzed within a geographic context. The green box in the figure is the location of the publishing houses. Since Springer, Routledge, and the State University of New York Press are all headquartered within relatively close proximity in New York City, their precise placement points on the map converge, preventing the distinguishing of individual footprints at the visualized scale and resolution. Figure 3 shows Six of the top seven publishers are based in the United States, with the remaining Wiley Blackwell located in the southern coastal region of the United Kingdom. Given the substantial presence of American scholarly publishers evidenced in the data, Figure 5 hones in on the six most prominent institutions based in the United States. To gain further insight into how local economic conditions may correlate with publishing geography, precise coordinate, and 2021 GDP data for 31 major U.S. metropolitan areas was imported to geocode positional markers. Kriging interpolation then generated a smoothed output surface depicting relative GDP magnitudes across the national territory. Figure 3 resulted from clipping this GDP distribution layer to the extent of publishing node locations, followed by minor boundary repairs. According to Table 1, Taylor & Francis - based in a mid-range GDP metro area - contributed the fewest examined periodical articles. Conversely, the four houses inhabiting regions with the strongest GDP profiles - including Springer, Brill and SUNY Press - ranked highly in relevant publication volumes. Taken together, these multivariate trends tentatively suggest robust regional economic performance may enable greater publishing specialization and capacity for knowledge dissemination worldwide.

Table 1. Top seven publishers

<table>
<thead>
<tr>
<th>Publisher</th>
<th>Number</th>
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<tbody>
<tr>
<td>Brill/Brill Academic Publishers</td>
<td>115</td>
</tr>
<tr>
<td>Springer Science and Business Media B.V./Springer</td>
<td>57</td>
</tr>
<tr>
<td>Routledge</td>
<td>35</td>
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<tr>
<td>State University of New York Press</td>
<td>15</td>
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<tr>
<td>Taylor and Francis/Taylor and Francis Ltd.</td>
<td>15</td>
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<tr>
<td>Wiley Blackwell/Wiley-Blackwell Publishing</td>
<td>15</td>
</tr>
<tr>
<td>University of Hawaii Press</td>
<td>14</td>
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</table>
3.2 Research Hotspots and Trends

Keywords effectively summarize core concepts and topics addressed within scholarly works. If a keyword appears repeatedly in the literature, it means that the research topic represented by the keyword is the hotspot in the field[9]. The following part will analyze the hotspots and trends from three aspects: keyword co-occurrence, clustering, and burst.

3.2.1 Keyword Co-occurrence

In the control panel, the node type parameter was configured to “Keyword” prior to initiating the calculation operation. Then set the threshold to 10, and the keywords with frequency greater than or equal to 10 are displayed in the figure. Figure 4 shows 430 nodes and 796 lines. Each node presents a keyword. Larger node size directly correlates with the frequency at which that keyword occurred across the overall literature corpus. Additionally, the nodes are anatomically composed of concentric, colored rings - one for each year of the analysis period. Wider rings in a given year indicate higher frequencies of the keyword specifically within publications from that time frame. Each line indicates the co-occurrence strength between keywords. Thicker ties signify stronger co-occurrence frequencies between the linked keywords. Varying line colors correspond to different timeframes of co-occurrence, with shades closer to red representing more recent years per the legend. As Figure 4 shows, "Confucianism", "Zhong Yong", "mengzi", "Confucius", "China", and "Mencius" are the high-frequency keywords in the study, symbolizing hotspots in the field. To describe the research content more objectively, this study also calculated the keyword centrality, which measures the importance and influence of each keyword in the network. Literature with high betweenness centrality is a key hub connecting two domains[11]. If the centrality of a node is greater than 0.1, then the node is a key node. It shows only “Confucianism”, “Zhongyong”, “Heaven”, and “China” have a centrality value greater than 0.1, which means that they are the key nodes in the network. It is worth noting that "heaven" appeared late with low frequency, but its network positioning as a high-centrality node signifies it as an active hotspot within the scholarly community. Due to the differences between Chinese and Western religious beliefs, the meaning of "heaven" is different. Western scholars believe that “heaven” is mysterious, unique, and charming. In addition, The centrality of the three high-frequency keywords "mengzi", "Confucius" and "Mencius" is less than 0.1, and they are not key nodes. While Confucius (Kongzi) and Mencius (Mengzi) as influential thinkers are frequently referenced in the literature, the research tends to emphasize analytical exposition of their theoretical contributions rather than personal biographical details. In general, overseas scholars focus on Confucianism, the Mean, and China.
3.2.2 Keyword Clustering

Keyword clustering analysis reveals the distribution of the theme structure among the keywords. Keyword cluster analysis aggregates high-correlation and high-frequency keywords into certain research topics, so it can be used to distinguish and determine various topics in a certain field[17]. Click on the K cluster in the Citespace menu to display the first 11 cluster results, and then yield the following figure. Each distinct clustered region is numerically labeled. Critically, the numeric values assigned to each region are inversely proportional to the relative size of the cluster. Figure 5 shows 11 clusters from 1990 to 2023(February). The most substantial grouping pertains to "Confucianism", containing the highest number of strongly interlinked terms. It reflects its entrenched status as an overarching framework integrating much of the international discussion around Chinese classics like the Four Books and Five Classics. While “shijing” and “ghrelin” appear late, representing the recent research hotspots of Four Books and Five Classics.

![Fig. 4 Keyword co-occurrence map](image)

![Fig.5 Keyword cluster view](image)

3.2.3 Keyword Burst

"Burst" describes a sudden, temporary spike in a node's prominence. Nodes seeing bursts have a rapid increase in metrics like keyword frequency or author publications. This triggers heightened focus on a concept. Figure 6 shows the top 16 keywords with strongest citation bursts. The "Year" column indicates when the keyword was first observed, providing context on when discussion began. "Begin" and "End" delineate the temporal boundaries of the emergence burst. The figure indicates the first prominent keyword was "Lunyu (the Analects of Confucius)", suggesting that it first attracted the attention of overseas academic circles. However, its burst was relatively minor and short-lived at one year, with limited influence. In recent five years, focus has been on "Mengzi", "Confucius", "classical Chinese", "Chinese philosophy", "Zhong Yong thinking" and "Mencius". "Zhongyong thinking" and "Mencius" began to burst in 2020 and 2021 respectively with bursts ongoing. Topics of influential thinker Mencius emerged as "Mencius" and "Mengzi" with distinct bursts at different periods. Ongoing discussion of his thought demonstrates persisting intellectual influence. The term "Mencius" has historical context, with the Latin suffix "cius" meaning "sage", first used in 1687 when introducing Confucius' philosophy to Western audiences, reflecting Mencius' elevated stature. In this study, works discussing Mencius’ ideas constituted one-third of publications, playing a key role in studying the Four Books and Five Classics. Earlier works concentrated on his perspectives on governance, while recent emphasis has transitioned to examinations of individual moral cultivation and philosophical themes. Modern scholars have delved deeply into his interpretations of virtue, human nature and links to contemporary issues. For example, Choi Dobin explores the importance of the "yi(righteousness)" and "qi(quality)" upheld by Mencius in cultivating people's moral qualities[3]. De Caro Antonio compares classical Confucian

The most advanced topic is "zhongyong thinking". It exhibited the most recent and strongest emergence burst, showing that the thought of the mean gained high recent attention. Approximately one-fifth of publications discussed the doctrine of the mean. Studies explored applications in enterprise and investment, philosophy, cultivation practices, and folk culture. Overseas scholars focus not just on the theory but also practical application, closely linking it with social development. Guo Shenghao and Hu Qianqian reveal how moderate leadership enables employee to work actively[13]. Luo Shuiyi, Yun Hanqi, and Wang Yinan study the relationship between self-esteem and self-recognition based on the doctrine of the mean[15].

Fig. 6 Top 16 keywords with the Strongest Citation Bursts

4. Conclusion

Earlier interest from global academia stimulated accomplishments in establishing foundations for studying the Four Books and Five Classics. However, recent years have seen decreasing research heat and single-focused topics overseas. To promote cross-cultural studies, this paper puts forward suggestions in three aspects: communication subjects, publishing countries, and research hotspots.

Regarding communication subjects, we need 1) heightened attention to intensely bursty conceptual lenses, 2) leveraging prominently emerging subjects' "linkage effect" to spawn new connections. Over the years, Chinese/diaspora scholars have mainly promoted internationalization, having a deeper cultural understanding than Western sinologists. With certain authority, their discourse has greater influence. More efforts should strengthen connections between overseas Chinese/diaspora scholars forming cooperative groups. This would help attract more foreign scholars to Confucianism and diversify cultural outputs.

Increasing publishing countries boosts popularization and dissemination. While research has exploded globally, opportunities remain to broaden inclusive, worldwide engagement. Publications decreased significantly post-2010, attracting less overseas attention. Research also lacks depth. Possible strategies include disseminating findings through diverse local outlets in underserved regions to inspire additional rigorous, culturally-attuned programs. Promote more research and strengthen cooperation across well-published regions, sharing more outputs.

Analyzing keyword dynamics over time provides strategic guidance. Probing periodically prominent topics and derivatives potentially catalyzes novel intersections. The most advanced topics are "Doctrine of the Mean" and "Mencius". Scholars should seize research heat and deepen value by expanding significance. Interdisciplinarity explores new perspectives, drives research, and stimulates new clusters. Integrating quantitative and qualitative lenses enhances rigor and illumination. Combining methods overcomes single-method limitations. Natural language processing provides additional insights. Revisiting computational findings delves deeper into trends' underlying causes.
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