

A Bibliometric Review of the Literature on the Relationship between Confucianism and Sustainability

¹Zhiliang Wang., ¹Mohamad Saifudin Mohamad Saleh., ²Miao Huang

¹School of Communication, Universiti Sains Malaysia, Malaysia

²School of Animation and Digital Arts, Communication University of China, Nanjing, China

DOI: <https://doi.org/10.47772/IJRISS.2026.100900443>

Received: 23 September 2026; Accepted: 28 September 2026; Published: 13 October 2026

ABSTRACT

This bibliometric analysis (2006–2024) employs the PRISMA guidelines and the Biblioshiny database to examine 81 studies addressing the nexus between Confucianism and sustainability. The primary research findings indicate a consistent growth in Confucian-related studies (annual growth rate: 9.35%), with accelerated expansion after 2015, coinciding with the adoption of the United Nations Sustainable Development Goals. China emerges as the leading contributor (208 citations), demonstrating extensive collaboration with Western institutions. The journal *Sustainability* dominates publication output, while Baoyu Li and Ingo Eilks stand as primary contributors. Thematic clusters highlight “sustainable development,” “harmony,” and “climate change,” underscoring Confucianism’s relevance to environmental challenges. The literature frequently addresses such domains as ecotourism, traditional architecture, urban planning, and corporate social responsibility, demonstrating their global applicability beyond Asian contexts. Although the field remains nascent, it suggests a culturally grounded alternative to Western sustainability paradigms, emphasizing the symbiotic relationship between humanity and nature. Future research directions include comparative studies in non-Chinese contexts and integration with indigenous philosophies such as Daoism and Buddhism. This study advocates for incorporating Confucian principles into policy and education, proposing interdisciplinary and cross-regional collaboration to address ecological crises.

Keywords: Confucianism; Sustainability; Bibliometric review; Sustainable development; China; Ecological ethics; Climate change; Harmony

INTRODUCTION

The escalating global ecological crisis, exemplified by climate change and biodiversity collapse (IPCC, 2023), has spurred interdisciplinary efforts to explore culturally grounded philosophical traditions, such as Confucianism’s emphasis on harmony, as complementary frameworks for sustainability (Li & Wei, 2023; Khan et al., 2022). Confucianism refers to the “School of Confucian” or “the teachings of Confucius,” encompassing ethical, political, and philosophical doctrines and norms derived from the teachings of Confucius (551–479 BCE) (Yu, 2023). It has profoundly influenced Chinese culture, social progress, and governance philosophy (Li et al., 2016) and holds significant sway across East Asia (Li et al., 2023a). More importantly, Confucianism embodies a humanistic spirit that advocates for humanity to perceive nature from a renewed perspective, thereby contributing to alleviating current environmental predicaments (Luque-Moya, 2023).

As argued by Li et al. (2023b), Confucian ecological ethics underscores the dynamic, holistic, and organic unity between humans and nature, aligning with the global ethos of sustainability. Consequently, Confucian ecological ethics presents a worldview of harmonious coexistence with nature, resonating with the Sustainable Development Goals (SDGs). Rošker (2023) further contends that while European modernity fostered an anthropocentric worldview rooted in individualism and the domination of nature, Confucianism emphasizes an intrinsic interconnection between humans and the natural world.

Currently, research on the relationship between Confucianism and sustainability has garnered academic attention. Studies have explored this nexus from diverse perspectives, including education, philosophy, and ecological thought (Li et al., 2023b; Khan et al., 2022; Wu, 2019). However, the field remains predominantly qualitative, leaving gaps in understanding the structural evolution, global collaboration patterns, and interdisciplinary impacts of research on Confucianism and sustainability. Addressing these gaps, this study conducts the first bibliometric analysis of the field, delineating its developmental trajectory since 2006 with quantitative rigor.

Bibliometric analysis offers a systematic and quantitative approach to academic research, enabling a clear depiction of knowledge structures, trends, and collaboration networks (Aria & Cuccurullo, 2017). While prior qualitative studies have examined the philosophical or ethical dimensions of Confucianism and sustainability (Li et al., 2023a; Wu, 2019), quantitative syntheses of the field remain scarce. This gap is critical, as bibliometric methods can identify influential authors, institutions, and emerging themes, providing a macro-level understanding of the field's evolution and impact (Wang et al., 2022; Donthu et al., 2021; Liu et al., 2021).

Moreover, this study distinguishes itself from prior research by employing PRISMA-guided data extraction and Biblioshiny visualization tools to objectively map the field's development, interdisciplinary influences, and future directions. This approach not only corroborates the growing academic interest in Confucianism's role in sustainability but also highlights its global relevance beyond Asia, evidenced by collaborations between China and regions such as Europe, North America, and Australia (Li et al., 2023a; Luque-Moya, 2023; Sofield & Li, 2011). Additionally, the study identifies actionable pathways for integrating Confucian principles into policy and practice. Therefore, the research addresses the following research questions (RQs):

RQ1: What is the publication trend for this topic?

RQ2: Which journals, authors, and articles have the most significant influence on this topic?

RQ3: Which country is the most cited and how are collaborations between countries?

RQ4: What is the relationship among relevant sources, authors, and keywords in this topic?

RQ5: What is the current research status in this field?

RQ6: What are the important topics and future topics in this research field?

RQ7: What policy implications can be derived from this study?

In response to the ambiguity and polysemy of the term “sustainability”, Salas-Zapata and Ortiz-Muñoz (2019) proposed these meanings for the sustainability concept. This study defines sustainability as follows: the integration of a set of socio-environmental standards or qualities into human behavior. Moreover, this study comprehensively investigates the relationship between Confucianism and sustainability using a bibliometric analysis. The results provide insights into the most influential articles, journals, countries, authors, and trend topics.

METHODOLOGY

This study analysed the bibliometric data of scientific publications containing the topics “Confucianism” and “sustainability”. The effectiveness of the literature analysis was improved by dividing the methods into three main parts: 1) The literature was selected using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2015); 2) the data were processed using the R Studio software Biblioshiny; and 3) the literature was analysed to resolve specific issues by examining the findings or conclusions of the publications.

Study selection process and methods

Academic publications are accessible through database engines, such as Web of Science and Scopus. Gorokhovatskyi et al. (2024) stated that Scopus and Web of Science are currently the most widely used international networks and integrated databases that allow academicians to study and evaluate publications, patents, reviews, and analytical documents. Nevertheless, these databases are subject to varying opinions. For example, Falagas et al. (2008) stated that Scopus covers a wider range of journals, which facilitates keyword searches and citation analysis, while Wang and Waltman (2016) contended that the Web of Science journal classification system demonstrates significantly better accuracy than that of Scopus. This study used both the Web of Science and Scopus databases to combine their advantages.

Selecting keywords and precise search strings is an important and challenging task during literature analysis (Kraus et al., 2020). More comprehensive resources related to the topic were identified by searching the two databases for “Confucian” and “sustainability”, then “Confucianism” and “sustainability”, and finally “Confucian culture” and “sustainability”. The search results of the two databases were integrated and duplicates were removed for processing. All eligible articles were published after 2006. As the databases were searched on June 2, 2024, the time span of the literature review was 2006–2024.

The databases were searched using the PRISMA process, and yielded 175 articles (Web of Science, $n = 92$; Scopus, $n = 83$). After duplicates had been removed, 123 eligible articles remained.

During the process, additional standards regarding the characteristics and integrity of the framework were incorporated (Soares et al., 2021). The full texts of the 123 articles were reviewed, and two articles were excluded due to unclear procedures. Hence, 121 articles were considered eligible for this review. Forty articles not relevant to the topic were removed after the title and abstract review, leaving 81 articles. Figure 1 presents the overall PRISMA process.

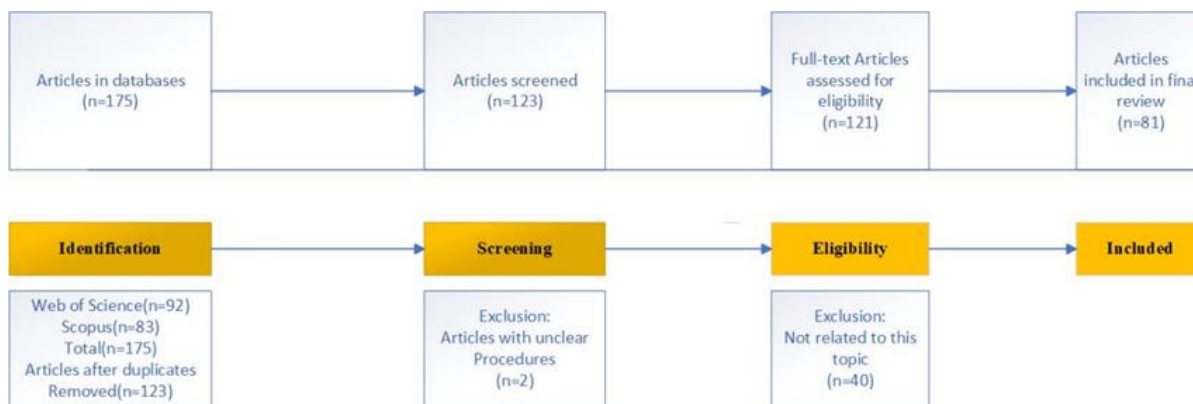


Fig. 1: The PRISMA article selection process

Bibliometric analysis

Bibliometric analysis refers to the systematic study of the scientific literature to identify patterns, trends, and influences in a field (Passas, 2024). The main steps include collecting data from relevant databases, data cleaning and refinement, and using the data for bibliometric methods, which are the subsequent steps to generate meaningful information. These components are valuable for addressing the RQ. The data were input in CSV format and visualised using Biblioshiny version 4.4.1 (Aria and Cuccurullo, 2017). This software delivers clear visual mapping of metadata, providing exceptional value for tracking and analysing the trajectory of the subject under study (Bujdosó et al., 2024).

LITERATURE ANALYSIS

This study conducted a thorough review of the relevant literature to identify the findings or conclusions of each article. Subsequently, this current study analyzed the current research status regarding the relationship between

Confucianism and sustainability, as well as existing research gaps, covering diverse academic domains such as environmental ethics, corporate social responsibility (CSR), education for sustainable development (ESD), and urban planning. This analysis primarily aims to address RQ 6.

Results

This section presents the main findings of the study. It addresses the publication trend, most influential journals, most relevant authors, most influential articles, most cited countries, and the country collaboration map. It also examines the relationships among journals, authors, and keywords through a three-field plot. Furthermore, the study identifies trend topics through the tree map and thematic map.

Main information

The data of the 81 PRISMA-screened articles were imported into Biblioshiny, which initially displayed the main information of the included articles (Fig. 2). The data covered the period from 2006 to 2024 and involved 55 sources. There were 186 authors in total, and 24 articles were single-authored. There were indications of international collaboration in 17.28% of the articles, with an average of 2.49 authors per article. The 81 articles contained 302 author keywords and 3835 references. The average article age was 5.75 years, and the average number of citations per article was 8.272. The annual growth rate was 9.35%. These data indicated that research interest in the relationship between Confucianism and sustainability has increased over the search period, which indicated significant progress in international collaboration. Furthermore, the citation rates may indicate growing academic attention to the field.

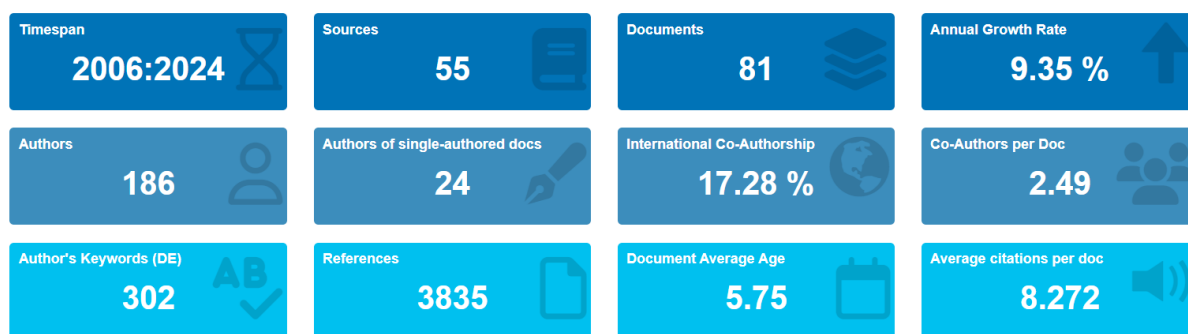


Fig. 2: Main information of the 81 included articles

Publication trend

Figure 3 illustrates the annual publication pattern of the included articles in Scopus and web of Science. No publications were recorded in 2007, 2008 and 2009, while one article was published in each of 2006 and 2010. The data demonstrated a consistent increase in the number of articles published from 2006 to 2024. Publications peaked in 2011 ($n = 5$), 2014 ($n = 7$), 2019 ($n = 11$), and reached the highest level in 2022 ($n = 12$). Figure 3 also demonstrates frequent data fluctuations, which increased over time. These fluctuations indicated the recent initiation of research in this field and that it has gradually attracted research attention.

A thorough analysis of Figure 3 indicates that the sustained increase in research interest in this field from 2006 to 2024 is strongly associated with the rising global emphasis on sustainable development issues. Notably, since the introduction of the United Nations Sustainable Development Goals (SDGs) in 2015, there has been a marked surge in related research. However, whether this temporal correspondence indicates a direct causal role of the SDGs in driving such growth remains a question that warrants further investigation.

A closer examination of the 2022 research peak reveals that a significant portion of articles published that year focused on the practical applications of Confucian principles in specific domains, such as eco-city development (Xu et al., 2022), corporate sustainability strategies (Fu et al., 2022; Hu & Wang, 2022), and sustainable education (Gao et al., 2022). This trend suggests a gradual shift in research orientation, from theoretical discourse toward practical implementation.

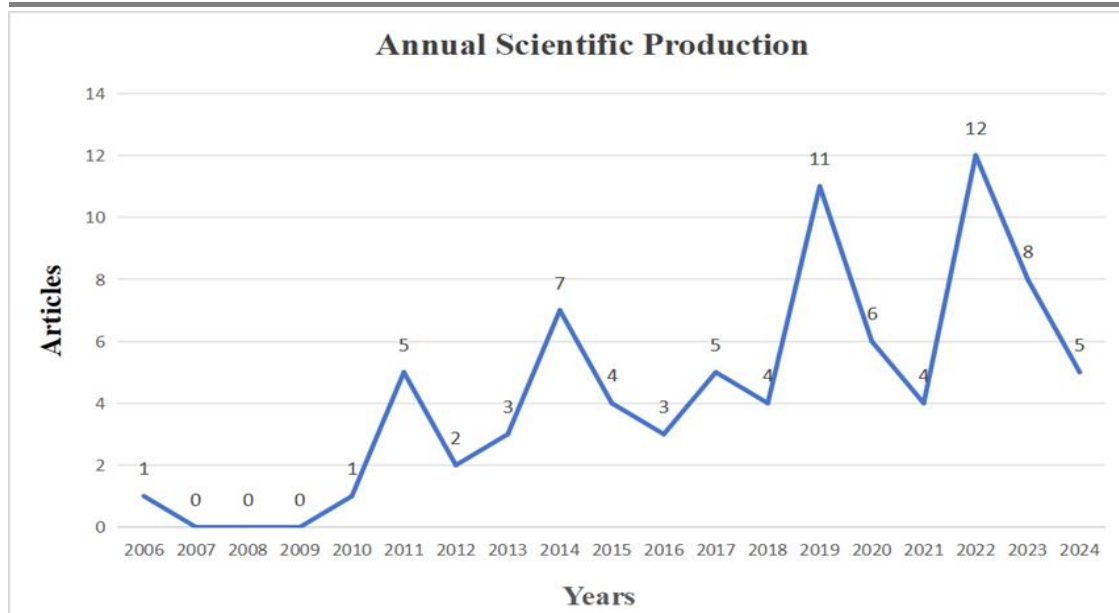


Fig. 3: Publication trend (source: Authors' own work based on Biblioshiny data processing)

Most influential journals

Table 1 presents the results on the most important journals for research on the relationship between Confucianism and sustainability. Sustainability had the most publications on the topic (23 articles), compared with two articles each in Educational Philosophy and Theory Education and Journal of Sustainable Tourism. Journal of Sustainable Tourism (156 citations), Sustainability (146 citations), Asia-Pacific Journal of Business Administration (20 citations), Educational Philosophy (13 citations), and Theory Education and Asia Pacific Business Review (11 citations) had the most citations. Sustainability was a highly prominent journal, and had the highest number of publications, h_index (7), g_index (11), and m_index (0.875).

Further analysis of the disciplinary distribution and research themes of the most important journals reveals that Sustainability demonstrates the broadest scope of coverage. It encompasses sustainability-related topics, such as ecotourism (Zhang et al., 2020), sustainable education (Baek & Cho, 2018; Gao et al, 2022), corporate social responsibility (Xu et al., 2019; Li et al., 2019), public services (Lee et al., 2022; Nguyen & De Steur, 2021), and traditional architecture (Ryoo & Youn, 2019; Cen et al., 2023; Yan et al., 2022; Seo & Ryoo, 2020). These topics are closely related to sustainable development. This positions it as one of the most representative journals in the field of Confucianism and sustainable development research.

Journals	Number of Publication	h_index	g_index	m_index	Total Citations	PY_start
Sustainability	23	7	11	0.875	146	2017
Educational Philosophy and Theory Education	2	2	2	0.25	13	2017
Journal of Sustainable Tourism	2	2	2	0.143	156	2011
Asia-Pacific Journal of Business Administration	1	1	1	0.091	20	2014
Asia Pacific Business review	1	1	1	0.091	11	2014

Table 1: The five most influential journals (Authors' own work based on Biblioshiny data processing)

Most relevant authors

The most relevant authors were Baoyu Li and Ingo Eilks (Fig. 4), who both contributed three articles on the relationship between Confucianism and sustainability. It is noteworthy that Baoyu Li and Ingo Eilks have co-authored three articles together (Li et al., 2023a; Li et al., 2023b; Li & Eilks, 2024).

An in-depth analysis of these three articles reveals that the research conducted by Baoyu Li and Ingo Eilks primarily focuses on the application of Confucian ecological ethics in the field of education. By integrating Confucianism into the design of science education curricula, they explore innovative approaches to cultivating

students' environmental awareness and concepts of sustainable development. Their research provides valuable insights into the practical application of Confucianism within modern educational systems. Furthermore, in multiple collaborative publications, the two scholars have systematically investigated various aspects ranging from curriculum design and teaching practices to outcome evaluation, thereby establishing a comprehensive research framework. Their work has significantly advanced the integration of Confucianism with sustainable development practices in the field of education.

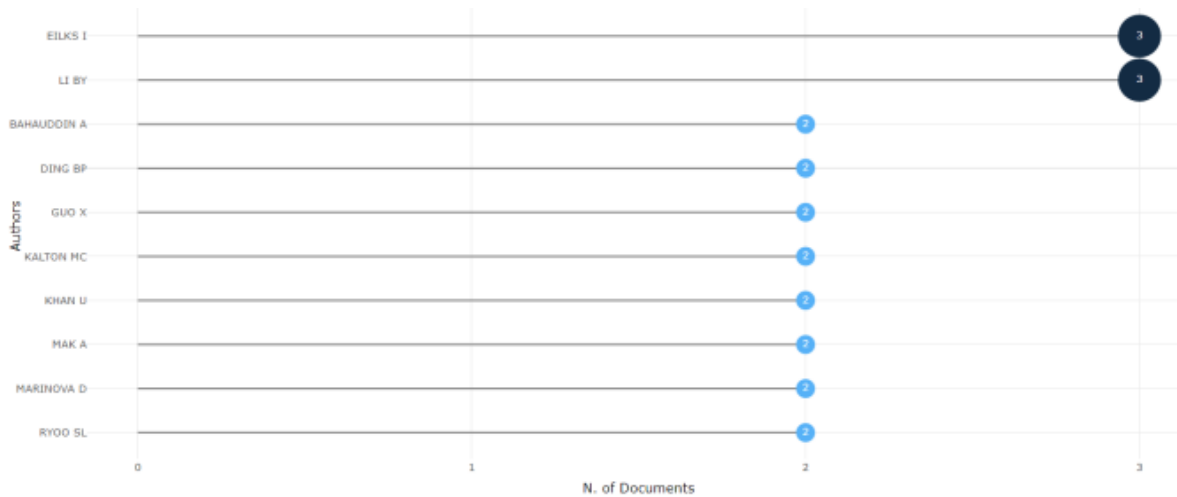


Fig. 4: Most relevant authors (source: Biblioshiny data processing)

Most influential articles

The most influential articles were those with the highest number of citations globally. Sofield and Li's article had the greatest number of citations (98 citations) (Fig. 5), followed by Xu et al.'s article (58 citations). Interestingly, both articles were tourism management studies. A deeper analysis reveals that the high citation count of Sofield and Li's (2011) article may stem not only from its focus on tourism management, a prominent research field, but also from its innovative integration of Confucian philosophy with tourism planning and governance. The article proposes a theoretical framework with practical implications.

Furthermore, Xu et al.'s (2014) study, through a comparative analysis of protected area systems and Chinese cultural values, suggests the applicability of the Confucian concept of "harmony between humans and nature" (天人合一) in ecotourism management. This work offers novel insights into conserving natural and cultural heritage while promoting sustainable tourism development. The article's interdisciplinary approach and profound exploration of indigenous cultural values may have contributed to its citation impact.

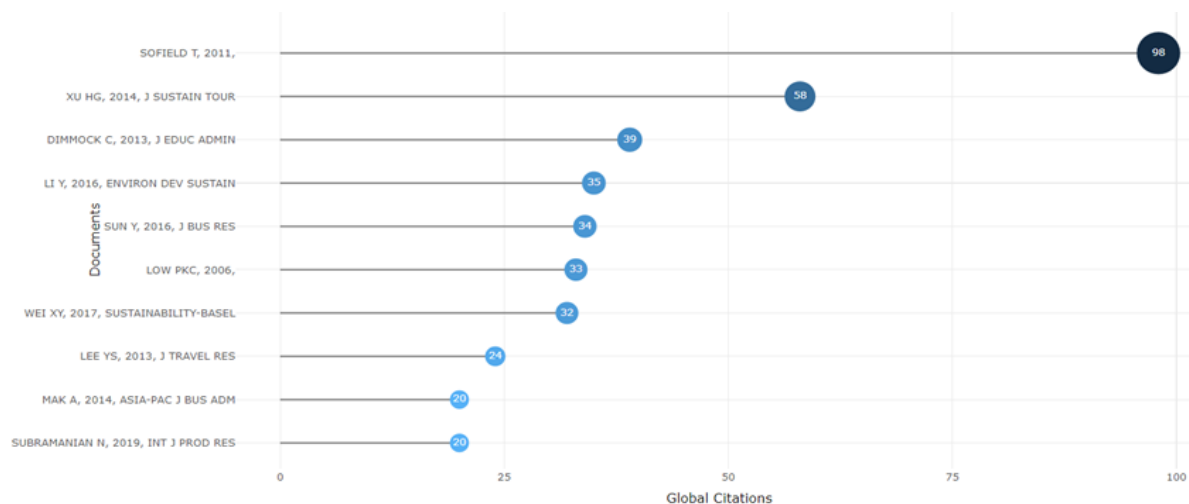


Fig. 5: The 10 most cited articles globally (source: Biblioshiny data processing)

Most cited countries and country collaboration map

Table 2 lists the 10 most cited countries in terms of total citations. China had the largest number of citations ($n = 208$), followed by the United Kingdom ($n = 85$), Australia ($n = 63$), and South Korea ($n = 55$). In addition to Asian countries (China, South Korea, and Indonesia) that focused on the relationship between Confucianism and sustainability, countries in Europe (the United Kingdom, Italy, Germany, and Norway) and North America (the United States), and Australia also contributed to the research field.

Countries	Total Citations	Average Article Citations	Number of articles
China	208	8	57
United Kingdom	85	14.2	10
Australia	63	15.8	6
South Korea	55	9.2	16
United States	29	4.8	8
Indonesia	15	15	6
Italy	13	13	1
Germany	4	1.3	3
Norway	4	4	1

Table 2: The 10 most cited countries (authors' own work based on Biblioshiny data processing)

Figure 6 depicts the partnerships between the major publication countries, where the line thickness represents the degree of collaboration. China was important in the cooperation network with almost all publishing countries. Cooperation was highest between China and Australia, China and Germany, and China and the United Kingdom (cooperation intensity : 3). China also collaborated with Indonesia (collaborations: 2), the United States (collaborations: 2), Canada (collaborations: 1), Egypt (collaborations: 1), South Korea (collaborations: 1), the Netherlands (collaborations: 1), New Zealand (collaborations: 1), Sweden (collaborations: 1), and Vietnam (collaborations: 1). This pattern indicates China's dual role as both an epistemic hub of Confucian culture and a key participant in global sustainability initiatives. The United Kingdom ranked second in collaboration. Interestingly, research on the relationship between Confucianism and sustainability was not limited to Asia, which is heavily influenced by Confucian culture. Countries in Europe (Germany, the United Kingdom), North America (the United States, Canada), and Australia (Australia, New Zealand) also contributed to such research.

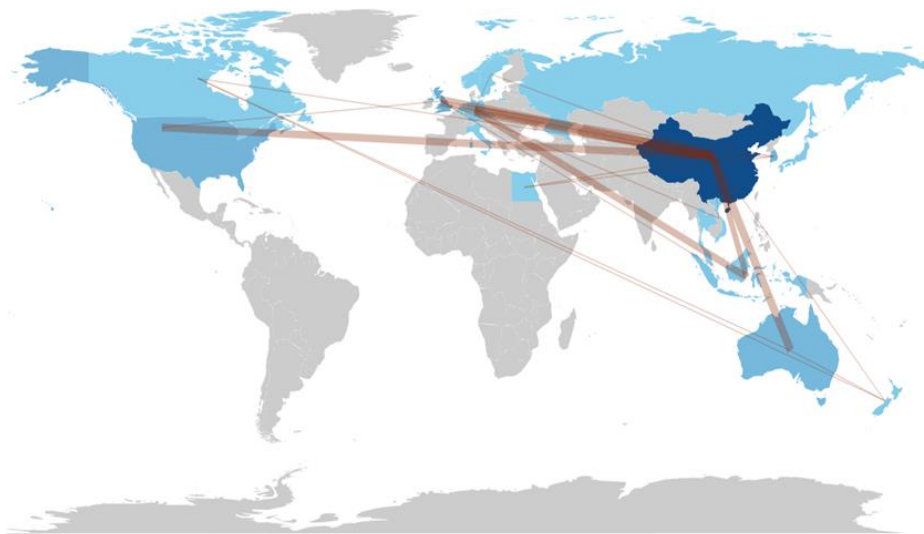


Fig. 6: Country collaboration map (source: Biblioshiny data processing)

Three-field plot

The three elements depicted from left to right in Fig. 7 are journals (SO), authors (AU), and keywords (DE). The three links are drawn in grey to illustrate the relationship between the three elements. The size of each rectangle represents the number of articles related to the element.

The three-field diagram includes seven journals that have published related articles. The journal with the most related articles was Sustainability, which is represented in dark red and is connected to the authors Khan U, Wang HI, Ali I, Ryoo SL, Wang XY, Ahn GY and Beak W.

Each author in the diagram is associated with a journal and linked to keywords. The size of the rectangle indicates the number of articles written by the author. Guo X and Marinova D had the largest matrix sizes, which indicated that their articles contained seven research-related keywords. Lastly, the diagram lists 15 keywords, of which the top five are as follows: Confucianism, sustainability, sustainable development, chemical education, and Taoism.

Overall, the three-field diagram indicates that sustainability was extremely prominent in the journals, and other journals may only publish articles related to this topic sporadically. The authors related to the topic were generally evenly distributed, and there were no particularly notable researchers. The connection between the second element (author) and the third element (keyword) was relatively dense, and mostly connected by thin lines, which indicated that not many articles were involved. Furthermore, the keywords also demonstrated that the related research has been conducted in the fields of philosophy, education, climate change, cultural heritage, environment, and management (leadership), despite the relatively few articles. These results suggest that research on the relationship between Confucianism and sustainability remains relatively underdeveloped while spanning several areas of research, and should be explored further.

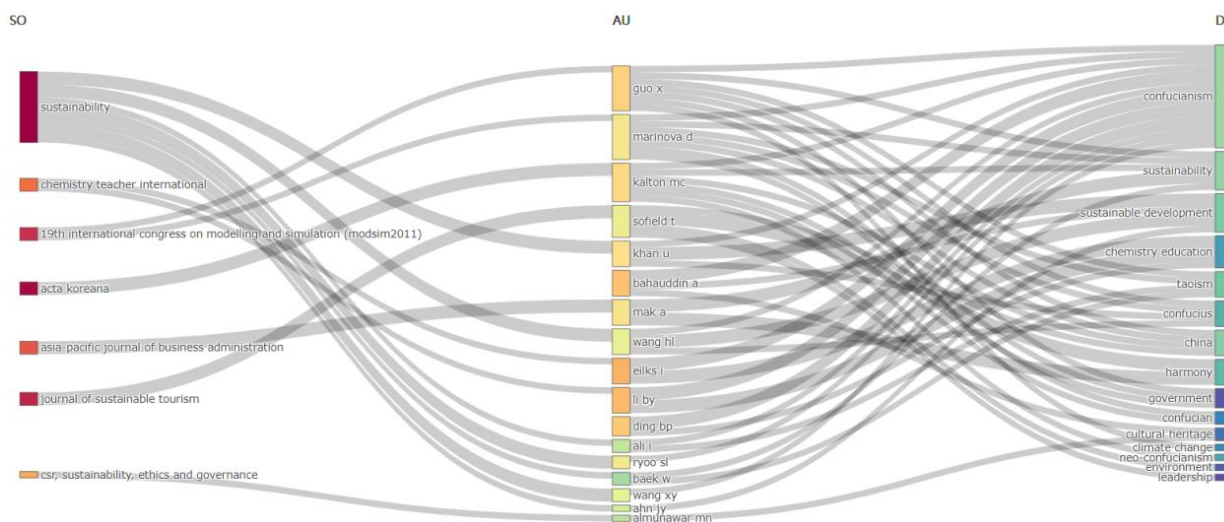


Fig. 7: Three-field plot (source: Biblioshiny data processing)

Tree map and trend topics

The tree map (Fig. 8) presents the most frequently used keywords in the included articles. The size of the rectangles is based on the word frequency, where the most frequently used words are on the left. The most common word was “Confucianism”, followed by “sustainability”, “China”, “sustainable development”, “Taoism”, “Confucian culture”, and “harmony”. Topic trends (Fig. 9) are an important part of this study. The line represents the year the keyword appeared, and the size of the circle represents its frequency. Figures 8 and 9 are closely connected, where Fig. 8 presents the nine most frequent topics, which also appear as trend topics in Fig. 9.

Further analysis reveals that the high-frequency keyword “China” may reflect the country’s dual role in this field: serving both as the birthplace of Confucianism and a crucial testing ground for global sustainable

[illegible]

Term	Year of Peak Interest	Range of Years (Approximate)
confucian culture	2022	2021 - 2023
sustainable development	2021	2018 - 2023
confucianism	2019	2017 - 2023
taoism	2018	2017 - 2020
sustainability	2017	2014 - 2020
neo-confucianism	2017	2014 - 2019
confucius	2017	2014 - 2020
china	2015	2014 - 2022
harmony	2014	2013 - 2015

Current research status

A recurring theme is the application of Confucian ecological ethics in fostering environmental awareness and pro-environmental behavior. For instance, Li and Eilks (2024) designed a curriculum plan integrating Confucian

ecological ethics into secondary chemistry education in China. The study demonstrates that Confucian principles can enhance students' environmental attitudes and behaviors, suggesting a values-oriented approach to science education. Similarly, Li et al. (2023) highlight the potential of Confucian ecological ethics in addressing sustainability challenges in social science research. They re-examined the cultural components of social science research issues, arguing that education must account for cultural contexts to foster scientific literacy for a sustainable future. Their findings suggest that Confucian ecological ethics can serve as a bridge between traditional values and modern environmental education. However, there remains a lack of evidence regarding the long-term behavioral impacts of such interventions.

Research on corporate sustainability has focused on how Confucian values influence business practices. The study by Zhang and Zhang (2023) revealed the role of Confucian ethics in cultivating social responsibility and sustainable management practices. Through qualitative case studies, the authors identified three distinct Confucian-inspired management typologies: responsible, ambivalent, and humanistic. These findings align with Xu et al.'s (2019) research, highlighting the positive influence of Confucianism on corporate environmental investments. However, as the study focused exclusively on Chinese enterprises, the generalizability of the findings may be limited. Future research could investigate the applicability of these management models in other Confucian-influenced societies, such as South Korea or Singapore.

The role of Confucianism in sustainable urban development constitutes another critical research domain. Studies by Rong et al. (2023) and Xie et al. (2023) systematically examine how Confucian principles inform the design and adaptive reuse of traditional architecture and urban spaces. Notably, Xie et al. (2023) employed a difference-in-differences (DID) model to analyze Chinese data from 282 cities, demonstrating Confucianism's positive moderating effect on the relationship between ecological culture and green lifestyles. This finding underscores the enduring relevance of Confucian values in shaping contemporary environmental behaviors. However, the study's heavy reliance on quantitative methodologies may overlook nuanced cultural interactions, suggesting a need for complementary qualitative approaches in future research.

Thematic map

A thematic map provides insight into the current landscape and assesses the future development trend of the research field (Bagdi et al., 2023). Figure 10 was semi-automatically generated by Biblioshiny based on the authors' keywords. The upper right quadrant contains motor themes characterised by high density and centrality, and includes "sustainable development", "Confucius", "climate change", "China", "Taoism", and "harmony". These themes represent the core of research on Confucianism and sustainable development. They reflect the intersection of Confucian philosophy and contemporary global challenges, particularly environmental and social issues. Confucian ecological ethics may enrich and expand sustainability theory, offering an alternative pathway toward building a better shared future that transcends the limitations of Western paradigms (Li & Wei, 2023). The philosophical thought of "Confucius" holds significant implications for understanding and practicing the concept of a "community with a shared future for mankind," especially in advancing social sustainability, sustainable development, and global governance (Khan et al., 2022).

The prominence of "climate change" underscores the pressing need for an ecological ethics framework (Karagjozi, 2024). Confucian doctrines, such as the unity of heaven and humanity (天人合一), harmony (和谐), and integrity (诚), hold profound significance in addressing environmental challenges epitomized by climate change, a connection increasingly recognized by scholars (Li & Wei, 2023; Rošker, 2023; Liu & Wu, 2024; Wu, 2019). Meanwhile, the emphasis on "China" reflects its dual role as both the cultural epicenter of Confucianism and a pivotal actor in global sustainability initiatives (Zhang et al., 2022; Zhang-Zhang, 2023; Rong et al., 2023; Li & Eilks, 2024; Lin et al., 2024). Scholars have also noted the intrinsic connection between Confucianism and Taoism, often synthesizing both to harness their combined philosophical wisdom for environmental solutions (Guo et al., 2017; Li et al., 2016).

The upper left quadrant (Fig. 10) contains niche themes with lower research activity than the motor themes. These themes frequently involve specialised areas of interest but are not widely studied (Khaw et al., 2024). The themes in this area included "Confucian", "leadership", and "Singapore".

The lower right corner (Fig. 10) contains basic themes that are significant but are in growth stages, thus requiring further attention. Basic themes are not as well-established as motor themes but have the potential for future development and influence (Khaw et al., 2024). These themes, which represent areas of increasing research interest (“Confucianism”), could gain prominence over time.

Lastly, the lower left quadrant (Fig. 10) contains emerging or declining themes. These themes have low research activity and may be either new and emerging or losing relevance in the research landscape. Researchers should note emerging themes (“Confucian culture” and “media”), as they may become more significant in the future.

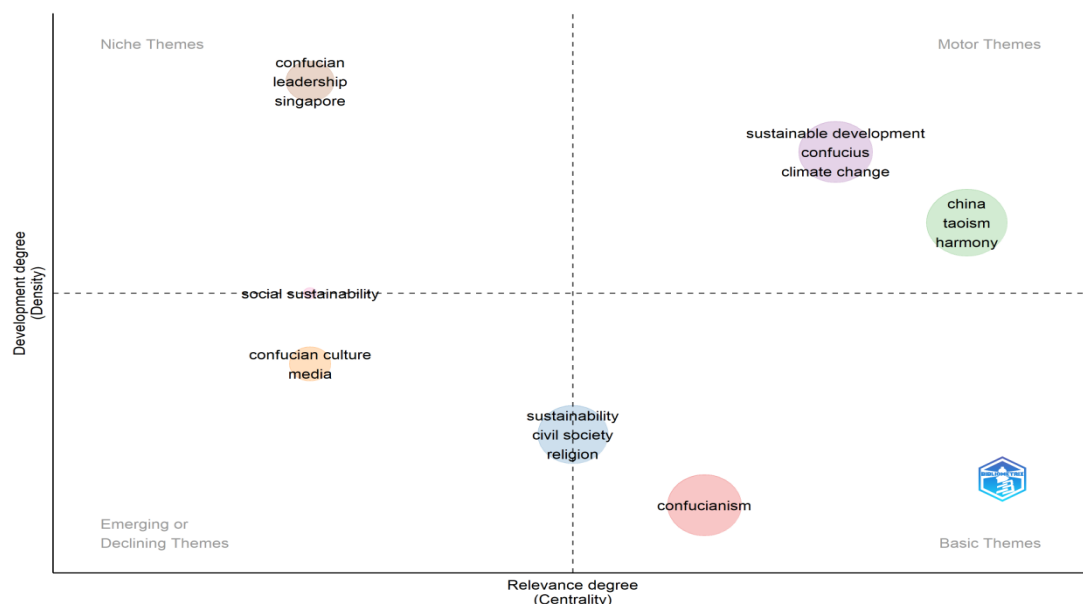


Fig. 10: Thematic map of authors’ keywords (source: Biblioshiny data processing)

DISCUSSION

This study presents a comprehensive bibliometric analysis of the evolving research landscape at the intersection of Confucianism and sustainability. It systematically maps publication trends, influential factors, thematic shifts, and global collaborations. These findings provide insights into the field’s development, interdisciplinary nature, and future potential. The discussion below elaborates on the key findings, similarities and differences with prior research, and theoretical contributions.

This bibliometric analysis reveals four key dimensions of the relationship between Confucianism and sustainability. First, since 2006, the field has experienced rapid expansion (with an annual growth rate of 9.35%), accelerating notably after 2020, reflecting a growing global interest in culture-based sustainability frameworks. Second, China dominates in research output and collaborative networks, with 208 citations and 57 publications. However, contributions from Europe (e.g., Germany and the UK) and Australia may suggest the global relevance of Confucianism.

Third, key themes, such as “Sustainable Development,” “Harmony,” and “Climate Change,” demonstrate that the field is aligned with contemporary environmental challenges. At the same time, the themes identified in the thematic and trend analyses, such as “climate change,” “harmony,” and “Taoism”, highlight the interdisciplinary nature of this field. Fourth, the influence of Confucianism extends beyond philosophical discourse into practical domains, including ecotourism (Lee et al., 2013; Xu et al., 2014; Sofield & Li, 2011), traditional architecture (Rong et al., 2023; Rong & Bahauddin, 2023; Yan et al., 2022), sustainable education (Li et al., 2023a; Li et al., 2023b) and corporate governance (Fu et al., 2022; Lin et al., 2024; Hu & Wang, 2022). This trend underscores a growing shift toward leveraging Confucian ethics to address pressing global environmental challenges.

Furthermore, the findings of this study align with qualitative research emphasizing Confucianism's ethical contributions to sustainable development (Wu, 2019; Luque-Moya, 2023), yet extend beyond them by quantifying key trends and collaborative networks. For instance, while prior studies primarily focused on

conceptual linkages (Christensen, 2017; Chu, 2023), the present analysis identifies emerging themes such as “climate change” and “harmony,” signaling a paradigm shift toward addressing pressing global issues through Confucian frameworks. However, notable divergences also emerge. Earlier literature may have underestimated the role of interdisciplinary collaboration, which may have contributed to the field’s expansion.

From a theoretical perspective, the prominence of themes such as “harmony” and “sustainable development” underscores the potential of Confucianism to reshape sustainability discourse. In contrast to Western paradigms that often emphasize human dominion over nature, Confucian ethics advocates for mutually beneficial relationships, resonating with ecological holism (Rošker, 2023; Li & Wei, 2023). This philosophical alignment may offer a culturally-grounded alternative to mainstream sustainability theories, particularly within East Asian contexts.

CONCLUSION

This study conducted a bibliometric analysis of 81 articles from the Scopus and Web of Science databases spanning 2006 to 2024. It systematically mapped the research landscape, thematic distribution, and collaborative networks at the intersection of Confucianism and sustainable development. The findings indicate that research in this field has grown steadily since 2006, with the accelerated growth after 2015 coinciding with the adoption of the United Nations Sustainable Development Goals (SDGs). Whether this temporal coincidence implies a causal relationship requires further investigation. China plays a dominant role in both research output and international collaboration, reflecting its dual identity as a center of Confucian culture and a key participant in global sustainability initiatives. The journal *Sustainability* and scholars such as Baoyu Li and Ingo Eilks have exerted significant influence in this domain, while themes like “harmony,” “sustainable development,” and “climate change” underscore the resonance between Confucian ecological ethics and contemporary environmental issues.

The study further notes that Confucian-related topics have gained attention across multiple fields, including ecotourism, education, and urban planning, suggesting that Confucianism may offer a valuable cultural perspective for sustainability discourse. However, the bibliometric analysis alone cannot substantiate the widespread adoption or proven effectiveness of Confucian principles in policy or practice. Related initiatives still require further validation through empirical research and contextualized evaluation.

The study suggests that Confucianism extends beyond traditional philosophical discourse and is applicable to various modern practical domains, such as sustainable education, ecotourism, corporate governance, and urban planning. This indicates its potential to transition from theoretical discourse into operational frameworks. International collaborations, particularly between China and institutions in Europe, North America, and Australia, reflect the philosophy’s global resonance. However, the field remains nascent, with thematic maps identifying research topics such as “climate change,” “harmony,” “Taoism” and “sustainable development” as future focal points.

Based on these research findings, the following policy implications can be drawn. First, policymakers could consider piloting the integration of Confucian ecological ethics into curriculum structures, with course content undergoing rigorous evaluation to ensure educational effectiveness and appropriateness within local cultural contexts. This implication aligns with the research conducted by Li and Eilks (2023a, 2023b), suggesting the potential of Confucian principles in fostering sustainability-oriented education.

Second, promotion of Confucian values in corporate governance could be considered. Governmental bodies should facilitate the adoption of Confucian values within corporate governance frameworks. This may include incentivizing enterprises to implement Confucian-inspired management practices, such as responsible personnel management and humanistic approaches to organizational leadership (Zhang & Zhang, 2023), thereby potentially enhancing corporate sustainability and social responsibility.

Third, support could be provided for traditional architecture preservation and sustainable urban development. Policy initiatives should allocate resources toward the conservation of Confucian-influenced traditional architecture while integrating Confucian principles into urban planning paradigms. This approach, substantiated

by Rong and Bahauddin's (2023) research, offers a dual benefit of preserving cultural heritage while advancing sustainable urban development.

Limitation and future directions

Although bibliometric analysis provides valuable macro-level insights, it is not without limitations. Firstly, as this study relies solely on the Scopus and Web of Science databases, it may underestimate the contributions of regional or non-English publications (such as some Chinese-language journals) to the topic. Secondly, despite using multiple keyword combinations, keyword-based searches may still miss indirectly related studies (e.g., papers that do not explicitly use the term 'Confucian'). Thirdly, the inclusion and exclusion criteria involve researcher judgment, inevitably leading to subjective discrepancies.

Additionally, due to the small sample size and the influence of publication year on citation counts, relying solely on citation numbers to measure scholarly impact has its limitations. Furthermore, the thematic clustering results depend on the parameter settings of Biblioshiny (version 4.4.1), and different configurations may yield subtly adjusted thematic structures. It should also be noted that this study cannot assess the effectiveness of Confucian values in specific policy or practical contexts; such an evaluation would require in-depth empirical case studies or experimental designs.

Future research should consider employing qualitative synthesis to complement these findings and uncover the conceptual frameworks underlying bibliometric trends. Additionally, the geographical concentration on China limits the generalizability of the findings. Comparative studies in other Confucian-influenced societies (e.g., South Korea, Singapore) could validate the results and enhance their theoretical robustness. Furthermore, comparative studies integrating Confucianism with indigenous knowledge systems such as Taoism and Buddhism. Such studies could also contrast these traditions with Western environmental ethics and enrich the theoretical landscape of global sustainability discourse.

REFERENCES

1. Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
2. Baek, W., & Cho, J. (2018). Identifying the virtuous circle of humanity education and post-graduate employment: Evidence from a Confucian country. *Sustainability*, 10(1), 202. <https://doi.org/10.3390/su10010202>
3. Bagdi, T., Ghosh, S., Sarkar, A., Hazra, A. K., Balachandran, S., & Chaudhury, S. (2023). Evaluation of research progress and trends on gender and renewable energy: A bibliometrix analysis. *Journal of Cleaner Production*, 138654. <https://doi.org/10.1016/j.jclepro.2023.138654>
4. Bujdosó, Z., Zhu, K., Kapil, H., Kaliyeva, A., Beisakhmet, A., Iskakova, K., et al. (2024). Wider landscapes become tourism landscapes: Bibliometric analysis and identification of key issues in the literature. *Journal of Sustainable Research*, 6(2). <https://doi.org/10.20900/jsr20240021>
5. Cen, K., Rao, X., Mao, Z., Zheng, X., & Dong, D. (2023). A comparative study on the spatial layout of Hui-Style and Wu-Style traditional dwellings and their culture based on space syntax. *Sustainability*, 15(16), 12398. <https://doi.org/10.3390/su151612398>
6. Christensen, J. E. (2017). Confucianism, food, and sustainability. *Asian Philosophy*, 27(1), 16–29. <https://doi.org/10.1080/09552367.2017.1286724>
7. Chu, I. (2023). Confucianism and sustainability. In *Faith traditions and sustainability: New views and practices for environmental protection* (pp. 81–98). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-41245-5_5
8. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
9. Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, Web of Science, and Google Scholar: Strengths and weaknesses. *FASEB Journal*, 22(2), 338–342. <https://doi.org/10.1096/fj.07-9492LSF>

10. Fu, P., Narayan, S. W., Weber, O., Tian, Y., & Ren, Y. S. (2022). Does local Confucian culture affect corporate environmental, social, and governance ratings? Evidence from China. *Sustainability*, 14(24), 16374. <https://doi.org/10.3390/su142416374>
11. Gao, R., Zhang, J., Liu, Y., Zeng, J., Wu, D., Huang, X., ... & Zuo, H. (2022). A sustainability lens on the paradox of Chinese learners: Four studies on Chinese students' learning concepts under Li's "virtue-mind" framework. *Sustainability*, 14(6), 3334. <https://doi.org/10.3390/su14063334>
12. Gorokhovatskyi, O., Vnukova, N., Ostapenko, V., & Tyschenko, V. (2024). Semantic-based clustering for education-science-business interaction bibliometric analysis. In *COLINS* (1), 124–140.
13. Guo, X., Krempel, S., & Marinova, D. (2017). Economic prosperity and sustainability in China: Seeking wisdom from Confucianism and Taoism. In *Technology, society and sustainability: Selected concepts, issues and cases* (pp. 263–273). https://doi.org/10.1007/978-3-319-47164-8_18
14. Hu, G., & Wang, T. (2022). Upholding justice while pursuing interests: Community-based labor sharing incentive of Chinese classical enterprises—A case study based on Shanxi merchants Qiaojiazihao. *Frontiers of Business Research in China*, 16(3), 295–336. <https://doi.org/10.3868/s070-007-022-0015-0>
15. Intergovernmental Panel on Climate Change. (2023). *Climate change 2023: Synthesis report*. <https://www.ipcc.ch/report/ar6/syr/>
16. Karagjozi, B. (2024). Ethical considerations on climate change and sustainable development. *Current Studies in Social Sciences*, 2024, 91.
17. Khan, U., Wang, H., Cui, Z., Begum, A., Mohamed, A., & Han, H. (2022). The philosophical thought of Confucius and Mencius, and the concept of the community of a shared future for mankind. *Sustainability*, 14(16), 9854. <https://doi.org/10.3390/su14169854>
18. Khaw, Y. T., Azlan, A., & Teoh, A. P. (2024). Factors influencing ESG performance: A bibliometrix analysis, systematic literature review, and future research directions. *Journal of Cleaner Production*, 141430. <https://doi.org/10.1016/j.jclepro.2024.141430>
19. Kim, S. (2019). The political economy of Confucian harmony: A Xunzian vision. *American Journal of Economics and Sociology*, 78(2), 493–521. <https://doi.org/10.1111/ajes.12269>
20. Kraus, S., Breier, M., & Dasí-Rodríguez, S. (2020). The art of crafting a systematic literature review in entrepreneurship research. *International Entrepreneurship and Management Journal*, 16, 1023–1042. <https://doi.org/10.1007/s11365-020-00635-4>
21. Lam, C. K., & Goo, S. H. (2015). The issue of enforcement in Chinese corporate governance. *Journal of Financial Crime*, 22(4), 468–475. <https://doi.org/10.1108/JFC-05-2014-0023>
22. Lee, Y. S., Lawton, L. J., & Weaver, D. B. (2013). Evidence for a South Korean model of ecotourism. *Journal of Travel Research*, 52(4), 520–533. <https://doi.org/10.1177/0047287512467703>
23. Lee, H. J., Min, K. R., Kim, M. Y., & Park, S. M. (2022). The impact of entrepreneurial leadership and ethical climate on public service motivation in Korea and China: Moderating role of Confucian values. *Sustainability*, 14(21), 14162. <https://doi.org/10.3390/su142114162>
24. Li, B., Ding, B., & Eilks, I. (2023b). A case on a lesson plan about take-out plastics use addressing Confucianism for sustainability-oriented secondary chemistry education in mainland China. *Journal of Chemical Education*, 101(1), 58–68. <https://doi.org/10.1021/acs.jchemed.3c00643>
25. Li, B., Sjöström, J., Ding, B., & Eilks, I. (2023a). Education for sustainability meets Confucianism in science education. *Science Education*, 32(4), 879–908. <https://doi.org/10.1007/s11191-022-00349-9>
26. Li, B., & Eilks, I. (2024). Learning about Confucian ecological ethics to promote education for sustainable development in Chinese secondary chemistry education. *Chemistry Teacher International*, 6(1), 35–47. <https://doi.org/10.1515/cti-2023-0037>
27. Li, F., Wang, X., & Kashyap, R. (2019). Socially responsible practice and CSR orientation of Chinese managers: The role of Confucian ethics and Confucian dynamism. *Sustainability*, 11(23), 6562. <https://doi.org/10.3390/su11236562>
28. Li, X., & Wei, F. (2023). What Confucian eco-ethics can teach us about solving the dilemma of interpreting the concept of sustainability. *Religions*, 14(9), 1216. <https://doi.org/10.3390/rel14091216>
29. Li, Y., Cheng, H., Beeton, R. J., Sigler, T., & Halog, A. (2016). Sustainability from a Chinese cultural perspective: The implications of harmonious development in environmental management. *Environment, Development and Sustainability*, 18, 679–696. <https://doi.org/10.1007/s10668-015-9671-9>

30. Lin, B., Li, B., & Zhang, D. (2024). ESG implementation, public environmental concern, and corporate green technology innovation: Analysis based on the background of China's "dual carbon" targets. *Environment, Development and Sustainability*, 1–38. <https://doi.org/10.1007/s10668-024-04670-x>
31. Liu, Y., & Wu, Y. (2024). Confucian thought of “harmony between man and nature” and contemporary society construction. *Trans/Form/Ação*, 47, e0240068. <https://doi.org/10.1590/0101-3173.2024.v47.n4.e02400200>
32. Liu, Z., Yin, Y., Liu, W., & Dunford, M. (2021). Visualizing the intellectual structure and evolution of innovation systems research: A bibliometric analysis. *Scientometrics*, 126(1), 787–812. <https://doi.org/10.1007/s11192-020-03760-7>
33. Luque-Moya, G. (2023). Toward a harmonic relationship between humans and nature: A humanist reinterpretation of early Confucian philosophy. *Asian Studies*, 11(3), 129–147. <https://doi.org/10.4312/as.2023.11.3.129-147>
34. Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., et al. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, 4, 1–9. <https://doi.org/10.1186/2046-4053-4-1>
35. Nguyen, L., & De Steur, H. (2021). Public acceptability of policy interventions to reduce sugary drink consumption in urban Vietnam. *Sustainability*, 13(23), 13422. <https://doi.org/10.3390/su132313422>
36. Passas, I. (2024). Bibliometrix analysis: The main steps. *Encyclopedia*, 4(2), 19. <https://doi.org/10.3390/encyclopedia4020065>
37. Rošker, J. S. (2023). Models of humanism in ancient China: An explanation centered on early Confucian ethics. *Religions*, 14(1), 83. <https://doi.org/10.3390/rel14010083>
38. Rong, W., & Bahauddin, A. (2023). The heritage and narrative of Confucian courtyard and architecture in sustainable development in Shandong, China. *Planning Malaysia*, 21. <https://doi.org/10.21837/pm.v21i26.1273>
39. Rong, W., Bahauddin, A., & Xiao, M. (2023). Floating hutongs life to diminishing Confucian courtyard narratives in Jinan, China. *Journal of Asian Architecture and Building Engineering*, 24(1), 453–471. <https://doi.org/10.1080/13467581.2023.2292086>
40. Ryoo, S. L., & Youn, H. C. (2019). The evolutionary use of curved wood in Korean traditional architecture. *Sustainability*, 11(23), 6557. <https://doi.org/10.3390/su11236557>
41. Salas-Zapata, W. A., & Ortiz-Muñoz, S. M. (2019). Analysis of meanings of the concept of sustainability. *Sustainable Development*, 27(1), 153–161. <https://doi.org/10.1002/sd.1885>
42. Seo, K. W., & Ryoo, S. L. (2020). Social hierarchy materialized: Korean vernacular houses as a medium to transfer Confucian ideology. *Sustainability*, 12(3), 902. <https://doi.org/10.3390/su12030902>
43. Soares, D., Lopes, B., Abrantes, I., & Watts, M. (2021). The initial training of science teachers in African countries: A systematic literature review. *Sustainability*, 13(10), 5459. <https://doi.org/10.3390/su13105459>
44. Sofield, T., & Li, S. (2011). Tourism governance and sustainable national development in China: A macro-level synthesis. In *Tourism Governance* (pp. 91–124). London: Routledge.
45. Wang, C., Lv, T., Cai, R., Xu, J., & Wang, L. (2022). Bibliometric analysis of multi-level perspective on sustainability transition research. *Sustainability*, 14(7), 4145. <https://doi.org/10.3390/su14074145>
46. Wang, Q., & Waltman, L. (2016). Large-scale analysis of the accuracy of the journal classification systems of Web of Science and Scopus. *Journal of Informetrics*, 10(2), 347–364. <https://doi.org/10.1016/j.joi.2016.02.003>
47. Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS Quarterly*, xiii–xxiii. <https://www.jstor.org/stable/4132319>
48. Wu, B. (2019). Cheng (誠) as ecological self-understanding: Realistic or impossible? *Educational Philosophy and Theory*, 51(11), 1152–1163. <https://doi.org/10.1080/00131857.2018.1564662>
49. Xie, H., Yang, C., & Liu, Y. (2023). Urban Ecological Culture Construction and the Formation of Residents' Green Living: Evidence from National Forest City Construction in China. *Sustainability*, 15(18), 13496. <https://doi.org/10.3390/su151813496>
50. Xu, H., Cui, Q., Sofield, T., & Li, F. M. S. (2014). Attaining harmony: Understanding the relationship between ecotourism and protected areas in China. *Journal of Sustainable Tourism*, 22(8), 1131–1150. <https://doi.org/10.1080/09669582.2014.902064>

51. Xu, S., Guo, W., Wang, X., & Xing, Z. (2022). Sustainable relationship in design: The contribution wisdom of academies landscape in Southern Jiangsu from an “interpersonal view” perspective. *Sustainability*, 14(9), 5667. <https://doi.org/10.3390/su14095667>
52. Xu, X., Duan, L., & Yan, Y. (2019). The influence of Confucianism on corporate environmental investment: Evidence from Chinese private firms. *Sustainability*, 11(21), 5941. <https://doi.org/10.3390/su11215941>
53. Yan, D., Xu, M., Chai, B., Chen, Z., & Bai, C. (2022). Interior/exterior form and property research on Wu-style residential houses from the perspective of sustainable development. *Sustainability*, 14(9), 5140. <https://doi.org/10.3390/su14095140>
54. Yu, L. (2023). Confucianism. In *Encyclopedia of the Philosophy of Law and Social Philosophy* (pp. 536–542). Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-007-6519-1_318
55. Zhang, J., Xie, C., Morrison, A. M., & Zhang, K. (2020). Fostering resident pro-environmental behavior: The roles of destination image and Confucian culture. *Sustainability*, 12(2), 597. <https://doi.org/10.3390/su12020597>
56. Zhang, R. (2022). The transition from biodiversity to extinction accounting in the Chinese context. In *Comparative CSR and Sustainability* (pp. 19–36). Routledge.
57. Zhang-Zhang, Y. (2023). Sustainable strategic people management: A Confucian perspective on Chinese management. *Sustainability*, 15(12), 9188. <https://doi.org/10.3390/su15129188>

Data availability

All data supporting the findings of this study have been made available in an open-access repository. The dataset includes:

- (1) the raw database exports retrieved from Scopus (Raw database exports retrieved from Scopus.csv);
- (2) the raw database exports retrieved from Web of Science (Raw database exports retrieved from Web of Science.xls);
- (3) the final list of included studies with bibliographic information (The final list of included studies with bibliographic information.csv).

All files have been deposited in Zenodo and can be accessed at:

<https://doi.org/10.5281/zenodo.17927104>

Author contributions

All authors contributed to the writing and revision of the paper. All authors have read and agreed to the published version of the paper.

Competing interests

The authors declare no competing interests.

Ethical approval

Ethical approval was not required as the study did not involve human participants.

Informed consent

All authors read and approved the final manuscript.