

Global Research on Ethical Leadership: A Bibliometric Investigation and Knowledge Mapping

Ghulam Ali¹, Shamshad Ahmed², Muhammad Mubushar^{3*}, Ayesha Gulzar⁴

1 3 Malik Firoz Khan Noon Business School, University of Sargodha, Sargodha, Pakistan

2 4 Department of Information Management, University of Sargodha, Sargodha, Pakistan

ABSTRACT

The aim of this study is to investigate the publishing and trends of citation on moral and ethical leadership in the past four decades (1979-2022). Moreover, this bibliometric study examines the top authors, countries, organizations, journals, nature of collaboration, and highly cited articles. Bibliometric analysis techniques has been employed to extract data from the Web of Science (WoS) database. A wide-ranging search strategy was developed to extract more relevant data from this source. Finally, 2232 research records were selected. For data analysis and bibliometric indicator classification, the study utilized the following software packages: MS Excel, VOSviewer, Biblioshiny, and BibExcel. The study found that a total of 2290 items were published in Web of Science from which 2232 were shortlisted after screening during this period. The largest number of studies were published in the year of 2022 and USA was found the most productive country with most productive organizations, authors, and author collaborations. The most productive authors were Trevino LK, Brown ME and Walumbwa FO, and most productive organizations were Wuhan University, Erasmus University, and Michigan State University. *Journal of Business Ethics* is the top rated journal in the domain of ethical leadership. Single-author was the prevailing authorship pattern, followed by the two-author pattern. The top three collaborating countries are USA, China, and Pakistan. The analysis of keywords reflected that the published literature focused on ethical leadership.

KEYWORDS

Ethical leadership; Moral leadership; Ethics.

1. Introduction

During the modern ages, organizations all over the world are striving to address the needs of primary stakeholders such as customers, employees, shareholders, partners, and society at large because of globalization, innovation, and enlarging market competition (Shashi et al., 2019). To address this global phenomenon, the role of leadership has been a specific emphasis in theories of implementation because leaders play a critical role in the implementation process and make organizations more successful (Farahnak et al., 2020). Contrarily, when leaders are incapable to act in accordance with ethical practices, corporate scandals like Lehman Brothers, Enron, Anderson, and Siemens happened in the recent past (Wu et al., 2015; Saha et al., 2020). As a result of such panics, academic circles have emphasized the prominence of ethical leadership that can enhance the emotional commitment and loyalty of employees to organizations (Shin et al., 2015). The concept of ethical leadership has been conceived in recent times but the comprehensive definition of ethical leadership is still under deliberation by academicians. However, this study has taken advantage while considering the popular definition of Shakeel et al. (2018), “the demonstration of normatively appropriate conduct

through personal action and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making” (Brown et al., 2005). This definition explains the two main and major roles of ethical leadership: moral person and moral manager. The meaning of a moral person is the ethical values of leaders that he/she carries as a human, and a moral manager should carry out such ethical practices to lead the followers to achieve organizational goals.

Different researchers explained this construct in different ways. Following the renowned researchers Brown and Trevino (2006), various scholars defined it to bring change and explored its relationships with organizational change due to ethical elements (Bian, 2021; Imran, et al., 2023). Some scholars explained this concept in terms of moral leadership due to servant leadership elements and linked it with behavioral outcomes (Ahn et al., 2018; Jha & Singh, 2019; Shareef & Atan, 2019; Sarwar et al., 2020; Wood et al., 2021; Ye et al., 2022). In this way, many scholars have demonstrated this phenomenon in their own contexts but the purpose of this study is to retrieve and review all journal publications related to ethical leadership in various fields of social sciences in order to contribute to the development of literature on ethical leadership. This research used “bibliometric analysis” to retrieve and assess the features of those publications.

The term “bibliometric” is used for the application of quantitative analysis techniques to analyze the different characteristics of publications (Pritchard, 1969). The studies try to understand research trends through these characteristics such as journals, countries, institutions, keywords, authors and titles. Similarly, a detailed study was conducted from 1987 to 2017 on ethical leadership and analyzed its data and visualized various features of publications (Karakus, 2017), but there are several shortfalls exist such as coupling of journals, author’s keywords, countries, institutions and publications with covered the social science citation index database. In another study, Shrivastava et al. (2022) reviewed 1225 articles published during 2000-2023 and explored ethical leadership in social science. The focus of this study was on the authors’, institutions’ and countries’ productivity through the Scopus database.

Therefore, the current study intends to address the gap in the literature by quantifying the studies of ethical leadership and moral leadership data in the Web of Science from its first state to the present following the new and up-to-date bibliometric techniques as well as a critical assessment of the leadership literature activity for the period (1979–2022). The focus of this study was on highly cited authors, the most productive universities, the most used author’s keywords, the most cited countries and the most cited journals. With the examination of co-authorship, bibliographic coupling, co-occurrences and citations, this study shows the trend toward research in the field of ethical leadership and moral leadership. This research used four databases: Emerging Sources Citation Index (ESCI), Arts and Humanities Citation Index (A&HCI), Social Sciences Citation Index (SSCI), and Science Citation Index Expanded (SCIE) to retrieve and analyze the publications on ethical leadership and moral leadership.

The research study will investigate the following questions:

1. What are the most recent publishing trends of ethical leadership and moral leadership in the world?
2. What are the most renowned authors and organizations for ethical leadership and moral leadership?
3. What are the top-notch journals and document types for ethical leadership and moral leadership?
4. What are the highly cited authors and research publications in the domain of ethical leadership and moral leadership?
5. What are the models for authorship and collaborations in the research of ethical leadership and moral leadership?
6. What are the current research keywords and research themes in the literature on ethical leadership and moral leadership?

2. Methodology

VOSViewer and RStudio software (v. 4.0) were used in this study to analyse the data. Science mapping is a spatial representation of the relationships between disciplines, fields, and documents or authors in addition to being a crucial bibliometric method (Garousi & Mantyla, 2016). By creating node-link maps, visualization software facilitates the depiction of research distributions, hot subjects, and international cooperation. The software for visualizing literature was created by Van Eck and Waltman (2010) and is effective for examining co-occurrence and co-citation analyses. The ability of VOSviewer to display cluster analysis results is one of its key benefits. The study components are shown as nodes and connections in the findings, and their sizes are significantly linked with the item weights. The strength of the relationship between the components of the analysis is proportional to the thickness and length of the lines connecting the two nodes.

The Web of Science Core Collection was used to download the records online (WoSCC). Web of Science is an online database with most important research papers and built-in analysis tools to present the data in figures. Further, WOS could export the searched result in the software for further analysis. In this study, patterns within the selected publications were identified by conducting statistical analyses and graphics on fields of interest, e.g., top author publications, citations, keywords, document types, countries, affiliations from 1979 to 2022.

Initially, 2290 research papers were collected through WoS by applying the following query:

TS = ("Ethical leadership" OR "Moral leadership")

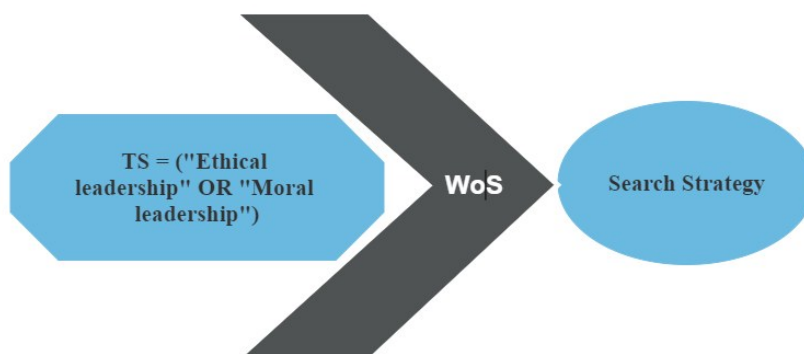


Figure 1 Search query

We specified the language as "English" and the time period as "from 1979 to 2022" to limit the results. Data papers, retracted papers, letters and corrections etc. are excluded. Total records of 2235 documents were downloaded and imported as "plain text" data with "complete record and cited references". The 2235 documents in total met the selection criteria. Next, we uploaded the data in Rstudio software and then imported the data in Excel. The result of 2232 documents through which could be accessed, thus being key researching area. Three duplicate records were checked through Endnote Software and then removed from the final data. The bibliometrics method was adopted in this study.

The seven steps of search strategies depicted in Figure 2 provide an overview of this entire procedure:

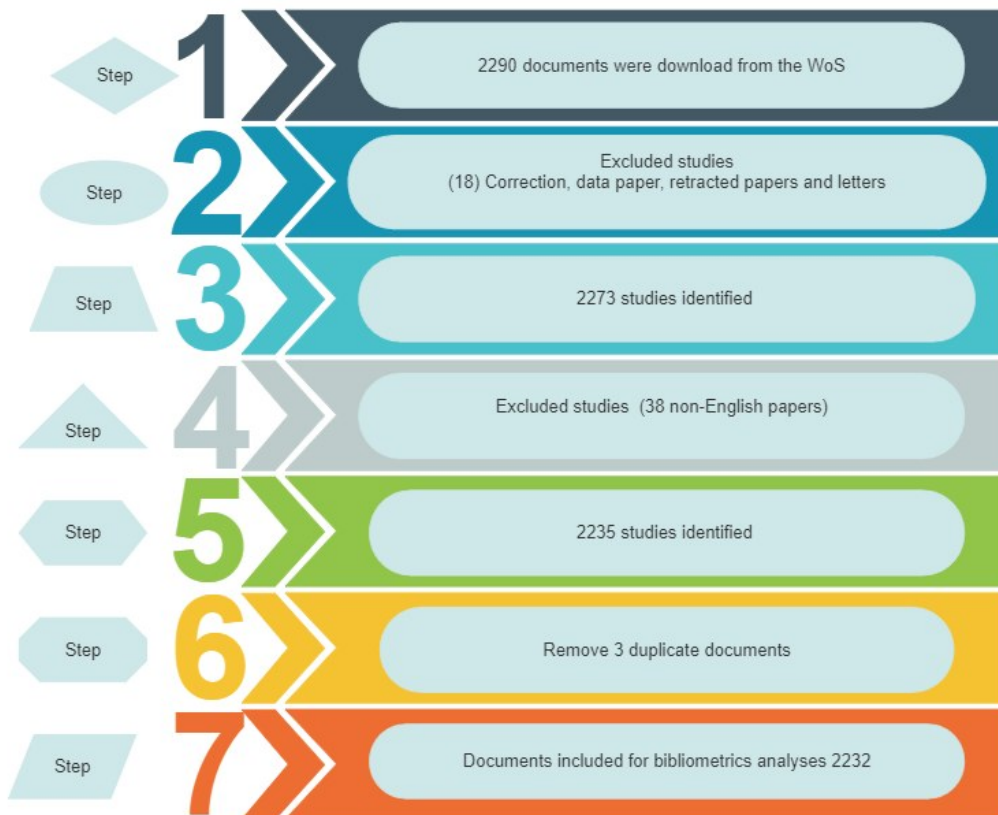


Figure 2 Flow diagram of the inclusion process

3. Results

3.1 Key information about data

Table 1 provides specifics of the key data on the research into ethical leadership. The 4652 authors who published the 2232 papers that WoS exported were found in 648 sources. The 1832 papers had an overall reference count of 82973, with an average timespan since publication of 14.01, mean citations/documents of 4.79, and mean citations/year/document of 25.57. There were 407 authors of documents with just one author. There were 449 documents with a single author, though. The authors/document and documents/authors ratios are 0.256 and 3.9 respectively. 2.84 co-authors/documents high research collaboration is indicated by the value of the collaboration index, which may be interpreted as being indicated by the average number of citations per document.

Table 1 Major information about ethical and moral leadership research from 1979-2022

Description	Results	Description	Results
OVERALL		DOCUMENT TYPES	
Timespan	1979-2022	Articles	1832
Sources (journals, books, etc)	648	Articles: early access	152
Documents	2232	Review	97
Annual growth rate (%)	14.01	Editorial material	46
Document average age	4.79	Book review	40
Average citations per doc	25.57	Article: proceedings papers	25
References	82973	Meeting abstracts	19

Table 1 Major information about ethical and moral leadership research from 1979-2022(Continued)

Description	Results	Description	Results
AUTHORS		Review: early access	11
Authors	4652	Article: book chapter	5
Authors of single-authored docs	407	Editorial material: early access	4
AUTHORS COLLABORATION		Review: book chapter	1
Single-authored docs	449	DOCUMENT CONTENTS	
Co-Authors per doc	2.84	Keywords plus (ID)	2478
International co-authorships (%)	30.47	Author's keywords (DE)	4580

3.2 Authorship pattern in the ethical leadership research

In table 2 the trends of authorship pattern for research publications on ethical leadership was checked. It was found that collaborative publications as two (583) and three (532) authors are higher as compared with single (447) author in the ethical leadership area. Similarly, the citation ratio of collaborative authors (14377 & 15087) is also high.

Table 2 Authorship pattern

Authorship	Non-cited publications	Cited publications	Total publications	Total citations
1	128	319	447	7332
2	109	474	583	14377
3	84	448	532	15087
4	64	322	386	9948
5	28	154	182	7573
6	12	49	61	2134
7	7	16	23	211
8	2	9	11	469
9	3	1	4	1
10	0	1	1	6
13	0	1	1	2
17	0	1	1	0

3.3 Yearly growth and citations of the ethical leadership research

Table 3 shows the distribution of research papers published from 1979 to 2022. There were 2232 research papers published from 1979 to 2022. It has been found that the maximum ethical leadership papers (404) were published in 2022, having citations 561. Next, 341 research articles were published in 2021, having citations of 1869.

Table 3 Yearly growth and citations of the ethical leadership research

Publication year	Non-citedpublications	Cited publications	Total publications	Total citations
1979	0	1	1	1
1987	0	1	1	37
1989	0	1	1	10
1992	0	1	1	30
1993	1	0	1	0
1994	2	1	3	31
1995	2	3	5	27
1996	3	1	4	163
1997	0	3	3	78
1998	2	4	6	77
1999	0	1	1	9
2000	1	5	6	697
2001	2	9	11	384
2002	1	5	6	391

Table 3 Yearly growth and citations of the ethical leadership research (Continued)

Publication year	Non-citedpublications	Cited publications	Total publications	Total citations
2003	4	3	7	656
2004	6	16	22	1026
2005	2	7	9	2624
2006	3	12	15	2337
2007	0	8	8	378
2008	3	18	21	2424
2009	3	26	29	2703
2010	4	34	38	2437
2011	4	43	47	3531
2012	6	50	56	3867
2013	0	57	57	3328
2014	1	80	81	5603
2015	1	76	77	3680
2016	8	81	89	2893
2017	8	151	159	3648
2018	13	179	192	4227
2019	19	238	257	4610
2020	24	249	273	2803
2021	80	261	341	1869
2022	235	169	404	561

3.4 Most preferred documents types

Table 4 shows the number of publications, total citations and citations per year for the distribution of eleven types of the document listed by the WoS. The most common type of document was the articles with 1832 publications and 45615 citations.

Table 4 Most preferred document types about ethical leadership between 1979-2022

Document types	Total publications	Total citations
Article	1832	45615
Article: early access	152	171
Review	97	8568
Editorial material	46	551
Book review	40	7
Article: proceedings paper	25	1025
Meeting abstract	19	1
Review: early access	11	7
Article: book chapter	5	897
Editorial material: early access	4	3
Review: book chapter	1	295

3.5 Top relevant institutions

The most relevant institutions in ethical leadership related research in terms of publication between 1979 and 2022 are listed. The most productive institutions with respect to the publications was Pennsylvania State University with 54 publications, followed by Renmin University (n = 46), Zhejiang University (n = 34), Arizona State University (n = 32). Comsats University and University of Michigan produced the same number of publications (n = 30). Details of the top 20 relevant institutions are shown in Table 5.

3.6 Top authors

With RStudio, the productivity and citation impact of authors were examined in Table 6. Trevino LK has the most citations in our analysis (Total publications=14, Total citations=6445), and Brown ME

Table 5 Top relevant institutions about ethical leadership between 1979-2022

Institutions	Numbers of articles
Pennsylvania State University	54
Renmin University	46
Zhejiang University	34
Arizona State University	32
Comsats University	30
University of Michigan	30
University of Amsterdam	29
University of Washington	26
Monash University	24
University of South Africa	24
Wuhan University	24
Erasmus University	23
Michigan State University	23
Swinburne University of Technology	22
University of Illinois	22
Miami University	21
University of Central Florida	21
Hong Kong Polytechnic University	19
Oklahoma State University	19
Durham University	19
Beijing Normal University	18

(Total publications=14, Total citations=4825) was the second most productive author. Researcher observed that some authors have the same Total publications but have different Total citations. Harrison DA has the lowest publications but has more citations (2050).

Table 6 Top authors about ethical leadership between 1979-2022

Authors	Total citations (Rank)	Total publications
Trevino Lk	6445	14
Brown ME	4825	14
Walumbwa Fo	3140	11
Mayer DM	3056	18
Gardner WL	2327	5
Harrison DA	2050	1
Den hartog DN	1863	12
Kuenzi M	1757	6
Avolio BJ	1632	3
Wernsing TS	1434	2
Liden RC	1366	5
Greenbaum R	1257	2
Peterson SJ	1246	2
Greenbaum RL	1236	12
De hoogh AHB	1189	8
Brown M	1158	2
Hartman LP	1158	2
Meuser JD	1020	3
Bardes M	1010	2
Lord RG	934	3
Salvador R	865	1
Cheng BS	824	5
Kalshoven K	764	7
Farh JL	759	2
Morrison EW	698	2

3.7 Top cited articles in ethical leadership

Top 20 articles were listed in Table 7. The first article “Ethical leadership: a social learning perspective for construct development and testing” published in *Organizational Behavior and Human Decision Processes* has 2050 citations. The second article “Ethical Leadership: A Review and Future Directions” published in *Leadership Quarterly* has 1479 citations.

Table 7 Top cited articles about ethical leadership between 1979-2022

Title	Source	Total citations
Ethical Leadership: A Social Learning Perspective for Construct Development and Testing	<i>Organizational Behavior and Human Decision Processes</i>	2050
Ethical Leadership: A Review and Future Directions	<i>Leadership Quarterly</i>	1479
Authentic Leadership: Development and Validation of a Theory-Based Measure	<i>Journal of Management</i>	1195
How Low Does Ethical Leadership Flow? Test of a Trickle-Down Model	<i>Organizational Behavior and Human Decision Processes</i>	865
A Qualitative Investigation of Perceived Executive Ethical Leadership: Perceptions from Inside and Outside the Executive Suite	<i>Human Relations</i>	607
Leader Personality Traits and Employee Voice Behavior: Mediating Roles of Ethical Leadership and Work Group Psychological Safety	<i>Journal of Applied Psychology</i>	595
Employee Voice and Silence	<i>Annual Review of Organizational Psychology and Organizational Behavior</i>	572
Leadership Theory and Research in the New Millennium: Current Theoretical Trends and Changing Perspectives	<i>Leadership Quarterly</i>	563
Moral Person and Moral Manager: How Executives Develop a Reputation for Ethical Leadership	<i>California Management Review</i>	551
Who Displays Ethical Leadership, and Why Does It Matter? An Examination of Antecedents and Consequences of Ethical Leadership	<i>Academy of Management Journal</i>	538
Authentic Leadership: A Review of the Literature and Research Agenda	<i>Leadership Quarterly</i>	499
Paternalistic Leadership and Subordinate Responses: Establishing a Leadership Model in Chinese Organizations	<i>Asian Journal of Social Psychology</i>	460
Ethical and Despotism Leadership, Relationships with Leader's Social Responsibility, Top Management Team Effectiveness and Subordinates' Optimism: a multi-method study	<i>Leadership Quarterly</i>	447
Servant Leadership, Procedural Justice Climate, Service Climate, Employee Attitudes, and Organizational Citizenship Behavior: A Cross-Level Investigation	<i>Journal of Applied Psychology</i>	436
Do Ethical, Authentic, and Servant Leadership Explain Variance Above and Beyond Transformational Leadership? A Meta-Analysis	<i>Journal of Management</i>	414
Linking Ethical Leadership to Employee Performance: the Roles of Leader-Member Exchange, Self-Efficacy, and Organizational Identification	<i>Organizational Behavior and Human Decision Processes</i>	399
The Relationship Between Ethical Leadership and Core Job Characteristics	<i>Journal of Organizational Behavior</i>	392
Servant Leadership and Serving Culture: Influence on Individual and Unit Performance	<i>Academy of Management Journal</i>	390
Ethical and Unethical Leadership: Exploring New Avenues for Future Research	<i>Business Ethics Quarterly</i>	381
Servant Leadership: A Systematic Review and Call for Future Research	<i>Leadership Quarterly</i>	341

3.8 Top sources according to total publication

Top 20 journals with the highest number of publications on ethical leadership are listed in Table 8. The most productive journal was the *Journal of Business Ethics* with Total publications 293 and Total citations 12839. The second productive journal was *Frontiers in Psychology* with 90 Total publications and 777 Total citations. Last four journals have the same Total publications but different Total citations.

Table 8 Top journals about ethical leadership between 1979-2022

Sources	Non-cited publications	Cited publications	Total publications	Total citations	Rank _TC
<i>Journal of Business Ethics</i>	15	278	293	12839	1
<i>Frontiers in Psychology</i>	25	65	90	777	2
<i>Leadership and Organization Development Journal</i>	8	45	53	635	3
<i>Sustainability</i>	16	36	52	473	4
<i>Personnel Review</i>	3	28	31	400	5
<i>International Journal of Environmental Research and Public Health</i>	8	21	29	180	6
<i>Social Behavior and Personality</i>	6	21	27	296	7
<i>Journal of Applied Psychology</i>	1	25	26	2499	8
<i>Journal of Management</i>	4	20	24	2823	9
<i>Business Ethics Quarterly</i>	2	19	21	840	10
<i>Nursing Ethics</i>	4	16	20	246	11
<i>Public Integrity</i>	6	13	19	44	12
<i>Current Psychology</i>	6	11	17	43	13
<i>Ethics and Behavior</i>	2	15	17	225	14
<i>Journal of Management and Organization</i>	3	12	15	346	15
<i>International Journal of Psychology</i>	13	1	14	1	16
<i>Journal of Leadership Studies</i>	3	10	13	69	17
<i>Journal of Management Development</i>	4	9	13	54	18
<i>European Journal of Work and Organizational Psychology</i>	1	12	13	512	19
<i>Group and Organization Management</i>	1	12	13	436	20

3.9 Top countries/continent

Table 9 shows that based on Total publications, USA, China and Pakistan are the topmost publishing countries on ethical leadership in the world. It has been found that the USA also secured the highest Total citations in ethical leadership. Indonesia (56) and France (51) have the lowest Total publications, but France (761) has more Total citations than Indonesia (246).

Table 9 Top 20 contributing countries to the ethical leadership research

Country	Continent	Total publications	Total citations
USA	Northern America	1379	69734
China	Asia	887	17308
Pakistan	Asia	278	3504
United Kingdom	Europe	274	5719
Australia	Australia and New Zealand	221	5321
Canada	Northern America	178	4558
Turkey	Asia	143	1550
Netherlands	Europe	141	6380
Taiwan	Asia	131	3385
Germany	Europe	123	2273

top three keywords (ethical leadership, leadership and ethics) and top authors Trevino IK, Brown Me and Mayer Dm had a strong relationship with ethical leadership. These authors published their work in these sources, e.g., journal of business ethics, leadership quarterly and journal of management.

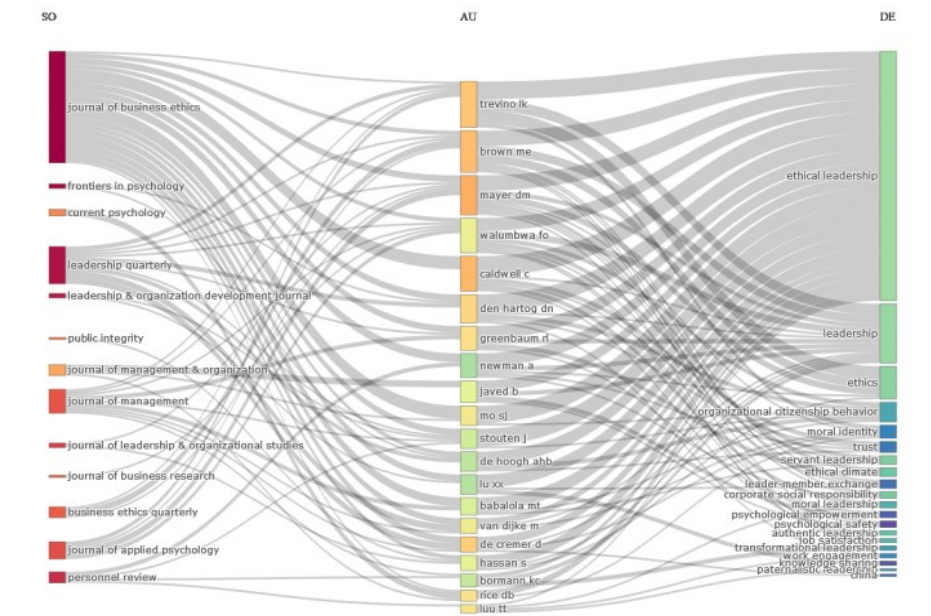


Figure 4 Three field plot between sources, authors and authors keywords

3.12 Collaboration world map

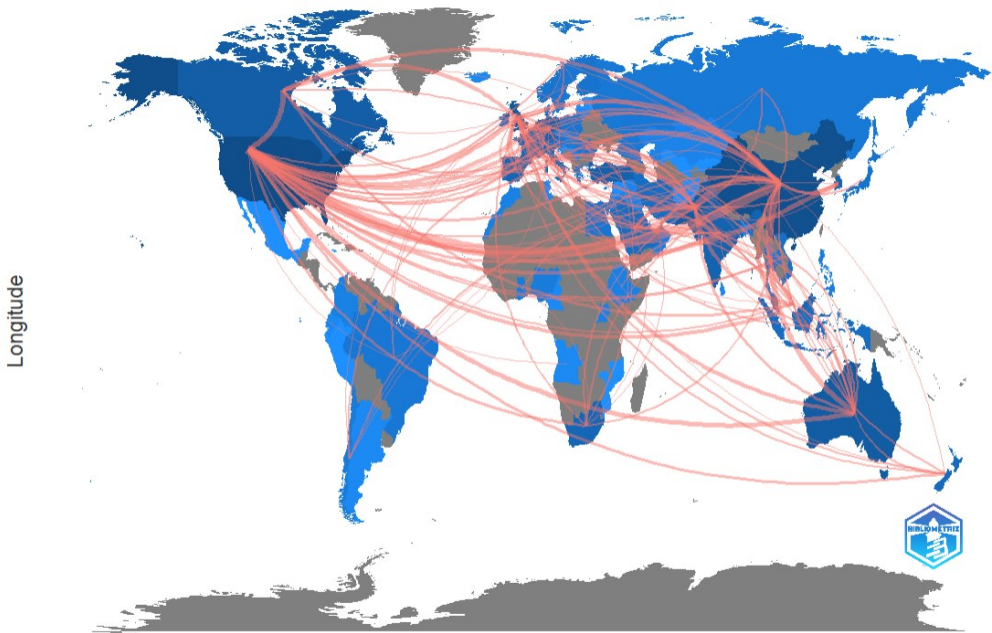


Figure 5 Top 20 country collaborations in the ethical leadership research

Figure 5 displays collaboration countries on ethical and moral leadership. USA is the most collaborative country with China (Total publication=109). The next one is China with Pakistan (51), and also China with Australia (35), USA with Canada (31). Some countries published few collaborative publications, e.g., USA with India (12).

4. Discussion

It has been found that the highest number of publications on ethical and moral leadership was published in 2022, with a total of 404 and 561 citations. The minimum number of publications was in 1979 with only one citation. The highest number of citations (5603) was generated in 2014.

Most of the studies on ethical and moral leadership were conducted in the form of articles, access reviews, editorial materials and book reviews etc. The citations per paper for articles are much higher than for other formats such as reviews and editorial materials etc. The total conducted reviews were 95 and its citations were 8568 whereas reviewed book chapter was only one and its citations were 295. Pennsylvania State University was the most productive institution, followed by Renmin University of China. Beijing Normal University had the lowest number of publications.

Trevino LK was the most prominent writer in terms of citations on ethical leadership and moral leadership with 14 publications. It is detected that Brown ME also has the same number of publications but has received fewer citations than Trevino LK. Additionally, there are instances where a researcher has only one publication but has received more citations than other authors. It is also noted that some researchers have the same number of publications but have received different citation counts.

The article "Ethical leadership: A Social Learning Perspective for Construct Development and Testing" published in *Organizational Behavior and Human Decision Processes* has the highest number of citations. In terms of *Leadership Quarterly*, the article "Ethical Leadership: A Review and Future Direction" has received the highest number of citations, followed by "Authentic Leadership: Development and Validation of a Theory-based Measure". On the other hand, "Servant Leadership: A Systematic Review and Call for Future Research" has received the lowest number of citations among the articles published in *Leadership Quarterly*. It is observed that while some articles published in *Leadership Quarterly* have received a high number of citations, others have received a low number of citations.

The data analysis revealed that articles with two authors have the highest frequency, followed by articles with three authors, single-author articles, and articles with four authors. It is observed that articles with two authors have a higher production rate than other authorship patterns.

The results showed that the USA is the most productive country with the highest number of publications, followed by China and Pakistan. The USA also has the highest number of citations compared to other countries. France has the lowest number of publications, but it has received more citations than Indonesia, Portugal, Iran, South Africa, and Malaysia. This study confirms that the USA is the topmost productive country.

The keyword analyses of the top authors showed that ethical leadership, moral leadership, ethics, moral climate, and leadership were frequently used in research articles. These analyses were conducted using Vosviewer software, which created different clusters based on the keywords used. These clusters showed varying authors and their respective keywords.

Three filed plot showed that most prolific authors published your articles in journals of business ethics. Among the top collaborating countries, the USA has the highest number of collaborative publications with researchers in China. China follows this by collaborating with researchers in Pakistan and Australia, while the USA collaborates with researchers in Canada. Some countries have published fewer collaborative publications, such as the USA with India.

In terms of citations, the *Journal of Business Ethics* was found to be the most influential source of publications, followed by *Organizational Behavior and Human Decision Processes*. *Journal of Management* and *Journal of Applied Psychology* also received a high number of citations. Additionally,

this study revealed that the *Journal of Business Ethics* is the most productive journal in the field of ethical and moral leadership.

5. Conclusion

The current research study reviewed the literature on ethical and moral leadership published between 1979 to 2022 using bibliometric and visualization techniques. A total of 2232 documents were evaluated via the Web of Science database during the study period. USA, China and Pakistan are the top rated countries having the highest research publication and citation and research collaborations scores. The topmost research-producing organizations in ethical and moral leadership were Pennsylvania State University and Renmin University of China. In terms of the number of publications, the most renowned research authors were Mayer DM and Trevino Lk. Though, it is very interesting to highlight that Trevino Lk is on a leading position in citations, citation impact and h-index. The article titled "Ethical Leadership: A Social Learning Perspective for Construct Development and Testing" got the highest citations in the domain of ethical leadership. This article was published in *Organizational Behavior and Human Decision Processes*. Ethical leadership, ethics, moral leadership and ethical climate were among the hot research areas published between 1979 and 2022. The most collaborative countries are USA, China and Pakistan in which researchers collaborate for ethical leadership. These relations, in particular, are thriving terms of ethical and moral leadership.

About the authors

1. Ghulam Ali Bhatti is a Professor and Director in the Malik Firoz Khan Noon Business School (MFKNBS) at University of Sargodha. Dr. Ghulam Ali Bhatti has earned PhD from Universiti Teknologi Malaysia (UTM), Malaysia. Before that he has completed MS from CIIT, Islamabad, Pakistan. Previously he has served as Associate Professor/ Chairperson at University of Gujrat, Punjab Pakistan.
2. Shamshad Ahmed is a professor in the Department of Information Management at University of Sargodha, Pakistan. He has been associated with the profession of teaching since 2010. Shamshad is a dedicated academician in the LIS community in Pakistan. He has published in a number of national and international journals. In addition, he serves as a reviewer for many highly ranked international research journals. His research interests include knowledge management, information behavior, social media networking, digital reference services, scholarly communication and research data management.
3. Muhammad Mubushar is serving as IPFP-fellow in Malik Firoz Noon Business School University of Sargodha. He has done Ph.D. in Marketing from University Malaysia Sarawak. Before that he has been served Branch Manager in Allied Bank Limited of Pakistan. Email: Mubushar.raja@gmail.com.
4. Ayesha Gulzar is a PhD scholar, Department of Information Management, University of Sargodha, Pakistan. She is a librarian in Govt Associate College for women Block No. 23/A Sargodha. She earned her bachelor degree from University of Sargodha. Her research areas are bibliometrics analysis, reference services, online information retrieval and bibliometrics software.

Funding

There was no funding that availed by the this research study.

Disclosure Statement

The authors declare no conflict of interest.

References

- [1] Ahn, J., Lee, S., & Yun, S. (2018). Leaders' core self-evaluation, ethical leadership, and employees' job performance:

- The moderating role of employees' exchange ideology. *Journal of Business Ethics*, 148(2), 457-470. <https://doi.org/10.1007/s10551-016-3030-0>
- [2] Asif, M., Qing, M., Hwang, J., & Shi, H. (2019). Ethical leadership, affective commitment, work engagement, and creativity: Testing a multiple mediation approach. *Sustainability*, 11(16), 4489. <https://doi.org/10.3390/su11164489>
 - [3] Bian, Y. (2021). Can ethical leadership reduce workplace deviant behaviour? An analysis based on localization scale, advances in social science. *Advances in Social Science, Education and Humanities Research*, 543, 391–400. <https://doi.org/10.2991/assehr.k.210407.077>
 - [4] Brown, M. E., & Treviño, L. K. (2006). Ethical leadership: A review and future directions. *The leadership quarterly*, 17 (6), 595-616. <https://doi.org/10.1016/j.leaqua.2006.10.004>
 - [5] Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes*, 97(2), 117–134. <https://doi.org/10.1016/j.obhdp.2005.03.002>
 - [6] Chen, A. S. Y., & Hou, Y. H. (2016). The effects of ethical leadership, voice behavior and climates for innovation on creativity: A moderated mediation examination. *The leadership quarterly*, 27(1), 1-13. <https://doi.org/10.1016/j.leaqua.2015.10.007>
 - [7] Farahnak, L. R., Ehrhart, M. G., Torres, E. M., & Aarons, G. A. (2020). The influence of transformational leadership and leader attitudes on subordinate attitudes and implementation success. *Journal of Leadership & Organizational Studies*, 27(1), 98-111. <https://doi.org/10.1177/1548051818824529>
 - [8] Garousi, V., Mantyla, M. V. (2016). Citations, research topics and active countries in software engineering: A bibliometrics study. *Computer Science Review*, 19, 56–77. <https://doi.org/10.1016/j.cosrev.2015.12.002>
 - [9] Imran, M. K., Sarwar, A., Fatima, T., & Iqbal, S. M. J. (2023). I value ethics, do you? An employee-oriented perspective on ethical leadership and organizational change. *Evidence-based HRM: a Global Forum for Empirical Scholarship*. Ahead-of-print. <https://doi.org/10.1108/EBHRM-01-2022-0008>
 - [10] Jha, J. K., & Singh, M. (2019). Exploring the mechanisms of influence of ethical leadership on employment relations. *IIMB Management Review*, 31(4), 385-395. <https://doi.org/10.1016/j.iimb.2019.07.010>
 - [11] Karakus, M. (2017). Bibliometric analysis of ethical leadership research in social sciences. *Electronic International Journal of Education, Arts, and Science (EIJEAS)*, 3(7), 72-89.
 - [12] Shareef, R. A., & Atan, T. (2018). The influence of ethical leadership on academic employees' organizational citizenship behavior and turnover intention: Mediating role of intrinsic motivation. *Management Decision*, 57(3), 583-605. <https://doi.org/10.1108/MD-08-2017-0721>
 - [13] Shashi, Centobelli, P., Cerchione, R., & Singh, R. (2019). The impact of leanness and innovativeness on environmental and financial performance: Insights from Indian SMEs. *International Journal of Production Economics*, 212, 111–124. <https://doi.org/10.1016/j.ijpe.2019.02.011>
 - [14] Saha, R., Cerchione, R., Singh, R., & Dahiya, R. (2020). Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review. *Corporate Social Responsibility and Environmental Management*, 27(2), 409-429. <https://doi.org/10.1002/csr.1824>
 - [15] Shrivastava, R., Dewangan, J. K., & Siddiqui, I. N. (2022). Bibliometric analysis of ethical leadership using Scopus database. *Journal of Positive School Psychology*, 6(4), 1489-1500.
 - [16] Sarwar, H., Ishaq, M. I., Amin, A., & Ahmed, R. (2020). Ethical leadership, work engagement, employees' well-being, and performance: A cross-cultural comparison. *Journal of Sustainable Tourism*, 28(12), 2008-2026. <https://doi.org/10.1080/09669582.2020.1788039>
 - [17] Shakeel, F., Kruiyen, P., & Van Thiel, S. (2018). Development of the broader ethical leadership scale. In *Netherlands Institute of Governance conference, University of Leiden, The Hague, The Netherlands*.
 - [18] Shin, Y., Sung, S. Y., Choi, J. N., & Kim, M. S. (2015). Top management ethical leadership and firm performance: Mediating role of ethical and procedural justice climate. *Journal of Business Ethics*, 129(1), 43–57. <https://doi.org/10.1007/s10551-014-2144-5>
 - [19] Tufan, C., Namal, M. K., Arpat, B., Yesil, Y., & Mert, I. S. (2023). The mediating effect of organizational justice perception on the relationship between ethical leadership and workplace deviant behaviors. *Sustainability*, 15(2), 1342. <https://doi.org/10.3390/su15021342>
 - [20] Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping.

- Scientometrics*, 84(2), 523–538. <https://doi.org/10.1007/s11192-009-0146-3>
- [21] Wu, L., Kwan, H. K., Yim, F. H., Chiu, R. K., & He, X. (2015). CEO ethical leadership and corporate social responsibility: A moderated mediation model. *Journal of Business Ethics*, 130(4), 819–831. <https://doi.org/10.1007/s10551-014-2108-9>
- [22] Wood, B. P., Eid, R., & Agag, G. (2021). A multilevel investigation of the link between ethical leadership behaviour and employees green behaviour in the hospitality industry. *International Journal of Hospitality Management*, 97, 102993. <https://doi.org/10.1016/j.ijhm.2021.102993>
- [23] Ye, P., Liu, L., & Tan, J. (2022). The influence of organisational justice and ethical leadership on employees' innovation behaviour. *European Journal of Innovation Management*. Ahead-of-print. <https://doi.org/10.1108/EJIM-08-2021-0421>