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Retrospective of five years research of school leadership in Asia (2018–2022): A scientometric paradigm

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ABSTRACT

This research scrutinized the scientometric objectivity of school leadership research in Asia. Publication records between 2018 and 2022 were extracted from Scopus and the Web of Science, after which the bibliographic data set was administered using ScientoPy and VOSviewer. A total of 958 publications were issued over the last five years, with 2020 having the highest number of published articles. The International Journal of Innovation, Creativity and Change was the most productive source (26 papers), Hallinger was the most published author, and "Examining school leadership effects on student achievement: the role of contextual challenges and constraints" had the most significant impact with 33 citations. The top 10 keywords were "leadership," "higher education," "transformational leadership," "principal," "education," "school principals," "school leadership," "instructional leadership," "educational leadership," and "organizational commitment." With 240 publications, Indonesia was Asia's leading contributor in this research domain. The results indicated that school leadership research is important. It is recommended that future researchers extend this research to other regions, such as Africa, North America, South America, Antarctica, Europe, and Australia, to gain a fuller picture of school leadership studies across the world.

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1. INTRODUCTION

As school leadership is critical to educational improvement [1], this subject area has become a key research focus for school system improvement [2], [3]. Leadership studies have a long history and have generated many theories, hypotheses, models, perspectives, and approaches [4]. While many leadership models have been suggested, such as transformational leadership, instructional leadership, distributed leadership, teacher leadership, and school leadership [5], [6], it is crucial to understand how school leadership can foster robust cultures [7].

The school leadership model adopted by principals, who are the driving force in any school reform, significantly influences education planning, implementation [8], and a high-quality work environment for school staff [9], [10]. However, school leadership must address the needs of multiple stakeholders; students, parents, teachers, facility personnel, supervisors, local politicians, and others [11]. Studies have shown the impacts school leadership can have on educational outcomes [12], [13], teaching and learning [14], and student performances [15]–[17].

There has been significant research into the elements of school leadership, such as school leadership policy reforms [1], school leadership for social justice, equity, and diversity [18], and school leadership models and tools [19]. However, no research has been conducted on a scientometric analysis of school leadership in Asia. Although Hallinger and Chen investigated leadership in Asia, they used a systematic review [20]. Therefore, it is necessary to fill in this research gap to reveal possible new perspectives for further research.

The Asian region was chosen because Lam, Huang, and Lau highlighted the importance of leadership research in an Asian context [21], and Harris, Jones, Ismail, and Nguyen concluded from their bibliometric analysis that, compared to Europe, Oceania, the Middle East, and North America, the Asian region showed positive trends in leadership research [22]. Because Asian countries have unique cultures that generally emphasize a hierarchy based on paternalism [21], [23], understanding the Asian leadership perspective could help advance leadership ideas [24]. Therefore, this scientometric analysis and visualization study offers an unbiased, up-to-date assessment of Asian school leadership research and aims to fulfill the demands of researchers, teacher educators, and practitioners to gather reliable data and generate new research concepts based on scientometric research objectivity.

2. RESEARCH METHOD

Comprehensive searches of the highly accessed Scopus and Web of Science (WoS) databases were conducted to extract high-quality, globally focused scientific research, after which the respective data sets were combined [4], [25]–[27]. Search design for Scopus and WoS article metadata is shown in Figure 1. On December 9, 2022, a term search was conducted in the Scopus and WoS databases to retrieve article metadata for which the search strings were leader* OR principal* OR administrator* OR manager* AND school* OR education*. A filter was also applied to search only for English-language articles and proceedings papers and Asian-based content. Finally, 1162 articles were identified (2018–2022): 393 from the WoS and 769 from Scopus. The bibliographic datasets were pre-processed using ScientoPy [28], [29], after which VOSviewer [30], [31] was employed to build co-occurrence maps of the school leadership-related terms. The major contributors (author, university, and source name) were then mapped, and keyword occurrence analysis was used to determine the publication trends, from which the most prominent themes or topics were identified.

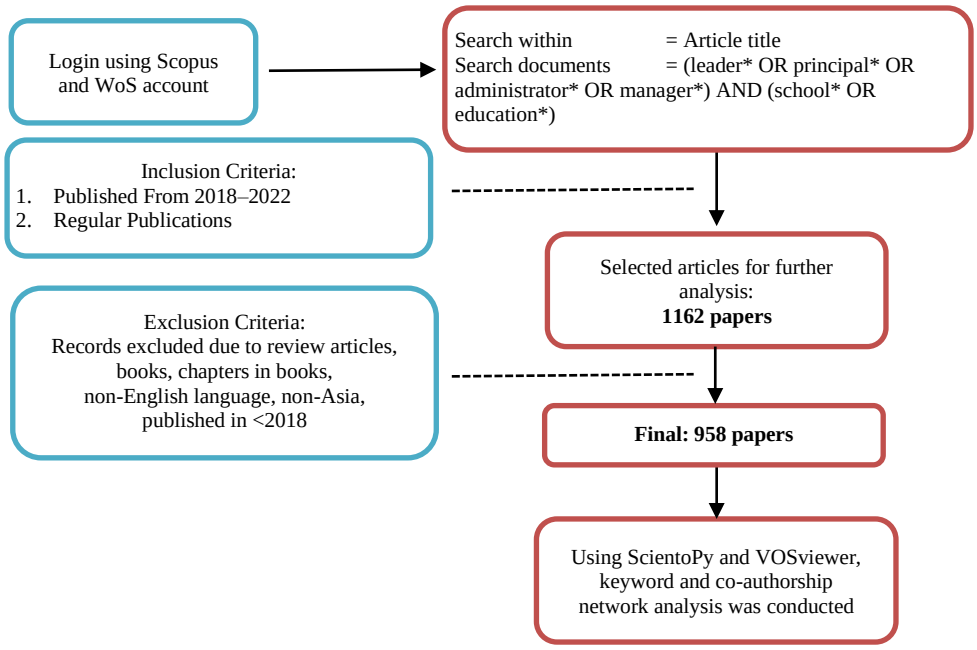

Figure 1. Search design for Scopus and WoS article metadata

3. RESULTS AND DISCUSSION

3.1. Publication trends

The chronological distribution of school leadership research publications is shown in Figure 2. School leadership research has seen a sharp increase in trend, especially in the last five years. The fewest number of publications was in 2018, with 130 papers (13.57%), and the highest was in 2020, with 222 papers (23.17%). Interestingly, during the 2020 global COVID-19 pandemic [32], most Asian activities ceased, with both students and teachers required to work from home [33], which could have made research challenging.

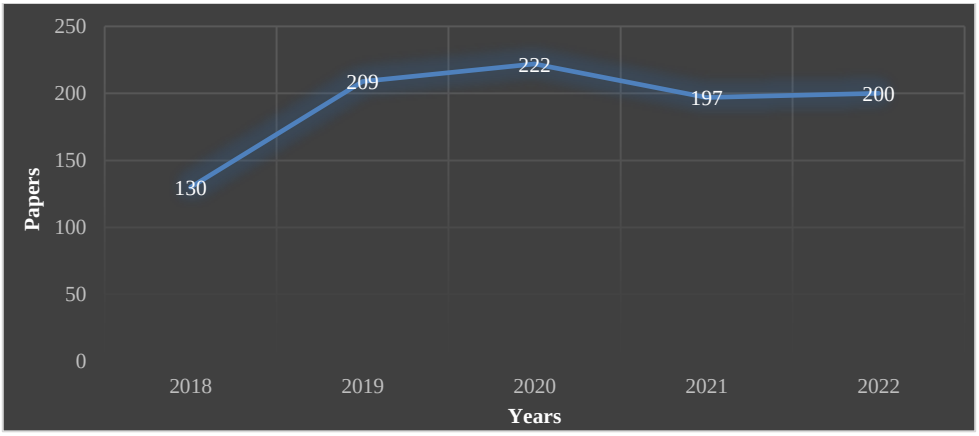

Figure 2. School leadership Asian research publication trends (2018–2022)

3.2. Sources

This study finally retrieved 958 school leadership research publications from the Scopus and WoS databases. Table 1 details the top 10 journals with the highest number of publications. School leadership research was published in 156 journals and conference proceedings. Of the 156 journals, 48 published only one school leadership article during the research period. Table 1 shows that the 10 most productive journals accounted for 37.2% of the total articles in the journals and proceedings. The most productive journal was the "International Journal of Innovation, Creativity and Change" with 26 papers, the second most productive journal was the "Universal Journal of Educational Research" with 25 papers, and the third most productive journal was "Educational Management Administration & Leadership" with 26 papers. Two of these top three journals, the "International Journal of Innovation, Creativity and Change" and "Universal Journal of Educational Research" were removed from the Scopus database in 2020.

Table 1. The 10 most productive journals

Rank	Journals	Total	AGR	ADY	PDLY	h Index
1	International Journal of Innovation, Creativity, and Change	26	−5.5	0.0	0.0	3
2	Universal Journal of Educational Research	25	−8.0	0.0	0.0	4
3	Educational Management Administration & Leadership	23	−0.5	6.0	52.2	6
4	International Journal of Educational Management	20	1.5	5.5	55.0	4
5	International Journal of Leadership in Education	19	−2.0	2.5	26.3	7
6	Frontiers in Psychology	15	4.5	6.5	86.7	3
7	International Journal of Scientific and Technology Research	15	−4.0	0.0	0.0	2
8	Cypriot Journal of Educational Sciences	14	4.5	7.0	100.0	1
9	Journal of Physics: Conference Series	14	−1.5	1.5	21.4	1
10	Malaysian Online Journal of Educational Management	14	−1.0	3.0	42.9	2

3.3. Authors

Of the 2558 school leadership research authors, Hallinger had the highest number of publications with 10 papers. From 2021 to 2022, two authors, Hallinger (50%) and Adams (83%), contributed more than 50% of all published papers. This indicates that both Hallinger and Adams have made significant contributions to the field of school leadership research during that period, dominating the publication landscape and demonstrating their influential presence in shaping scholarly discourse. A further explanation and visual representation of these findings can be seen in Figure 3.

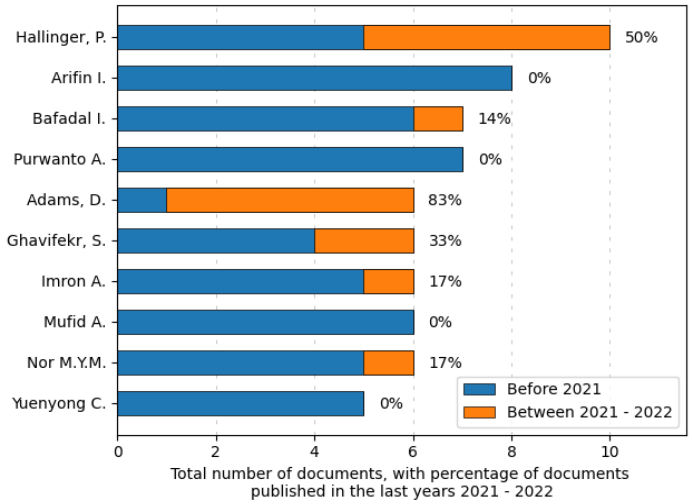

Figure 3. Top 10 authors in several publications

3.4. Papers

The most cited paper was "Examining school leadership effects on student achievement: the role of contextual challenges and constraints," written by Tan [34], which had 33 citations. This demonstrates the significant impact of Tan's research on the field of school leadership, as well as the recognition and influence it has garnered among scholars. A comprehensive list of the 10 most cited papers can be found in Table 2, providing further insights into the influential works shaping the discourse in this area of study.

Table 2. Most cited documents

Citations	Journal	Title
33	Cambridge Journal of Education	"Examining school leadership effects on student achievement: the role of contextual challenges and constraints" [34]
31	Educational Management Administration & Leadership	"Unpacking the effects of culture on school leadership and teacher learning in China" [35]
28	Educational Studies	"Principal leadership and teacher professional learning in Turkish schools: examining the mediating effects of collective teacher efficacy and teacher trust" [36]
24	International Journal of Leadership in Education	"The effect of self-evaluation on the principals' transformational leadership, teachers' work motivation, teamwork effectiveness, and school improvement" [37]
23	Systematic Reviews in Pharmacy	"Did transformational, transactional leadership style, and organizational learning influence innovation capabilities of school teachers during COVID-19 pandemic?" [38]
23	Journal of Educational Administration	"Distributed leadership and the Malaysia Education Blueprint: From prescription to partial school-based enactment in a highly centralized context" [39]
22	School Leadership & Management	"The heart of school improvement: a multi-site case study of leadership for teacher learning in Vietnam" [40]
20	British Journal of Educational Technology	"Exploring the roles of school leaders and teachers in a school-wide adoption of the flipped classroom: School dynamics and institutional cultures" [41]
20	Educational Management Administration & Leadership	"How school context and educator characteristics predict distributed leadership: A hierarchical structural equation model with 2013 TALIS data" [42]
18	Educational Management Administration & Leadership	"Contextual leadership practices: The case of a successful school principal in Malaysia" [43]

3.5. Author keywords

Author keywords are chosen by the authors to define the article content and assist readers and researchers to locate important ideas and arguments [44]. Most examined authors used their research topic as one of their keywords. Many electronic search engines, databases, and journal websites rely on author keywords to present relevant papers to prospective readers and generate links to related publications. The ScientoPy, an open-source Python based scientometric analysis tool, was used to evaluate the research subjects or search argument evolution based on the author keywords. Of the 958 article titles published in the Scopus and WoS databases, 2191 keywords were identified: leadership (116), higher education (61), transformational leadership (56), principal (32), education (29), school principals (28), school leadership (25), instructional leadership (24), educational leadership (23), and organizational commitment (20). The 10 most used keywords are shown in Table 3.

Table 3. Top 10 author keywords

Rank	Author Keywords	Total	AGR	ADY	PDLY	hIndex
1	Leadership	116	0.0	25.5	44.0	8
2	Higher education	61	−2.0	11.0	36.1	8
3	Transformational leadership	56	0.0	13.5	48.2	8
4	Principal	32	1.5	6.5	40.6	4
5	Education	29	−5.0	2.5	17.2	5
6	School principals	28	−0.5	7.5	53.6	4
7	School leadership	25	−1.5	4.5	36.0	5
8	Instructional leadership	24	1.0	6.5	54.2	5
9	Educational leadership	23	−2.0	5.5	47.8	4
10	Organizational commitment	20	0.0	6.0	60.0	4

Node size in VOSviewer, a software tool for constructing and visualizing bibliometric networks, represents the frequency of terms as depicted in Figure 4. Additionally, the thickness of each line in the visualization indicates the degree of co-occurrence between terms. On the other hand, Figure 4 illustrates an overlay diagram of the authors' keywords and their interrelationships, employing different visual cues such as color, node size, text size, and line thickness. In Figure 4, the size of the nodes provides information about the frequency or occurrence of specific terms within the research dataset. Larger nodes indicate higher frequency, suggesting that those terms are more commonly used in the literature under analysis. This visual representation allows researchers to identify the most prominent or frequently encountered terms related to the research topic. Figure 4, on the other hand, showcases the relationships and connections between authors' keywords. The diagram utilizes various visual elements to convey information. For instance, the color coding distinguishes between recent terms (represented by yellow nodes) and older terms (represented by blue nodes). This color differentiation enables researchers to identify the temporal aspects of the keywords. Moreover, the size of the nodes, the text size, and the line thickness further contribute to conveying the significance and relationships between the keywords.

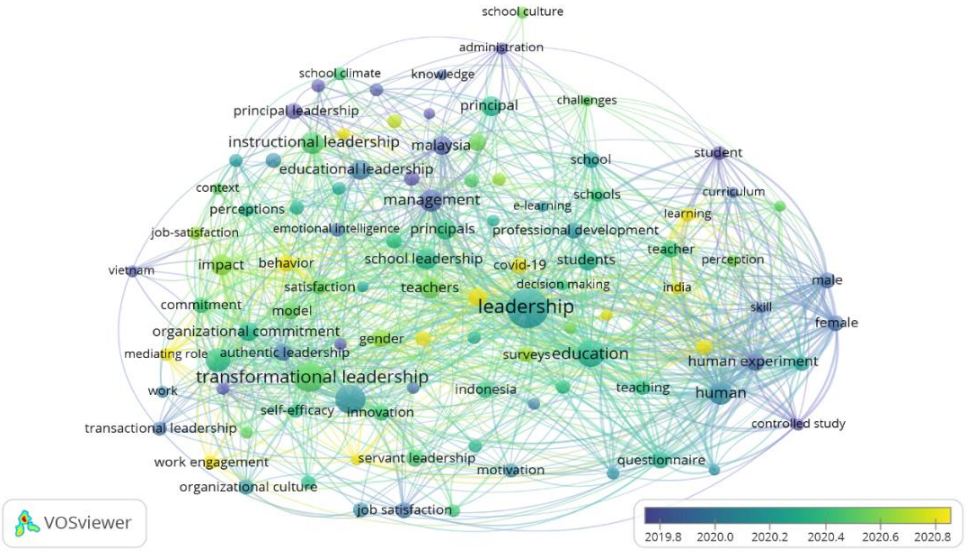

Figure 4. Overlay keyword co-occurrence visualization between authors

3.6. Country

A country-by-author affiliation analysis shows the distribution of country-based school leadership research. As shown in Figure 5, Indonesia had the highest number of school leadership research contributions (240 papers), followed by Malaysia (140 papers), China (88 papers), India (67 papers), Thailand (40 papers), Iran (37 papers), Pakistan (35 papers), the Philippines (31 papers), Taiwan (27 papers), and Saudi Arabia (26 papers). The 2021–2022 analysis found that China (56%) and Saudi Arabia (65%) contributed more than 50% of all school leadership published papers.

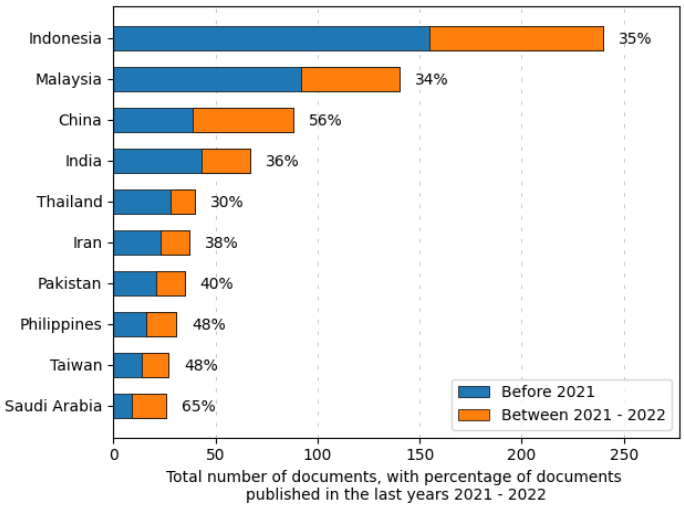

Figure 5. Top 10 countries that published papers on school leadership

This scientometric examination of school leadership in Asia was conducted to generate a comprehensive picture of Asia's expanding knowledge base, from which it was found that 958 papers had been published from 2018–2022. This indicated that school leadership research in Asia has been rapidly developing, especially in the last five years. Historically, Cope was the first to discuss college leadership and school efficiency [45], and initially, many researchers associated school leadership with religion [46], [47].

Over the last five years, many Asian school leadership articles have appeared in the "International Journal of Innovation, Creativity and Change" and the "Universal Journal of Educational Research." However, these two journals are no longer in the Scopus database. Of the 10 journals in which Asian school leadership articles were published, only three had leadership in their scope: Educational Management Administration & Leadership, the International Journal of Educational Management, and the International Journal of Leadership in Education, all of which are indexed in both the Scopus and WoS databases.

The highest contributing author was Hallinger, whose articles examined school leadership in Vietnam [48], Thailand [49], [50], and China [35]. Hallinger has been widely regarded as a leadership development innovator and a pioneer in instructional leadership, educational transformation, leadership development, and school improvement. Hallinger also developed principal instructional leadership rating scale (PIMRS) for instructional leadership [48], [51].

Tan's paper, "Examining school leadership effects on student achievement: the role of contextual challenges and constraints," was the most influential [34]. Tan investigated the indirect impacts of leadership on mathematics achievement, finding that the principal leadership effect accounted for a greater proportion of the inter-school achievement variance for lagging students [34]. Using the mediating variables of teacher autonomy and morale, Tan found that, compared to other students, instructional leadership had the most positive influence on the achievements of disadvantaged children [34]. Kwan also found that instructional behaviors had an influence on student outcomes, but claimed that this was situationally dependent on the extent to which transformational behaviors had been implemented [52].

Author keywords were found to be of significant interest to researchers. Based on the author's keywords visualization, the keywords that had been under research in the last five years were identified as emotional intelligence, job satisfaction, e-learning, school culture, and school climate. Indonesia contributed the most to Asian school leadership research, in which school leadership was found to be heavily influenced by politics, culture, and society [53].

4. CONCLUSION

This study conducted a comprehensive scientometrics overview of Asian school leadership research publications from 2018 to 2022 from various perspectives: publication trends, source analysis, author analysis, paper analysis, keyword analysis, and country analysis. The search identified 958 publications, with the most prolific year being 2020. The International Journal of Innovation, Creativity and Change had the highest number of papers (26), Hallinger was the most prolific author with 10 papers, Tan's paper was the most influential with 33 citations, and Indonesia was the most prolific Asian contributing country with 240 papers. The 10 most used author keywords were: leadership, higher education, transformational leadership,

principal, education, school principals, school leadership, instructional leadership, educational leadership, and organizational commitment.

The results indicated that school leadership research remained an important focus from 2018 to 2022 and was closely related to higher education, transformational leadership, principals, instructional leadership, and organizational commitment. As the mapping results were limited to Asia, it is recommended that future researchers continue this school leadership analysis in other regions and connecting with other fields such as: i) school leadership and student achievement; ii) school leadership and emotional intelligence; iii) school leadership and self-efficacy; iv) school leadership and job satisfaction; v) school leadership and organizational commitment; and vi) school leadership and technology integration. The methodology and findings could be generalized and used as an effective knowledge mapping tool for other specific subject areas. The proposed school leadership knowledge map should be updated frequently by adding findings from relevant future studies to fill new gaps.

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