

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2026, Vol. 7, No. 9, 3729 – 3739

<http://dx.doi.org/10.11594/ijmaber.07.09.02>

Research Article

Mapping Physical Education Research in Southeast Asia: A Bibliometric Analysis of Trends and Productivity

Rawil Paul Abad*

Bulacan State University, Philippines

Article history:

Submission 10 April 2026

Revised 14 September 2026

Accepted 23 September 2026

*Corresponding author:

E-mail:

rawilpaul.abad@bulsu.edu.ph

ABSTRACT

Physical education (PE) research in Southeast Asia has expanded rapidly, yet its regional distribution, leading contributors, and conceptual development have not been mapped in a single study. This bibliometric analysis examined 470 English-language Scopus-indexed publications issued from 1955 through 2024. Descriptive performance analysis and science-mapping procedures were conducted with Bibliometrix/Biblioshiny and VOSviewer to assess annual output, country and institutional productivity, authors, sources, collaboration patterns, keyword structure, and thematic change. Publication output accelerated after 2015 and peaked in 2022. Indonesia contributed 182 publications (38.7%), followed by Malaysia (73), Singapore (70), the Philippines (68), Vietnam (38), and Thailand (36); Cambodia, Laos, and Myanmar contributed one publication each. Universitas Negeri Yogyakarta, Universitas Pendidikan Indonesia, and Singapore's National Institute of Education were the most productive affiliations. Joseph T. Lobo, Wang Chee Keng John, and Edi Setiawan were the leading authors, while the International Journal of Human Movement and Sports Sciences, Retos, and the Journal of Physical Education and Sport were the leading sources. Keyword mapping identified four connected areas: health and epidemiology, pedagogy and learning, psychosocial and demographic concerns, and exercise science and performance. The overlay map indicates a gradual movement from health-surveillance topics toward motivation, physical literacy, online learning, and pedagogical innovation. These results document a growing but uneven regional field and support stronger ASEAN collaboration, targeted capacity building, and broader database coverage in future assessments.

Keywords: *Physical education, Quality education, Research productivity, Southeast Asia, Thematic mapping*

How to cite:

Abad, R. P (2026). Mapping Physical Education Research in Southeast Asia: A Bibliometric Analysis of Trends and Productivity. *International Journal of Multidisciplinary: Applied Business and Education Research*. 7(9), 3729 – 3739. doi: 10.11594/ijmaber.07.09.02

Introduction

Physical education (PE) connects educational goals with physical activity, health, social development, and learning. International policy frameworks therefore treat quality PE as a core part of inclusive education and a practical setting for promoting regular physical activity among children and adolescents (UNESCO, 2015; World Health Organization, 2022). This policy importance creates a corresponding need to understand how PE knowledge is produced, circulated, and applied.

That need is especially important in Southeast Asia, where education systems differ markedly in population size, research infrastructure, language, funding, and access to indexed publication channels. Regional output may grow while remaining concentrated in a small group of countries and universities. Publication counts alone cannot explain these differences, but they can reveal where research capacity and visibility are clustered and where collaboration may be most useful.

Existing reviews have addressed particular PE topics, national settings, or wider sport and physical-activity literatures, but they do not provide an integrated account of Southeast Asian PE scholarship across countries, institutions, authors, sources, and themes. This gap matters because aggregate global reviews can obscure regional imbalances and locally relevant lines of inquiry. Bibliometric analysis offers a transparent way to examine performance indicators and the relationships among authors, affiliations, sources, and keywords over time (Aria & Cuccurullo, 2017; Donthu et al., 2021).

Accordingly, this study maps Scopus-indexed PE research associated with Southeast Asia. It examines annual and country-level publication trends, identifies the most productive

institutions, authors, and sources, and traces the field's collaboration patterns and thematic development. By combining performance analysis with science mapping, the study provides a baseline for regional research planning and identifies areas in which broader participation and cross-national collaboration are needed.

Materials and Methods

Study Design

The study used a bibliometric design to examine the performance and conceptual structure of PE scholarship associated with Southeast Asia. Bibliometric methods support reproducible analysis of publication growth, productive contributors, collaboration networks, and keyword relationships in a defined body of literature (Donthu et al., 2021). The workflow combined descriptive performance indicators with co-authorship and keyword-based science mapping.

Data Source

The study retrieved bibliographic records exclusively from Scopus. Scopus supplies structured metadata for authors, affiliations, keywords, sources, citations, and document types across multiple disciplines. Its coverage is broad but not exhaustive, and it differs from that of other scholarly databases (Martín-Martín et al., 2021). The analysis therefore describes the Scopus-visible portion of Southeast Asian PE scholarship rather than all research produced in the region.

Data Search and Extraction

The search combined PE-related terms with the names and common variants of all 11 Southeast Asian countries. The exact TITLE-ABS-KEY query is reproduced below:

```
TITLE-ABS-KEY("physical education" OR "sports education" OR "health and physical education" OR "PE curriculum" OR
"physical activity in schools" OR "school-based physical activity" OR "kinesiology education" OR "exercise education" OR
"movement education" OR "sport pedagogy" OR "fitness education" OR "physical literacy" OR "motor skill learning")
AND
TITLE-ABS-KEY("Southeast Asia" OR "South East Asia" OR ASEAN OR Brunei OR Cambodia OR Indonesia OR Laos OR "Lao PDR" OR
Malaysia OR Myanmar OR Burma OR Philippines OR Singapore OR Thailand OR Timor-Leste OR Vietnam OR Viet Nam)
```

The search was completed in September 2025 and covered publications from the earliest indexed record through 2024; the incomplete 2025 publication year was excluded from

analysis. The language filter was set to English. No LIMIT-TO (DOCTYPE, ...) clause was applied, so the corpus retained every Scopus-indexed

document type returned by the query, including journal articles, reviews, conference papers, book chapters, and editorials. The final dataset contained 470 publications associated with nine countries; the query returned no eligible records for Brunei Darussalam or Timor-Leste. Records were exported in CSV format with complete citation information, abstracts, author keywords, affiliations, sources, and references.

Data Cleaning and Preprocessing

The author cleaned and standardized the exported metadata before analysis. Duplicate records were removed, variant author names and initials were reconciled where the metadata supported a match, and affiliation names were consolidated to reduce spelling and naming inconsistencies. Records that lacked the metadata required for a given analysis were omitted from that specific procedure rather than assigned inferred values. These steps improved consistency while preserving the original Scopus records.

Data Analysis

The analysis proceeded in three stages. First, descriptive performance analysis summarized annual scientific production and the most productive countries, institutions, authors, and publication sources. These indicators established the scale, growth, and concentration of the field.

Second, network analysis examined co-authorship relationships and keyword co-occurrence. VOSviewer was used to construct and display bibliometric networks, while

Bibliometrix/Biblioshiny supported data summaries and complementary science-mapping procedures (Aria & Cuccurullo, 2017; van Eck & Waltman, 2010). Node size represents frequency, links indicate relationships between items, and spatial proximity reflects stronger association within the mapped network.

Third, keyword co-occurrence and overlay visualization were used to interpret the field's conceptual structure and temporal movement. The network map grouped closely connected terms, and the overlay map positioned terms by their average publication period. The resulting patterns were interpreted as broad research areas rather than mutually exclusive categories because individual publications and keywords can connect multiple topics.

Result and Discussion

Publication Trends and Research Productivity on Southeast Asian Physical Education Research

Southeast Asian PE research expanded from a very small base to sustained annual output (Figure 1). The earliest indexed publication appeared in 1955, and annual production generally remained between zero and two publications through the end of the 1990s. Output rose gradually during the 2000s, accelerated after 2015, and reached its highest level in 2022 at more than 80 publications. Production then declined in 2023 and 2024 but remained far above pre-2015 levels. This pattern indicates a recent consolidation of PE as a visible regional research field rather than uniform growth across the full period.

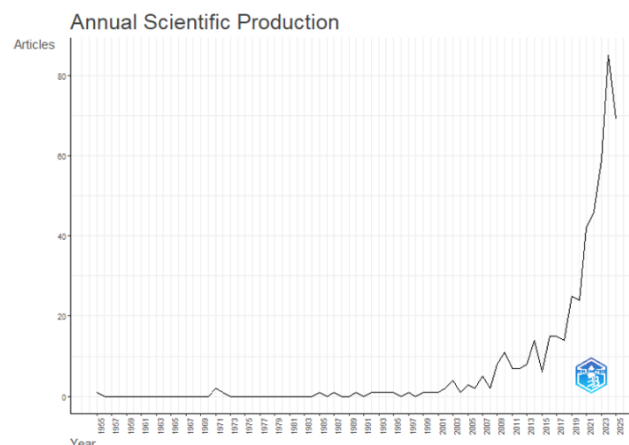


Figure 1. Annual scientific production of physical education research in Southeast Asia, 1955-2024

Country productivity was highly concentrated (Figure 2). Indonesia produced 182 of the 470 publications (38.7%), followed by Malaysia with 73 (15.5%), Singapore with 70 (14.9%), the Philippines with 68 (14.5%), Vietnam with 38 (8.1%), and Thailand with 36 (7.7%). Cambodia, Laos, and Myanmar contributed one publication each (0.2% apiece). Brunei Darussalam and Timor-Leste were included in the search but had no eligible records. These figures measure representation in the defined Scopus corpus, not the total amount or quality of PE research produced within each country.

The affiliation results reinforce this concentration (Figure 3). Universitas Negeri

Yogyakarta led with 116 publications, followed by Universitas Pendidikan Indonesia (84), the National Institute of Education in Singapore (83), Universitas Negeri Jakarta (81), Universitas Negeri Padang (52), Universitas Negeri Surabaya (47), Nanyang Technological University (39), Universiti Pendidikan Sultan Idris (29), Universiti Sains Malaysia (28), and Bulacan State University (27). Five of the ten leading affiliations are Indonesian public universities with strong teacher-education or sport-science programs, giving the country a dense institutional base for PE scholarship.

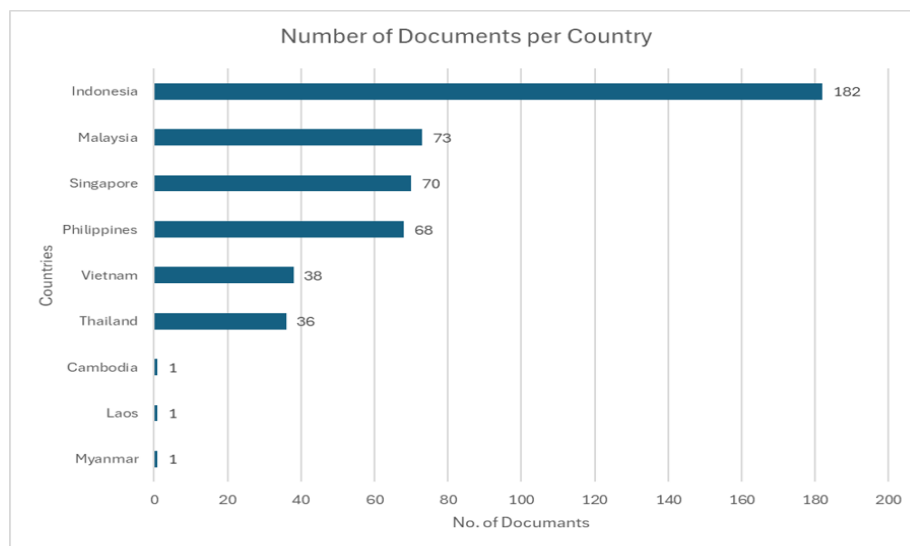


Figure 2. Country-level distribution of publications on physical education research in Southeast Asia

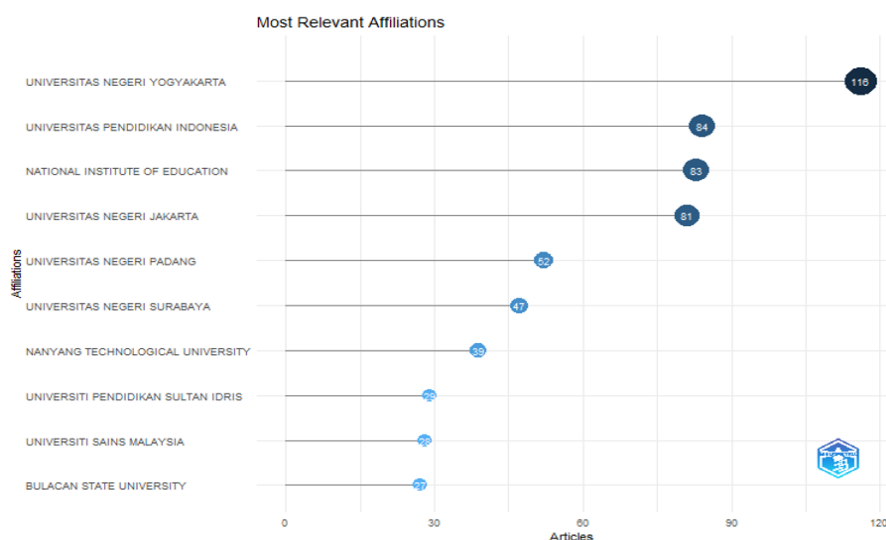


Figure 3. Most relevant institutional affiliations contributing to physical education research in Southeast Asia

Indonesia's lead also reflects a national research environment that links indexed publication to academic evaluation and incentives. Studies of Indonesian higher education describe publication requirements for professors and the use of SINTA-based research metrics in ranking and resource-allocation decisions (Sandy & Shen, 2019; Fry et al., 2023). These mechanisms, combined with the visible network of public teacher-education universities in Figure 3, offer a plausible institutional explanation for the country's strong Scopus presence. In contrast, the single-record counts for Cambodia, Laos, and Myanmar should not be read as an absence of PE research. Differences in research capacity, English-language publishing, international collaboration, and database coverage may all reduce visibility in Scopus.

Influential Authors and Sources on Physical Education in Southeast Asia

Figure 4 identifies a small group of highly productive authors. Joseph T. Lobo led with 23 publications, followed by Wang Chee Keng John with 16 and Edi Setiawan with 13. Michael Charles McNeill and Soni Nopembri each produced 10 publications, Hendra Setyawan produced eight, and Jiayi Chow, Koon Teck Koh, Garry Kuan Pei Ern, and Clara Wee Keat Tan produced seven each. The list spans authors working in Indonesia, Singapore, Malaysia, and the Philippines and indicates that regional output is shaped by several institutional and cross-border scholarly communities.

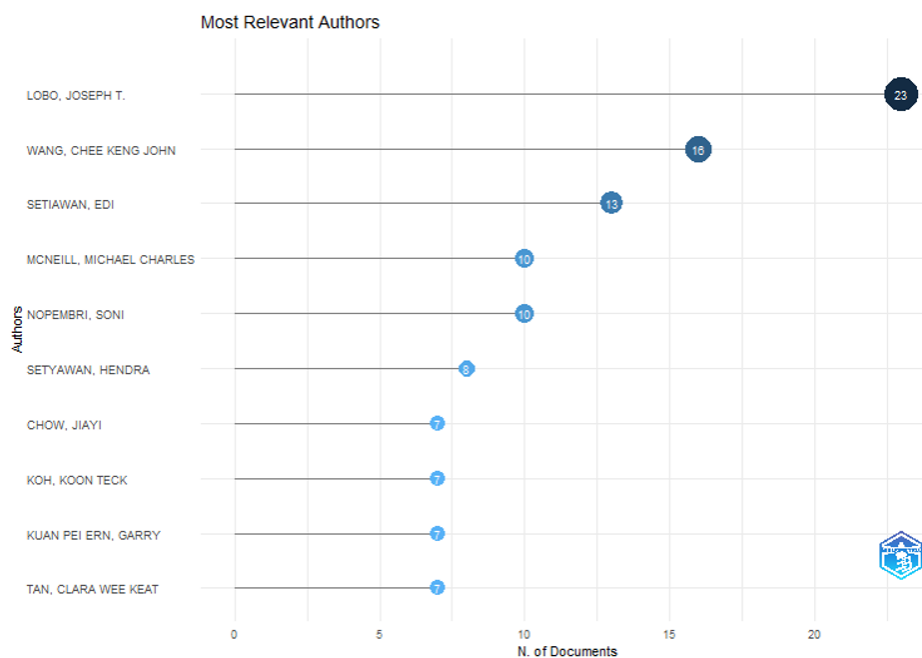


Figure 4. Most relevant authors contributing to Physical Education research in Southeast Asia

The production timeline shows different generations of contribution (Figure 5). McNeill's publications extend from the 1990s into the early 2010s, while Wang's record spans roughly 2005-2021. Chow, Koh, Kuan, and Tan also contributed over extended periods. By contrast, Lobo, Setiawan, Nopembri,

and Hendra Setyawan account for much of the recent surge, with their most visible activity concentrated after 2020. Lobo's 23 publications are concentrated in 2022-2024, making him the most productive author in the corpus but not its longest-serving contributor.

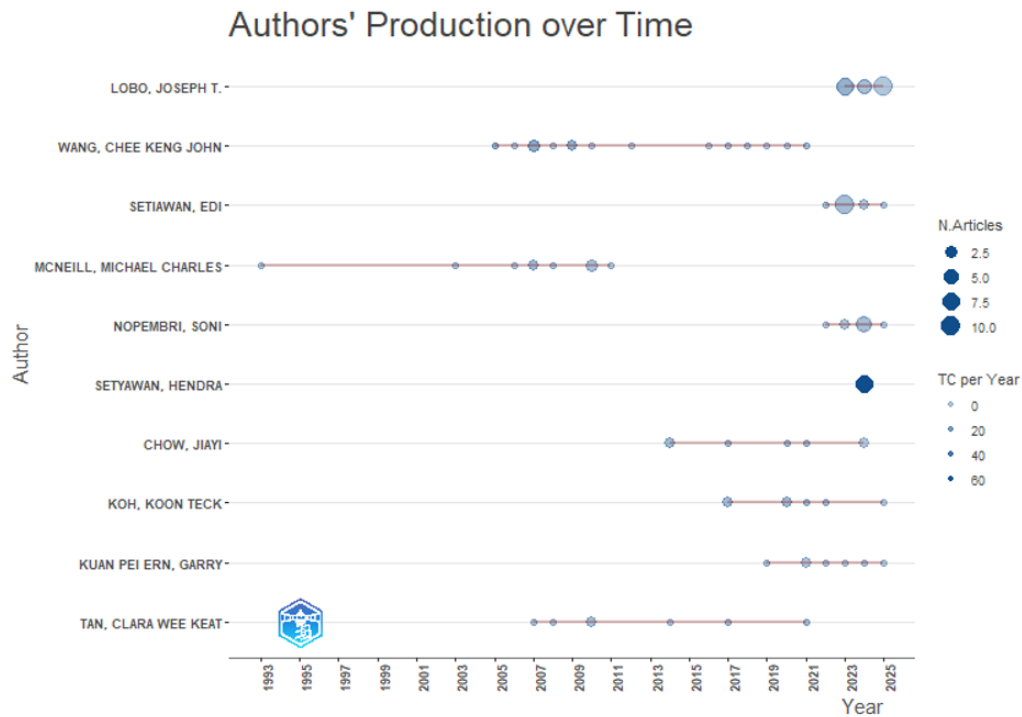


Figure 5. Authors' production over time in physical education research across Southeast Asia

The most productive publication sources were international and regional journals in human movement, sport science, and PE pedagogy (Figure 6). The International Journal of Human Movement and Sports Sciences published 35 documents, Retos published 31, and the Journal of Physical Education and Sport

published 22. The European Physical Education Review followed with 11, Physical Education Theory and Methodology with 10, and both Cakrawala Pendidikan and Physical Education and Sport Pedagogy with eight. Sport TK and Sportis: Scientific Technical Journal of School SP each published seven, while Fizjoterapia Polska published six.

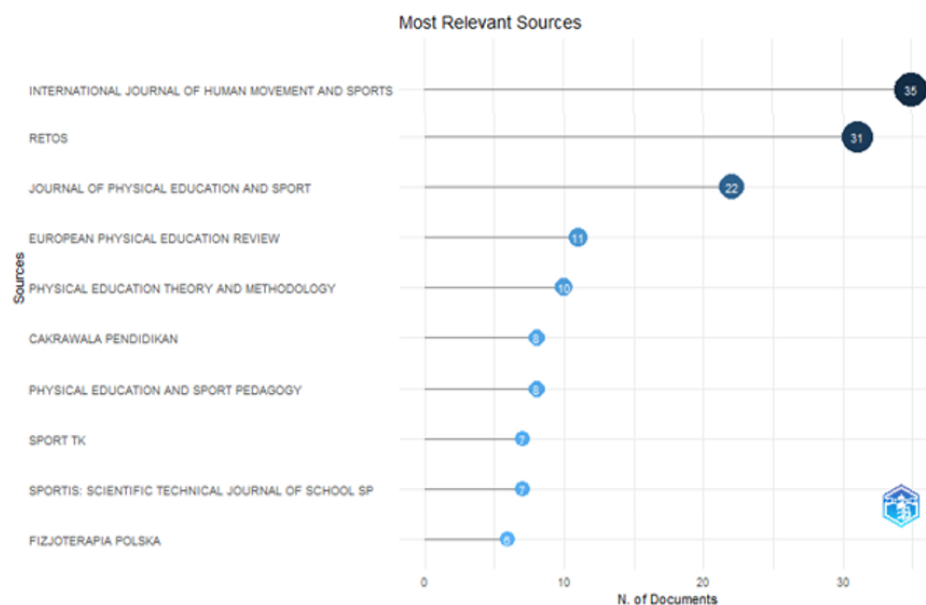


Figure 6. Most relevant journals publishing physical education research in Southeast Asia

Thematic Structures and Emerging Trends in Southeast Asian Physical Education Research

Four broad areas are visible, although their boundaries overlap.

Pedagogy and learning form another dense part of the network. Terms including "students," "teachers," "primary school," "teaching," and "motor skills" connect classroom practice with competence development. The presence of "physical literacy," "motivation," and "online learning" broadens this educational agenda toward learner engagement and technology-supported instruction.



IJMABER

3735

Volume 7 | Number 9 | September | 2026

Psychosocial and demographic research is interwoven with these educational and health concerns. Terms such as "male," "female," "youth," "social support," and "psychology" indicate attention to participation, gender, motivation, and social context. Their proximity to health and student-related nodes suggests that the literature increasingly treats physical activity as both a bodily practice and a socially situated experience.

Exercise science and performance provide a more specialized strand through "exercise," "training," "sports education," and "motor performance." These terms connect physiological outcomes and skill acquisition with the broader educational network. The map therefore shows complementarity: health-oriented, pedagogical, psychosocial, and performance research develop as related emphases rather than independent themes.

The overlay visualization adds a temporal dimension (Figure 8). Terms associated with

controlled studies, prevalence, and risk factors appear earlier in the mapped period, whereas motivation, students, online learning, and physical literacy appear more recently. The appearance of online learning and COVID-19 reflects the adaptation of PE instruction during the pandemic, but the larger pattern extends beyond emergency delivery. It indicates growing interest in pedagogy, learner experience, and digitally supported practice alongside the field's continuing health focus.

The thematic evidence therefore points to diversification, not replacement. Health and epidemiology remain central, while teaching, psychosocial development, physical literacy, and technology have gained visibility. This combination places Southeast Asian PE scholarship within wider debates about inclusive, developmentally appropriate, and evidence-informed PE while retaining concerns that are specific to the region's education and health systems.

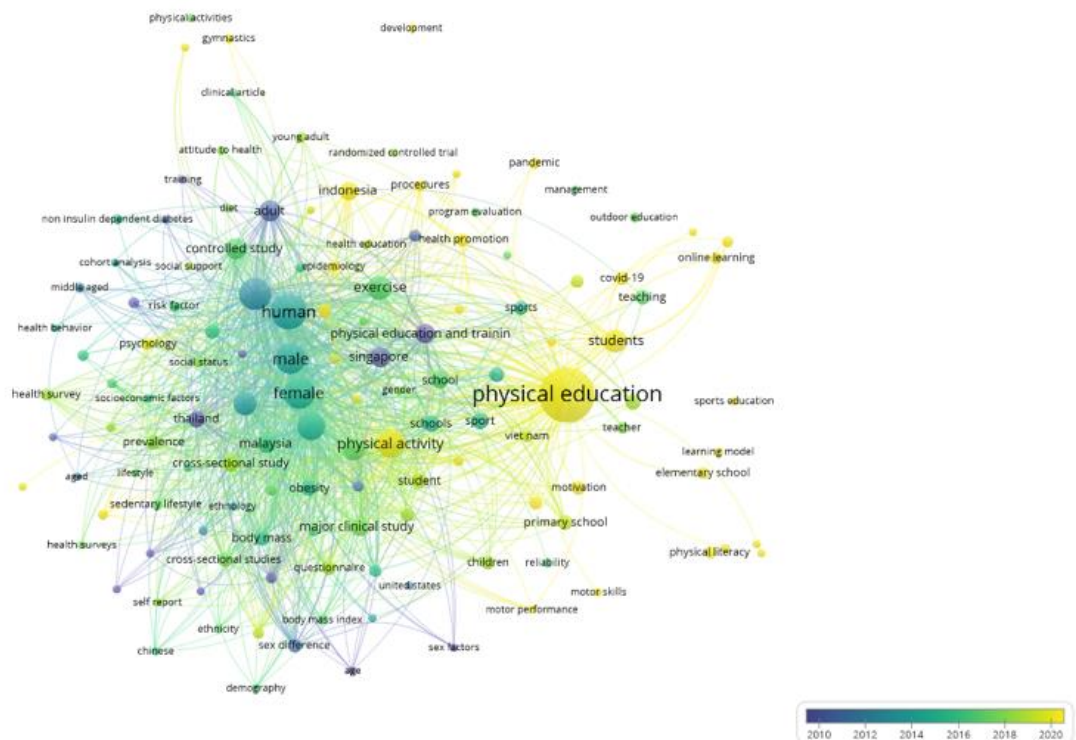


Figure 8. Overlay visualization showing the temporal evolution of themes in physical education research across Southeast Asia

This study maps the Scopus-visible development of PE scholarship in Southeast Asia across publication growth, contributors, sources, and themes. The results reveal a field that expanded rapidly after 2015 but remains concentrated in a limited number of countries and institutions. They also show that recent growth has widened the research agenda from a predominantly health-oriented base toward pedagogy, learner motivation, psychosocial factors, physical literacy, and online learning.

The growth curve should be interpreted in relation to both scholarly demand and publication infrastructure. International attention to school-based physical activity and quality PE has increased (UNESCO, 2015; World Health Organization, 2022), while digital tools have expanded the range of questions that PE researchers can investigate. However, the sharp rise in indexed output does not by itself establish equivalent growth in research quality, policy use, or classroom impact. Those outcomes require citation-sensitive, qualitative, and implementation-focused analysis.

Country and affiliation patterns add an institutional explanation to the publication trend. Indonesia combines a large system of public universities that train teachers and sport professionals with policies that make indexed publication consequential for academic careers and institutional standing (Sandy & Shen, 2019; Fry et al., 2023). Malaysia and Singapore also contribute through established education and sport-science institutions, while the Philippines shows substantial output anchored by several universities. The very low Scopus counts for Cambodia, Laos, and Myanmar identify a visibility gap, but the dataset cannot determine whether that gap arises from lower research activity, publication in non-indexed or non-English outlets, weaker international collaboration, or a combination of these factors.

The keyword network and overlay map show how the field connects public-health priorities with educational practice. Epidemiological terms remain influential, yet newer terms bring classroom processes, motivation, physical literacy, and digital learning closer to the center of the literature. This shift supports a broader conception of PE: research increas-

ingly examines not only activity and health outcomes but also how students learn, participate, and develop competence in changing instructional environments.

These findings support three practical directions. Regional research programs can pair well-established universities with institutions in countries that have little Scopus visibility. Funders and professional associations can support multilingual dissemination and pathways from national journals to wider indexing without treating database inclusion as the sole measure of quality. PE researchers can also design cross-country studies that connect health outcomes with pedagogy, inclusion, psychosocial development, and appropriate uses of digital technology.

For policy and practice, the results favor coordinated agendas rather than separate health and education initiatives. Ministries and schools can use PE research to inform physical-activity promotion, curriculum and teacher development, inclusive participation, and technology-supported instruction. At the research-system level, ASEAN networks can reduce concentration by sharing methods, mentoring early-career researchers, and supporting multi-country projects led jointly by highly productive and underrepresented institutions.

Several limitations qualify the findings. First, the Scopus-only and English-language design excludes research in non-indexed local journals and national platforms, including many SINTA/Garuda-indexed outlets in Indonesia and institutional or CHED-recognized journals in the Philippines. This exclusion can materially distort country-level productivity and collaboration patterns. Second, the search retained all document types, so the corpus combines journal articles with reviews, conference papers, book chapters, editorials, and other indexed materials. Third, database updates, author-name ambiguity, affiliation changes, and keyword variation can affect bibliometric counts and network structure. Future studies should compare Scopus with Web of Science, Dimensions, regional indexes, and national repositories; stratify results by document type and language; and combine bibliometric mapping with qualitative review of

research quality, policy relevance, and classroom application.

Conclusion

This bibliometric analysis establishes a regional baseline for PE research in Southeast Asia. The 470-publication Scopus corpus grew slowly for several decades, expanded sharply after 2015, and reached its highest annual output in 2022. Growth, however, was unevenly distributed.

Indonesia accounted for 38.7% of the corpus and placed five public universities among the ten leading affiliations. National publication incentives, research-performance systems, and a strong network of teacher-education institutions help explain this visibility. Malaysia, Singapore, the Philippines, Vietnam, and Thailand formed the next tier, whereas Cambodia, Laos, and Myanmar had only one indexed publication each. These counts identify gaps in Scopus representation, not definitive differences in the total volume or quality of national scholarship.

The author and source analyses show continuity alongside rapid renewal. Long-active contributors remain visible, while a newer group accounts for much of the post-2020 output. The field publishes through international sport and PE journals as well as ASEAN-based outlets, although Scopus coverage favors scholarship that already has access to indexed and English-language channels.

The thematic maps show a similar broadening. Health and epidemiology remain central, but pedagogy, motivation, psychosocial development, physical literacy, and online learning have become more prominent. Southeast Asian PE research is therefore developing as a connected field that links health outcomes with teaching, learning, participation, and performance.

Future progress depends on wider regional participation. ASEAN institutions should develop multi-country research programs, mentorship arrangements, and publication support that include countries with limited indexed visibility. Researchers should also expand database and language coverage so that local scholarship is not mistaken for absence. These steps would produce a more representative evidence

base and strengthen the contribution of PE research to education, health, and social development across the region.

Acknowledgments

The author received no funding for this study. The author thanks Dr. Aaron Paul M. Dela Rosa for assistance in finalizing the manuscript.

The main findings (novelty) and why they are important and useful:

This study presents an integrated bibliometric map of physical education (PE) scholarship in Southeast Asia. The results show limited publication activity before the mid-2000s, rapid expansion after 2015, and a peak in 2022. Indonesia accounts for the largest share of the 470-publication corpus, whereas Cambodia, Laos, and Myanmar each account for one indexed publication. The intellectual structure also broadens over time: health and epidemiology remain prominent, but pedagogy, psychosocial development, physical literacy, and digitally supported learning have become more visible.

The findings establish a regional baseline for comparing productivity, institutional participation, publication outlets, and thematic change. They can guide research-capacity programs, cross-border partnerships, and future studies that connect PE pedagogy with public health, inclusion, and digital learning. They also show why country rankings must be interpreted cautiously: Scopus coverage does not capture the full body of locally published or non-English scholarship.

References

- 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>
- 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>

Fry, C. V., Lynham, J., & Tran, S. (2023). Ranking researchers: Evidence from Indonesia. *Research Policy*, 52(5), 104753. <https://doi.org/10.1016/j.respol.2023.104753>

Martín-Martín, A., Thelwall, M., Orduna-Malea, E., & Delgado López-Cózar, E. (2021). Google Scholar, Microsoft Academic, Scopus, Dimensions, Web of Science, and OpenCitations' COCI: A multidisciplinary comparison of coverage via citations. *Scientometrics*, 126(1), 871-906. <https://doi.org/10.1007/s11192-020-03690-4>

Sandy, W., & Shen, H. (2019). Publish to earn incentives: How do Indonesian professors respond to the new policy? *Higher*

Education, 77(2), 247-263. <https://doi.org/10.1007/s10734-018-0271-0>

UNESCO. (2015). *Quality physical education (QPE): Guidelines for policy-makers*. <https://unesdoc.unesco.org/ark:/48223/pf0000231101>

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>

World Health Organization. (2022). *Promoting physical activity through schools: Policy brief*.

<https://www.who.int/publications/b/64393>