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Physical literacy in Indonesian school physical education: a systematic review of concepts, assessment, and implementation

[abcde]Sahbana Ridha*, [acd]Mashud, [acd] Herita Warni, & [acd]Syamsul Arifin

Postgraduate Program in Physical Education, Universitas Lambung Mangkurat, Banjarmasin, Indonesia

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ABSTRACT

Background: Physical literacy (PL) is internationally recognised as a foundational concept in physical education, supporting lifelong engagement in physical activity. However, how PL is conceptualised, assessed, and implemented within Indonesian school contexts remains unclear, and no systematic synthesis of existing national research has been conducted. **Objective**: This study aimed to systematically review and synthesise empirical research on physical literacy in Indonesia, with particular attention to conceptual frameworks, assessment approaches, and implementation practices in school-aged populations. **Methods**: A PRISMA-guided systematic literature review was conducted using Scopus, PubMed, OpenAlex, Semantic Scholar, DOAJ, and Garuda databases. Studies published between 2020 and 2024 were screened, yielding 5,056 records, of which 20 met the inclusion criteria. Data were analysed using narrative synthesis across key thematic domains. **Finding/Results**: Most studies focused on primary school students and conceptualised physical literacy primarily through fundamental motor skills. Multidimensional PL frameworks encompassing motivation, confidence, knowledge, and lifelong engagement were rarely applied. Assessment methods were highly heterogeneous and lacked standardised, culturally adapted instruments. Although school-based interventions demonstrated short-term improvements in motor competence and physical activity, broader affective and cognitive dimensions of PL were largely neglected. Key challenges included limited teacher understanding of PL and the absence of explicit integration within the national curriculum. **Conclusion**: Physical literacy research in Indonesia remains fragmented and predominantly skill-oriented, with limited alignment to holistic PL principles. There is a clear need for culturally relevant frameworks, validated assessment tools, and strengthened teacher professional development. Future research should adopt comprehensive PL models and examine long-term, multidimensional interventions to better support children's physical, cognitive, and affective development.

Keywords: Physical literacy; physical education; primary school students; assessment; systematic review

***Corresponding Author**
2320129310010@mhs.ulm.ac.id

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INTRODUCTION

Primary school represents a critical phase in children's development, serving as the foundation for acquiring essential knowledge, skills, character, and moral (Patras et al., 2023). Beyond academic achievement, this stage plays a vital role in shaping children's physical, emotional, and social development, which collectively contribute to lifelong health and well-being (Aquino & Reyes, 2024). Within this context, physical education is not merely an ancillary subject but a core component in fostering healthy, active, and

competent individuals from an early age.

Despite this importance, Indonesia faces growing concerns regarding low levels of physical activity among school-aged children. National data indicate that only 6.79% of Indonesian children aged 10-15 years demonstrate good physical fitness, while more than three-quarters fall into low fitness categories. This condition is associated with an increased risk of non-communicable diseases, including obesity, diabetes, and cardiovascular disorders, which are emerging public health challenges in Indonesia (Agung et al., 2022; Akksilp et al., 2023).

One major factor contributing to declining physical activity levels is the rise in sedentary behavior driven by excessive screen time. Rapid growth in smartphone access has fundamentally altered children's daily activity patterns, with Indonesian primary school students spending an average of two to three hours per day on digital devices—exceeding World Health Organization recommendations (Simanjuntak, 2023). Prolonged sedentary behavior during childhood has been consistently linked to unfavorable body composition, reduced physical fitness, and poorer academic outcomes, underscoring its multidimensional impact on child development (Carson et al., 2016).

Although moderate engagement with digital games may support certain cognitive, motor, and social skills (Joy, 2023), excessive use tends to reduce participation in real-world physical activities and reinforces sedentary lifestyles (Australian Government Department of Health, 2025). Recent findings show that intensive device use is significantly associated with decreased cardiovascular fitness and impaired balance in children (Presta et al., 2024). These trends highlight the urgent need for comprehensive strategies that address not only physical inactivity but also the broader behavioral patterns shaping children's movement experiences.

In response to these challenges, physical literacy (PL) has emerged as a promising conceptual framework for promoting lifelong engagement in physical activity. Introduced by Whitehead, physical literacy is defined as a holistic construct encompassing physical competence, motivation and confidence, knowledge and understanding, and sustained participation in physical activity throughout life (Whitehead, 2019; Cornish et al., 2020; Bailey, 2020; Sergeenko & Starchenko, 2023) . Evidence consistently shows that individuals who develop physical literacy from an early age are more likely to maintain active and healthy lifestyles across the lifespan (Edwards et al., 2017; Brown & Whittle, 2021; Pöppel et al., 2024).

Several countries, including Canada, Australia, Wales, and New Zealand, have integrated physical literacy into their physical education policies, curricula, and assessment systems, adapting PL frameworks to align with their educational and cultural contexts (Longmuir, Gunnell et al., 2018; Tremblay et al., 2018; Scott et al., 2021; Belton et al., 2022; Bailey et al., 2023). These initiatives have been associated with increased student engagement, improved physical activity adherence, and stronger lifelong participation in sport and recreation (Connolly et al., 2024). In contrast, physical literacy remains relatively underdeveloped in Indonesian physical education, where emphasis is still largely placed on motor skills and sport performance outcomes.

Studies in Indonesia reveal that teachers' understanding of physical literacy is limited, constraining effective implementation in school settings (Apriliyanto & Sulaiman, 2023). Given educators' central role in shaping meaningful movement experiences, this gap presents a significant barrier to fostering holistic physical development among students (Arseni & Hantiu, 2022; Bopp et al., 2022; Bailey et al., 2023). Furthermore, Indonesia's current curriculum framework does not explicitly incorporate physical literacy

principles, resulting in limited attention to affective, cognitive, and behavioral dimensions of physical activity (Irmansyah, 2022; Wibowo et al., 2023).

Although international research on physical literacy has advanced substantially—supported by multidimensional frameworks and validated assessment tools such as CAPL-2, PLAY Tools, and Passport for Life (Caldwell et al., 2021; Dudley & Cairney, 2022; Longmuir et al., 2017)—research in Indonesia remains fragmented. Existing studies predominantly focus on fundamental motor skills and rarely adopt comprehensive PL models or standardized measurement instruments (Friskawati & Stephani, 2021; Suntoda et al, 2021; Friskawati, 2024). Consequently, there is no clear synthesis of how physical literacy is conceptualized, assessed, and implemented within Indonesian primary schools.

Despite increasing interest in physical literacy, no systematic review has been conducted to map the current landscape of PL research in Indonesian primary education. This gap limits the ability of researchers, educators, and policymakers to develop evidence-based strategies aligned with international best practices while remaining sensitive to local contexts. A systematic review is therefore necessary to consolidate existing evidence, identify research trends, and highlight priority areas for future development (Wendt et al., 2023).

Accordingly, this study aims to systematically review physical literacy research conducted in Indonesian primary schools, focusing on conceptual frameworks, assessment approaches, and implementation practices. By synthesizing current evidence, this review seeks to inform curriculum development, teacher education, and future research directions to support holistic physical development among Indonesian children. This systematic literature review was guided by the following research questions:

- **RQ1.** How is physical literacy conceptualized in studies conducted in Indonesian primary schools?
- **RQ2.** What assessment approaches and measurement tools are used to evaluate physical literacy in the Indonesian school context?
- **RQ3.** How has physical literacy been implemented in Indonesian primary schools, and what types of interventions have been reported?
- **RQ4.** What key challenges and research gaps are identified in the implementation of physical literacy in Indonesian schools?

METHOD

Search Strategy and Inclusion and Exclusion Criteria

This systematic literature review was conducted in accordance with the PRISMA 2020 guidelines (Page et al., 2021). The review protocol was not registered in PROSPERO because the study focuses on a regional educational context (Indonesia) and does not involve clinical or health interventions, which is consistent with common practices in education-based systematic reviews.

A comprehensive literature search was conducted across multiple databases to ensure broad coverage and reduce publication bias. The databases searched included Scopus, PubMed, OpenAlex, Semantic Scholar, DOAJ (Directory of Open Access Journals), and Garuda Journal. To capture additional relevant studies, supplementary searches were performed using Google Scholar and CrossRef, as well as publisher platforms such as Taylor & Francis Online and SAGE Journals.

The search strategy was structured using a PICO-based framework to guide keyword development and article identification. Although PICO is traditionally applied in clinical research, it was employed in this study as a conceptual tool to systematically structure search terms related to population, intervention, comparison, and outcomes within an

educational research context. The PICO framework applied in this review is presented in **Table 1**.

Table 1. PICO Framework for Literature Search

PICO	Information
Population (P)	School-aged students in Indonesia
Intervention (I)	Implementation of physical literacy in school-based physical education
Comparison (C)	Different school levels or educational contexts
Outcome (O)	Evidence of physical literacy implementation in Indonesian schools

Search Keywords and Boolean Operators

Based on the PICO framework, a combination of controlled vocabulary and free-text terms was developed. Boolean operators (AND, OR) and truncation symbols (*) were applied to maximize search sensitivity across databases. The core search strings used are summarized in **Table 2**.

Table 2. Search Keywords and Boolean Strings

Component	Search Terms
Physical literacy	"Physical literacy" OR "physical competence" OR "movement literacy"
Educational context	"Physical education" OR "school-based" OR "school physical education"
Population	student* OR child* OR adolescent*
Country context	Indonesia* OR "Indonesian schools"
Combined string	("physical literacy") AND ("physical education" OR school*) AND (student* OR child* OR adolescent*) AND (Indonesia*)

Study Selection and Inclusion Criteria

Following database retrieval, all identified records were exported into a reference management system, and duplicates were removed. Two independent reviewers screened titles and abstracts to determine initial eligibility. Any discrepancies were resolved through discussion, and when consensus could not be reached, a third reviewer was consulted. Full-text articles were subsequently assessed against predefined inclusion and exclusion criteria. The eligibility criteria applied in this review are summarized in **Table 3**.

Table 3. Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Article type	Peer-reviewed journal articles	Theses, dissertations, conference proceedings, books
Publication year	2020–2024	Published before 2020
Participants	School students	Teachers, university students, general population
Study focus	Physical literacy implementation in schools	Non-school or non-PL studies
Context	Physical education or school-based programs	Community or non-educational settings
Publication quality	Peer-reviewed (DOI where available)	Non-peer-reviewed sources

Data Extraction and Quality Appraisal

Data extraction was conducted independently by two reviewers using a standardized extraction form. Extracted information included author(s) and year, study design, participant characteristics, educational level, physical literacy conceptual framework,

assessment methods, intervention characteristics, and key findings. Any disagreements during data extraction were resolved through discussion.

The methodological quality of included studies was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools, selected according to study design. Quantitative studies were evaluated using the JBI checklist for quasi-experimental studies, while qualitative studies were assessed using the JBI qualitative checklist. Based on the proportion of criteria met, studies were categorized as high, moderate, or low quality. No studies were excluded solely based on quality appraisal; instead, the appraisal results were used to inform interpretation and discussion.

Article Selection Procedure

The initial database search yielded 5,056 records. After removing duplicates and non-relevant document types, 4,038 articles remained for screening. Subsequent exclusion based on publication year, research focus, participant characteristics, and contextual relevance resulted in 21 articles eligible for full-text assessment. One article was excluded due to insufficient publication information, leaving 20 studies for final inclusion and analysis. The article selection process is summarized using a PRISMA 2020 flow diagram, presented in **Figure 1**.

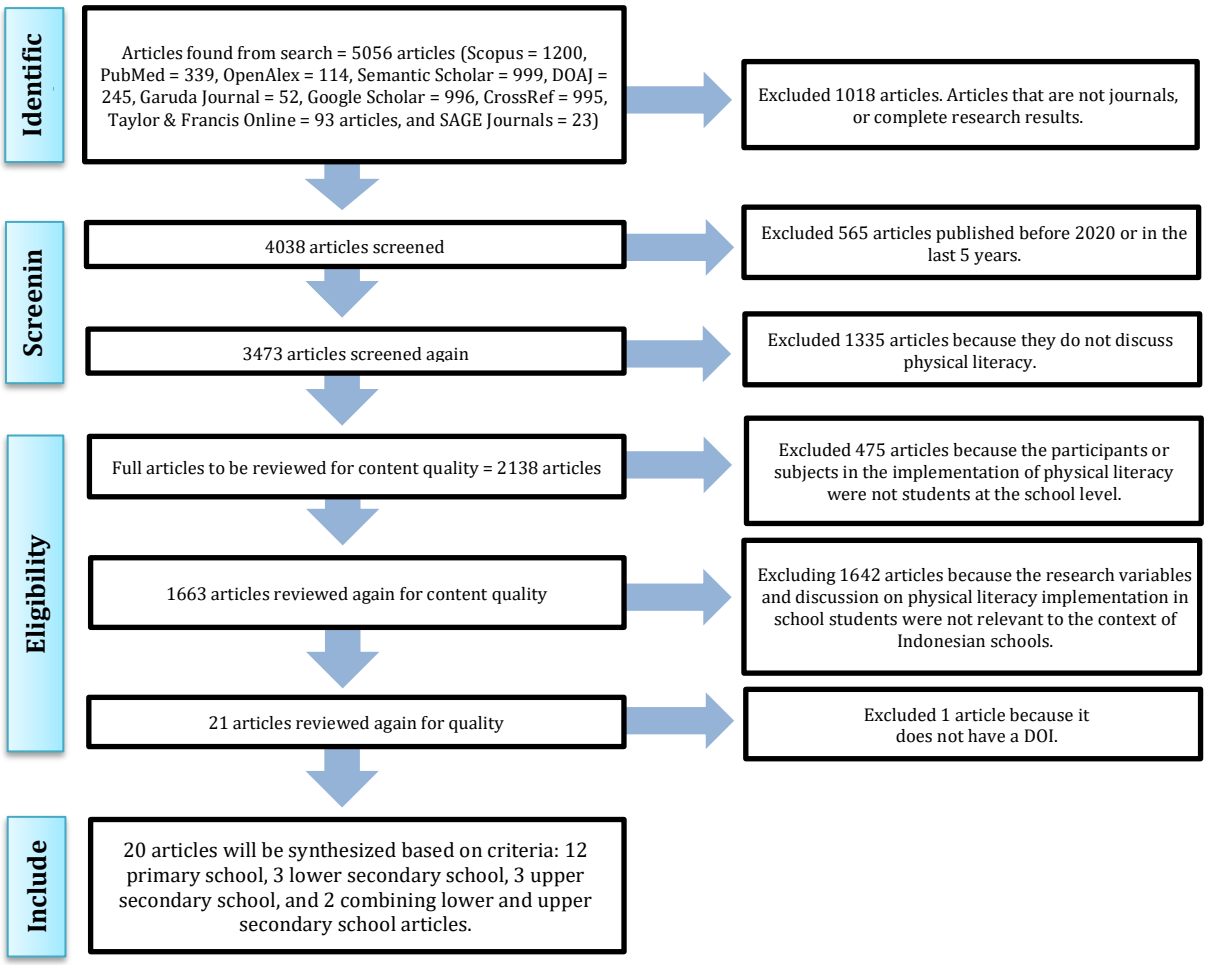

Figure 1. Diagram PRISMA

RESULTS AND DISCUSSION

Results

Study Selection and Publication Trends

Following the selection and screening procedures, 20 articles met the inclusion criteria for this review. Of these, 12 studies focused on primary schools, three on lower secondary schools, three on upper secondary schools, and two studies spanned both lower and upper secondary levels.

Figure 2 presents the annual publication trends of physical literacy research in Indonesian schools between 2020 and 2024. The findings demonstrate a marked increase in publications, with 2023 representing the peak year, accounting for 60% (n = 12) of all included studies. In contrast, research output between 2020 and 2022 remained limited, with only two publications per year. This trend indicates a recent surge of scholarly attention toward physical literacy within the Indonesian educational context.

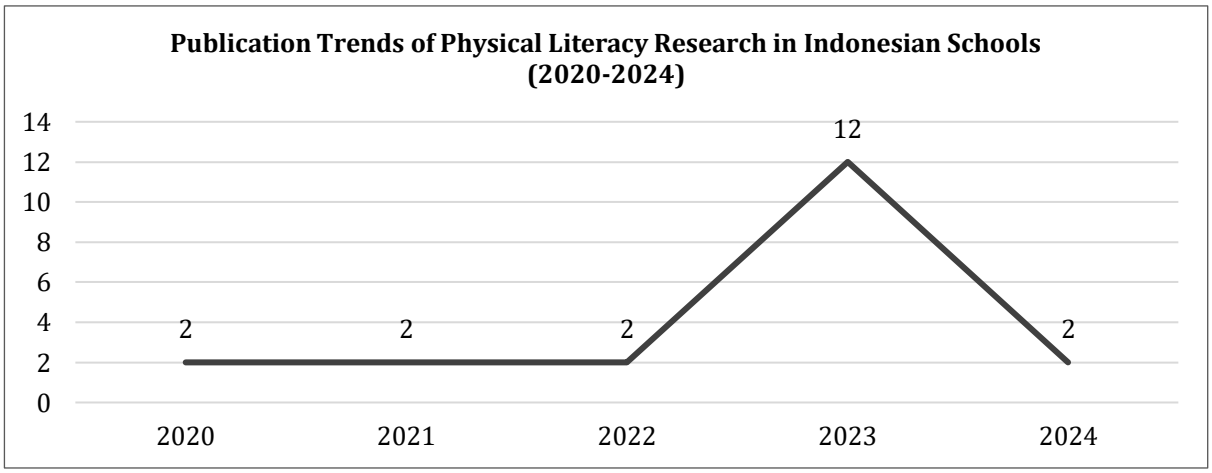

Figure 2. Publication trends for physical literacy research in Indonesian schools.

Physical Literacy Research in Primary Schools

Table 4 summarizes 12 studies addressing the implementation of physical literacy in Indonesian primary schools. The reviewed studies reveal several dominant implementation approaches. First, traditional games-based interventions were employed in three studies to enhance students' physical literacy. Second, three studies implemented structured pedagogical models, including a physical literacy model, a play-jumping approach, and a Levelling System (LS) model. These interventions consistently reported improvements in students' movement competence, physical activity levels, or overall physical literacy scores.

Additionally, four studies adopted a correlational approach, examining relationships between physical literacy and variables such as physical fitness, kinesthetic intelligence, enjoyment of exercise, and physical activity. Two studies focused on developmental aspects, including the design of a physical literacy assessment instrument (APL-PCD) and the development of physical literacy learning media (Melifis). These findings indicate that primary school–based physical literacy research in Indonesia is primarily intervention-oriented, with a strong emphasis on movement-based outcomes.

Table 4. Implementation of Physical Literacy in Primary Schools in Indonesia

No	Author (Year)	Type of Implementation	Assessment Tools	Key Findings
1	(Husnan et al., 2023)	Evaluation of physical literacy, physical activity, and fitness in primary schools and madrasah	Physical Literacy Scale; Physical Activity Routines; Perceived Physical Fitness Scale	Students met physical literacy proficiency standards, but physical activity and fitness levels were below recommended criteria, with differences between school types.
2	(Ikhsanto et al., 2023)	Secondary data analysis of physical literacy and physical fitness	PLKQ; Physical Activity Guidelines; Joy of Exercise Scale; Physical Fitness Test	Physical literacy contributed directly and indirectly to physical fitness through exercise enjoyment and physical activity.
3	(Khory et al., 2023)	Implementation of a physical literacy framework in PE curriculum	TGMD; Multistage Fitness Test	Physical literacy-based instruction significantly increased students' moderate-to-vigorous physical activity (MVPA).
4	(Permana, 2023)	Development of a physical literacy assessment instrument (APL-PCD)	Instrument development (physical competence domain)	The APL-PCD demonstrated very high validity and feasibility for assessing physical competence in primary schools.
5	(Rosiana et al., 2023)	Development of physical literacy media (MELIFIS)	Media validation instruments	Posters and pamphlets were rated as highly suitable media for supporting physical literacy learning.
6	(Sudarwo et al., 2023)	Integration of traditional Lombok games	Locomotor and object control tests	Traditional games significantly improved students' physical literacy levels.
7	(Purnando et al., 2023)	Analysis of kinesthetic intelligence and physical literacy	CAPL; Indonesian Physical Fitness Test (TKJI)	Kinesthetic intelligence showed a significant positive relationship with physical literacy.
8	(Wahyuni et al., 2023)	Play-jumping instructional approach	CAPL-2 Motivation; CAMSA; PLKQ	The play-jumping approach significantly enhanced physical literacy and learning engagement.
9	(Hidayat et al., 2022)	Levelling System Model implementation	CAPL-2; CAMSA; PLKQ; Pedometer; Google Fit	The Levelling System Model effectively improved overall physical literacy.
10	(Saputra et al., 2022)	Traditional games intervention	Modified PLKQ (Indonesian version)	Traditional games increased students' physical literacy outcomes.
11	(Suntoda, Anira, Nugroho, & Wibowo, 2021)	Physical literacy profiling in urban primary schools	CAPL	Students showed high motivation and confidence but low knowledge and physical competence.
12	(Gustian, 2020)	Traditional game-based learning	Observation rubric (Likert scale)	Modified traditional games improved students' physical literacy across domains.

Assessment Tools Used in Primary Schools

Across the primary school studies, substantial variation was observed in the measurement of physical literacy domains. In the Daily Behavior domain, instruments

such as physical activity routines, pedometers (Belanger et al., 2018), and Google Fit were used to assess habitual physical activity. The Physical Competence domain was most frequently measured using performance-based tests, including the Test of Gross Motor Development (TGMD), Multistage Fitness Test (MFT), Tes Kebugaran Jasmani Indonesia (TKJI), and the Canadian Agility and Movement Skills Assessment (CAMSA).

The Knowledge and Understanding domain was commonly assessed using the Physical Literacy Knowledge Questionnaire (PLKQ) and components of the Canadian Assessment of Physical Literacy (CAPL). Motivation and confidence were measured using instruments such as the CAPL-2 motivation questionnaire. Notably, one study developed a domain-specific instrument (APL-PCD) for assessing physical competence, reporting very high validity, indicating early efforts toward localized assessment development.

Physical Literacy Research in Lower and Upper Secondary Schools

Table 5 presents eight studies conducted in lower and upper secondary school settings. Compared to primary schools, secondary-level research predominantly employed associative designs, examining relationships between physical literacy and variables such as physical activity participation, body mass index (BMI), personality development, and teacher–student interactions.

Only one study implemented physical literacy through traditional games, while another focused on introducing physical literacy concepts through teacher training and community service activities, highlighting the role of educators in facilitating physical literacy understanding. One study measured baseline physical literacy levels, reporting moderate to low outcomes among lower secondary students. Overall, these findings suggest that physical literacy research at the secondary level in Indonesia is largely exploratory and correlational, rather than intervention-driven.

Table 5. Implementation of Physical Literacy in Lower and Upper Secondary Schools in Indonesia

No	Author (Year)	Type of Implementation	Assessment Tools	Key Findings
1	(Hardovi et al., 2024)	Introduction of physical literacy through teacher training and community service	Descriptive evaluation (no formal PL assessment)	Teacher training and counseling improved understanding and capacity to implement physical literacy, with positive perceived effects on students.
2	(Rasnita et al., 2021)	Traditional game-based physical literacy intervention	Observations and questionnaires (motivation, knowledge, confidence, physical ability)	Traditional games significantly enhanced students' physical literacy across multiple domains.
3	(Hanafi et al., 2020)	Assessment of physical literacy levels	Field-based fitness tests (sprints, pull-ups, sit-ups, vertical jumps, endurance run)	Physical literacy levels among lower secondary students were categorized as moderate, with generally low performance scores.
4	(Erizka et al., 2024)	Relationship between physical literacy and physical activity engagement	Spanish Perceived Physical Literacy (SPPL); GPAQ	Physical literacy showed a strong positive correlation with students' physical activity participation.
5	(Abrorry, 2023)	Association between teacher–student	Perceived Physical Literacy Instrument for Adolescents (PPLI)	Higher perceived leader–member exchange quality was significantly

No	Author (Year)	Type of Implementation	Assessment Tools	Key Findings
		relationship quality and physical literacy		associated with higher physical literacy levels.
6	(Widianto & Nugraha, 2023)	Relationship between physical literacy and body mass index	Indonesian version of PPLI	Physical literacy was inversely associated with BMI, indicating higher literacy corresponds with healthier body composition.
7	(Wulan et al., 2023)	Physical literacy, health, and adolescent personality development	Physical literacy scale; health scale; personality scale	Physical literacy and health demonstrated a significant association with adolescent personality development.
8	(Arifin et al., 2023)	Physical literacy and personal development analysis	Researcher-developed PL and personal development questionnaires	Physical literacy showed a weak association with personal development among adolescents.

Assessment Tools Used in Secondary Schools

In secondary education studies, physical literacy assessment relied primarily on self-report questionnaires and performance tests. Motivation and confidence were assessed using tools such as the Spanish Perceived Physical Literacy (SPPL) and the Perceived Physical Literacy Instrument for Adolescents (PPLI). Physical competence was evaluated using field-based fitness tests, including sprints, pull-ups, sit-ups, vertical jumps, and endurance running.

The Knowledge and Understanding domain was assessed through questionnaires and observational tools, while Daily Behavior was measured using instruments such as the Global Physical Activity Questionnaire (GPAQ). Several studies employed researcher-developed instruments, indicating a lack of standardized and culturally adapted physical literacy assessment tools for Indonesian adolescents.

Discussion

Effective Implementation Practices for Physical Literacy in Indonesian Schools

This systematic literature review identified several effective practices for implementing physical literacy (PL) in Indonesian schools, with traditional games emerging as the most frequently reported and contextually effective approach, particularly at the primary school level. Multiple studies consistently demonstrated that traditional games significantly enhanced students' physical literacy across physical, cognitive, and affective domains (Saputra et al., 2022; Sudarwo et al., 2023). These findings suggest that culturally embedded activities offer a meaningful pedagogical pathway for introducing PL concepts in early education.

The effectiveness of traditional games can be attributed to their high motivational value, contextual familiarity, and holistic engagement of PL domains. Unlike structured sport-based approaches, traditional games naturally integrate movement competence, social interaction, enjoyment, and cultural relevance, which are key components of PL development. This supports previous international evidence indicating that culturally responsive pedagogy enhances student engagement and learning sustainability in physical education (Carl et al., 2022).

Beyond traditional games, several studies reported positive outcomes from structured pedagogical models, such as the play-jumping approach, integrated PL models, and leveling systems. These models emphasize progressive skill development and student-centered learning, aligning with PL theory that views literacy as a developmental continuum rather than a fixed outcome. The leveling system, in particular, reflects

contemporary pedagogical principles that accommodate individual differences in learning pace and motor development.

Overall, effective PL implementation in Indonesian schools appears to depend on the integration of all four PL domains, rather than an exclusive focus on physical competence. Programs that combined motor skills development with knowledge acquisition and motivational support were more aligned with holistic PL principles, reinforcing the need for multidimensional instructional design.

Measurement Instruments and Assessment Practices

The reviewed studies employed a wide range of assessment instruments, indicating both methodological diversity and a lack of standardization in PL measurement. The Physical Literacy Knowledge Questionnaire (PLKQ) and the Canadian Assessment of Physical Literacy (CAPL/CAPL-2) were the most frequently used standardized instruments, reflecting their strong psychometric foundations and international acceptance. Their application in Indonesian contexts suggests a growing alignment with global PL assessment practices.

Importantly, the development of locally designed instruments, such as the APL-PCD (Permana, 2023), represents a significant step toward culturally relevant assessment. While international tools provide valuable benchmarks, locally developed instruments may better capture contextual, linguistic, and curricular specificities of Indonesian schools. However, inconsistent validation reporting across studies highlights the need for more rigorous and transparent adaptation procedures.

The observed variation in assessment tools, particularly at the secondary school level where self-report instruments dominate, limits cross-study comparability. This underscores the urgent need for standardized yet culturally adaptable PL assessment frameworks suitable for Indonesian educational contexts.

Conceptual Alignment with Physical Literacy Theory

All reviewed studies adopted Whitehead's foundational definition of physical literacy, demonstrating strong theoretical coherence across Indonesian PL research. The consistent reference to the four core PL domains reflects a shared conceptual understanding and facilitates alignment with international PL discourse. However, despite theoretical consistency, practical implementation remains uneven, with many studies prioritizing physical competence over affective, cognitive, and behavioral dimensions. This pattern mirrors early stages of PL adoption observed in countries such as Canada and Australia, where motor competence initially dominated PL programming before broader domain integration (Carl et al., 2022).

The Indonesian context demonstrates promising potential for culturally grounded PL implementation. The successful integration of traditional games illustrates how universal PL frameworks can be meaningfully adapted without diluting their theoretical integrity. Nevertheless, the persistent gap between holistic PL theory and practice highlights the need for curriculum-level integration and teacher capacity building.

Comparison with International Practices

Compared with countries such as Canada, Australia, and the United Kingdom, PL implementation in Indonesia remains less standardized and less embedded within national curricula. While these countries employ structured frameworks and validated assessment systems, Indonesian approaches rely more heavily on contextual and

teacher-driven initiatives.

Notably, Indonesia's use of traditional games represents a distinctive contribution to global PL practice. Similar culturally embedded strategies have been reported in other Asian contexts, reinforcing the value of integrating indigenous activities into PL-based education. This approach demonstrates that effective PL implementation does not require replication of Western models but can be achieved through culturally responsive adaptation. International systematic reviews confirm that school-based PL interventions are among the most effective strategies for fostering lifelong physical activity (Grauduszus et al., 2024; Qian et al., 2025). The Indonesian experience supports this evidence while emphasizing the importance of contextual relevance.

Research Limitations

Several limitations must be considered when interpreting these findings. Most reviewed studies employed short-term and cross-sectional designs, limiting conclusions about long-term PL development. Methodological heterogeneity in samples, interventions, and assessment tools further constrains comparability. Additionally, limited reporting on teacher qualifications and training restricts understanding of instructional quality as a determinant of PL outcomes. The predominance of urban-based studies also raises concerns regarding representativeness across diverse Indonesian educational contexts.

Implications and Future Directions

Future research should prioritize longitudinal and comparative designs to examine sustained PL development and intervention effectiveness. Greater emphasis is needed on developing standardized, culturally adapted assessment tools and evaluating teacher professional development models for PL implementation. Policy-oriented research examining curriculum integration and systemic support for PL is also essential. Embedding PL within national education frameworks would strengthen alignment between theory, practice, and long-term public health objectives.

CONCLUSION

This systematic literature review synthesised evidence from 20 empirical studies on physical literacy implementation in Indonesian school contexts, revealing both meaningful progress and persistent gaps. Overall, physical literacy in Indonesia is conceptually aligned with holistic frameworks that integrate physical competence, motivation and confidence, knowledge and understanding, and active participation. However, implementation remains predominantly skill-focused, with limited and inconsistent integration of cognitive and affective domains, indicating a partial translation of physical literacy theory into educational practice.

The review further shows that physical literacy assessment in Indonesian schools relies mainly on adapted international instruments, particularly PLKQ, CAPL-2, and PPLI, alongside physical activity monitoring tools such as GPAQ and pedometers. While these instruments demonstrate practical applicability, the absence of standardized and culturally validated national assessment tools restricts comparability across studies and limits long-term monitoring. A distinctive contribution of the Indonesian context is the systematic use of traditional games, which effectively support physical literacy development while preserving cultural identity. This culturally grounded approach represents an innovative adaptation of global physical literacy frameworks and offers valuable insights for other non-Western educational settings.

Despite these advances, the current evidence base remains methodologically heterogeneous and largely short-term, with small samples and limited longitudinal

designs. Future research should prioritise the development of Indonesian-specific assessment instruments, the implementation of longitudinal and multidimensional intervention studies, and the examination of teacher professional development as a central mechanism for improving implementation quality. At the policy level, the systematic integration of physical literacy into the national physical education curriculum—supported by clear assessment standards and culturally responsive pedagogical models—is essential to ensure sustainable and scalable impact. Strengthening these directions will advance physical literacy development in Indonesia and contribute to the broader international discourse on culturally responsive physical education.

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CONFLICT OF INTEREST

No conflicts of interest related to the reported research

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