

Physical Literacy in Primary Education – Review of Existing Systematic Reviews

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Abstract

The purpose of this paper is to provide an analysis of systematic reviews on physical literacy and discuss their practical implications in primary education. The paper respects the methodology in conducting a systematic review of systematic reviews of healthcare interventions. Seven databases (PubMed, Scopus, ERIC, DOAJ, Google Scholar, CDSR and DARE) were searched in October 2024 using the terms physical literacy and review. Eligible publications were high-quality peer-reviewed systematic reviews relevant to the topic and population. Two reviewers checked the publications, and disagreements were resolved by consensus. The AMSTAR tool was used to assess the quality of systematic reviews. The initial search found 360 records, and two publications were included in the review. Their topics focus on the measurement of physical literacy and the effects of interventions. The presented findings may have implications for implementation in primary education. Physical literacy has potential as a holistic basis for public health prevention of adverse conditions of children's biopsychosocial development. Creating a physically literate generation could be the answer to numerous public health problems.

Key words: *effects of interventions; holistic concept; measurement; physical education; public health*

Introduction

Global trends of physical inactivity among children of all age groups are increasing, which consequently leads to negative health outcomes – increased obesity, poorer cardiometabolic health, physical fitness and prosocial behavior and reduced sleep quality, as well as burden on the health care system (World Health Organization, 2024).

Physical literacy is becoming increasingly relevant in the circles of public health

and physical education and is proposed as a holistic concept for explaining, evaluating and increasing kinesiology activity and as a way to solve growing health problems (Dlugonski et al., 2022).

The International Physical Literacy Association interprets physical literacy as motivation, self-confidence, physical competence, knowledge and understanding to value and take responsibility for engaging in physical activities throughout life (International Physical Literacy Association, 2017). In 2024, the organization SHAPE America – Society of Health and Physical Educators, which defines the American national standards of physical education and provides instructions for teachers in physical education classes, published four standards that explain the competences of physically literate children. These are the development of a variety of motor skills, the application of knowledge related to movement and fitness concepts, the development of social skills through movement and the development of personal skills, the identification of personal benefits of movement and the choice of engaging in physical activity (SHAPE America - Society of Health and Physical Educators, 2024).

Besides its role in education, contemporary physical education has a significant contribution in preserving and improving pupils' health (Findak, 2019). Adequate implementation of physical education classes becomes a universal corrective for physical inactivity (Findak, 2017), and not including all aspects of physical literacy (physical, affective, cognitive and social) may neglect the holistic benefits of physical activities for overall health and development of children (Green, 2024).

This puts physical education in the context of a public health resource, and teachers play a crucial role in guiding the development and maximizing the potential of physical literacy.

Physical literacy is a recent concept in development and is as such open to interpretation, depending on culture, area and understanding, appreciation and application by practitioners (Green, 2024). In view of the above, it is necessary to rationalize the existing knowledge about physical literacy in order to make it useful to those directly included in education and scientific research in the fields of physical education and public health (Martins et al., 2021).

The purpose of this paper is to study frequent and relevant topics in published peer-reviewed systematic reviews that focus on studying the concept of physical literacy in younger school-aged children (primary education).

Methodology

This paper is structured following the methodology in conducting a systematic review of systematic reviews of healthcare interventions (Smith et al., 2011).

The research concept concerning the research question, database search strategy, inclusion and evaluation criteria, and research synthesis was determined before the actual literature search and review.

Search strategy and selection process

The following seven electronic databases were searched in October 2024: MEDLINE (PubMed), Scopus, ERIC, Directory of Open Access Journals (DOAJ), Google Scholar, The Cochrane Database of Systematic Reviews (CDSR), and The Database of Abstracts of Reviews of Effects (DARE). The search of the title and summary of the publication in all databases was performed using the Boolean operator (AND) and the terms “physical literacy” and review* (the title of the article was searched only in the Google Scholar database). The term *physical literacy* is enclosed in double quotes to ensure that the search refers to articles solely related to *physical literacy* and not to “physical” or “literacy”, while the term *review* was searched with an asterisk (*), to include various combinations of the word (for example: review, reviews and similar). In this initial phase, publications were searched regardless of the publication type. In addition to database searches, the retrieved reviews were cross-referenced to find other potentially relevant publications.

Only peer-reviewed publications were included in the research, and the exclusion criteria were as follows: (1) the subject of the research is not the population of school-age children; (2) the topic is not appropriate for this research (for example, physical literacy in the population of people with disabilities or physical literacy in water activities); (3) it is not a review study (it should be a systematic review only, not a literature review or a scoping review); (4) it is not written in English; (5) it is not available in full text and (6) the research design is of low or medium quality.

The search results from all databases were imported into the Excel program, and the procedure of removing duplicate literature was carried out. Two reviewers independently and blindly reviewed the identified publications according to inclusion and exclusion criteria based on (1) title and abstract and (2) full-text review of the remaining articles. Disagreements were resolved by consensus.

Quality assessment of systematic reviews

To assess the methodological quality of systematic reviews, regarding the quality of research design and the risk of review bias, the AMSTAR measuring tool was used (Shea et al., 2007; Shea et al., 2009). AMSTAR was chosen because of its good metric characteristics – good agreement and reliability, construct validity and feasibility (high interobserver agreement of the individual items with mean kappa = 0.70, intraclass correlation coefficients = 0.84, ease of application/15-minute review of the publication) (Shea et al., 2009).

The AMSTAR standard contains the following 11 criteria: a priori design, double research selection and data extraction, comprehensive literature search, use of publication status as an inclusion criterion, list of included/excluded research, characteristics of included research, documented assessment of scientific quality of included research, appropriate use of scientific quality of included research in formulating conclusions, appropriate use of methods to combine research findings, assessment of likelihood of publication bias and record of conflicts of interest (Shea et al., 2009).

Each criterion is given a score of 1 if it is met or a score of 0 if the criterion is not met, is not clear or is not applicable. The sum of the ratings of individual items refers to the quality of the review, which can be high (8-11), medium (4-7) and low (0-3).

All three systematic reviews identified as relevant after the selection process were evaluated.

The flow of information through the different phases of this systematic review is shown in the study selection diagram in Figure 1 according to the PRISMA statement (Liberati et al., 2009; Moher et al., 2009).

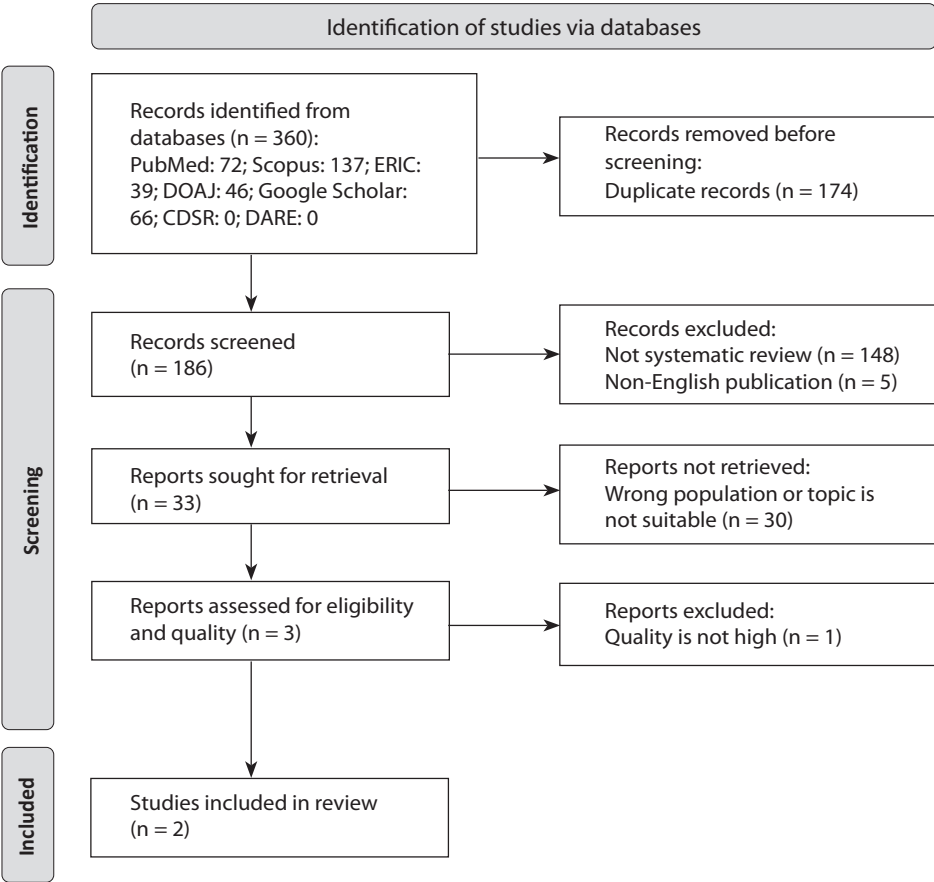


Figure 1. Flow diagram of the process of data selection, extraction and analysis

Results and discussion

The initial search process found a total of 360 articles, and after removing duplicates, excluding the publications not written in English and those that were not systematic reviews, as many as 33 publications remained.

By studying the titles and abstracts, it was determined that 30 systematic reviews were not relevant for further analysis, as they were excluded for the reason that the

subjects of the research were not school-age children or that the topic was not suitable for this research (Anico et al., 2022; Bailey et al., 2023; Boldovskaia et al., 2023; Bopp et al., 2022; Buckler et al., 2023; Carl et al., 2021; Carl et al., 2022; Carl et al., 2023; Chaeroni et al., 2024; Demetriou et al., 2015; Dlugonski et al., 2022; Edwards et al., 2017; Edwards et al., 2018; Essiet et al., 2021; Gani et al., 2022; Jean de Dieu & Zhou, 2021; Jerebine et al., 2022; Jimenez-Garcia et al., 2024; Kretaine, 2024; Lim et al., 2021; Mann et al., 2021; Plesh et al., 2023; Porter et al., 2023; Sortwell et al., 2022; Thermou & Riga, 2020; Torres, 2024; Utami et al., 2020; Weerackody et al., 2023; Yin et al., 2024; Zhang et al., 2024).

The remaining 3 publications available in full text (Barnett et al., 2023; Jerebine et al., 2024; Shearer et al., 2021) were assessed for methodological quality, and 2 were found to be of high quality (Shearer et al., 2021; Jerebine et al., 2024), and were thus included in the analysis of this systematic review. The list of analyzed publications is presented in Table 1.

The topics of the included systematic reviews focused on the evaluation of physical literacy measurement tools and on the effects of interventions, which is in line with the latest research, namely the systematic review of systematic reviews on physical literacy (Carl et al., 2023), where it was determined that the existing systematic reviews most often analyzed aspects of measurement, theory and interventions, and less frequently discussed determinants, outcomes and political aspects.

Table 1
Systematic reviews included in the final analysis

Authors	References	Publication year
Shearer et al.	Assessments Related to the Physical, Affective and Cognitive Domains of Physical Literacy Amongst Children Aged 7–11.9 Years: A Systematic Review	2021
Jerebine et al.	Effects of Holistically Conceptualised School-Based Interventions on Children's Physical Literacy, Physical Activity, and Other Outcomes: A Systematic Review	2024

The first review (Shearer et al., 2021) aimed to systematically review the scientific literature on the topic of assessment of physical literacy and its physical, cognitive and affective domains in children aged 7 to 11.9 years. The authors researched and critically discussed each assessment tool to evaluate its measurement properties, the physical literacy elements it assessed, and its feasibility for use within the primary school setting. A total of 52 unique ways of quantitative assessment were identified and subsequently examined for validity, reliability, feasibility and the elements of physical literacy they measured, while no qualitative assessment of physical literacy was found within this age group. The majority of assessment tools were developed in the United States ($n = 28$), Europe ($n = 12$) and Australia ($n = 5$). For the assessment of physical literacy 3 tools were marked, 32 tools evaluated elements within the affective domain, 15 within the physical domain and 2 within the cognitive domain.

Besides, the authors developed a checklist of elements of physical literacy to highlight which aspects of physical literacy were covered by each assessment tool, and the checklist included the following elements:

- a) Affective domain elements (10): confidence, motivation, emotional regulation, enjoyment, persistence/resilience/commitment, adaptability, willingness to try new activities, autonomy, self-perception/self-esteem and perceived physical competence.
- b) Physical domain elements (20): object control, stability, locomotor skills, movement skill on land, movement skills in water, movement using equipment, cardiovascular endurance, muscular endurance, coordination, flexibility, agility, strength, reaction time, speed, power, rhythmic ability, aesthetic/expressive ability, sequencing, adapting movement strategies to the situation/environment, progression from simple to complex skills.
- c) Cognitive domain elements (11): knowledge and understanding of benefits of physical activity, knowledge and understanding of importance of physical activity, knowledge and understanding of effects of physical activity on the body, knowledge and understanding of opportunities to be active, knowledge and understanding of sedentary behavior, ability to identify and describe movement creativity and imagination in application of movement, decision-making (ability to think, understand and make decisions, knowing how and when to perform), ability to reflect and improve own performance, including setting optimal challenges knowledge and understanding of tactics, rules, and strategy and knowledge, and understanding of safety considerations and risk.

The Canadian Assessment of Physical Literacy (CAPL-2) has demonstrated the strongest methodological quality among the three explicit assessment tools of physical literacy, with good validity and reliability reported in several studies. Moreover, the CAPL-2 is the only one of the three tools that has provided evidence of cross-cultural validity, supporting potential use in other countries. The CAPL-2 assesses a wide range of elements of physical literacy (44% of all elements), it assessed 11 elements within the physical domain (the most comprehensive assessment in this respect), 4 elements within the affective domain and 3 elements within the cognitive domain. The Passport for Life (PFL) assessment tool also has acceptable measurement properties, assessing 51% of all elements of physical literacy, with the highest number of elements assessed within the affective domain (8 of 10 elements identified).

This review identified a number of valid, reliable and feasible measures of elements of the physical and affective domains that could be useful in a pragmatic approach to assessing physical literacy within physical education (PE). The cognitive domain is the least frequently assessed domain of physical literacy in children aged 7 to 11.9 years and the least represented domain in explicit assessment of physical literacy. This is problematic for holistic considerations of physical literacy, thus more research is needed

to identify and clarify the key cognitive elements that are important for the concept of physical literacy and that have enriched assessment in this area. Feasibility results indicate that several types of assessment would be appropriate for primary education settings, although their implementation requires the appropriate level of expertise, which, in turn, requires additional training.

The authors discuss that the physical literacy assessment process can be time-consuming, with assessment of large groups of children requiring assessment activities to be carried out across several classes. The above points to the challenges of the feasibility of using separate assessment of physical literacy at the domain levels in order to create a holistic picture of a child's physical literacy. Although additional resources may be required to effectively prepare primary teachers to carry out assessment, enabling the teacher to administer and interpret physical literacy assessment results is especially important as the primary teacher will connect with and understand their pupils on a deeper level. Using the close relationship established between teacher and pupil, the primary teacher should be empowered to carry out physical literacy assessment, fulfilling roles such as recording progress, providing feedback and highlighting key areas where the child can develop their physical literacy over time.

The aforementioned review research provides information that can help physical education teachers when choosing the most appropriate tool and understanding which elements of physical literacy are assessed and which are missed.

Another review (Jerebine et al., 2024) aimed to identify school-based interventions that adopted a holistic conceptualization of physical literacy and examine the effects on children's physical literacy in the physical, affective, cognitive, and social domains of learning and all other outcomes, including physical activity. Data from 12 interventions that adopted a holistic, interconnected conceptualization of physical literacy were synthesized. The interventions involved a total of 1,427 participants aged 5 to 14 from seven countries (half of them in Canada, followed by Australia, Hong Kong, Italy, Portugal, Spain and the United States of America). Regarding the type of intervention at school, six were carried out during physical education classes, three were afterschool programs, one was structured recess program and two were multi-component interventions that included a combination of physical education classes, active lessons, and/or active games during recess.

The results of the quantitative data analysis indicate strong positive evidence for physical literacy interventions in the physical domain and mixed evidence for interventions that improve overall physical literacy or its affective and cognitive domains. There was no evidence that holistic physical literacy interventions improved the social components of children's physical literacy (although this is understudied and not included in most physical literacy definitions or measurement tools), or other outcomes such as physical activity or cognitive performance. Qualitative findings indicated the perceived benefits of physical activity in all domains of physical literacy, including those less frequently examined in quantitative assessments.

The authors conclude that the findings of their research can be used in the development, implementation and evaluation of future physical literacy interventions. Future interventions should be aimed at improving and assessing all aspects of physical literacy, especially those elements that are less often targeted and examined in the affective, cognitive and social domains.

The previously presented findings may have significant implications for implementation in primary education. Physical literacy in childhood is necessary for a healthy and active lifestyle, and teachers play a key role in guiding its development, and become actors in public health.

Teachers can ensure the conditions for the acquisition of skills, self-confidence and creativity in children, which are necessary to perform a variety of movements and physical activities (Essiet et al., 2021). And the competencies of persons who teach physical education may improve children's physical literacy if they apply the principles of pedagogy, personality and social professional development in learning (Priadana et al., 2023). Only a generically and subject-specifically competent teacher can ensure quality implementation of physical education classes in the modern complex process of primary education (Jenko Miholić, 2017).

Conclusion

Physical literacy in primary education has potential as a holistic basis for public health prevention of unfavorable conditions for children's biopsychosocial development. Creating a physically literate generation could be the answer to numerous public health problems, but could also bring benefits in economic and medical terms.

Through the analysis of the existing systematic literature thematically related to physical literacy, this paper tried to investigate and discuss the significant implications for the practical teaching of physical education in primary education.

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Tjelesna pismenost u primarnom obrazovanju – pregled postojeće sustavne literature

Sažetak

Svrha rada bila je na osnovi analize sustavne literature o tjelesnoj pismenosti raspravljati o praktičnim implikacijama u primarnom obrazovanju. U radu se uvažavaju smjernice metodologije sustavnoga pregleda sustavnih pregleda zdravstvenih intervencija. Sedam baza podataka (PubMed, Scopus, ERIC, DOAJ, Google Scholar, CDSR i DARE) pretraženo je u listopadu 2024. korištenjem pojmova *physical literacy* i *review*. Prihvatljive publikacije odnosile su se na visokokvalitetne recenzirane sustavne preglede relevantne s obzirom na temu i populaciju. Dvoje recenzenata pregledali su publikacije, a neslaganja su riješena konsenzusom. Za procjenu kvalitete sustavnih pregleda korišten je instrument AMSTAR. Inicijalno je ustanovljeno 360 publikacija, a nakon provedbe svih kriterija utvrđeno je da dvije zadovoljavaju. Njihove teme usmjerene su na mjerenje tjelesne pismenosti i učinke intervencija. Izloženi nalazi mogu imati implikacije za provedbu u primarnom obrazovanju. Tjelesna pismenost ima potencijal kao holistička baza javnozdravstvene prevencije nepovoljnih uvjeta biopsihosocijalnoga razvoja djece. Stvaranje tjelesno pismene generacije moglo bi biti odgovor na brojne javnozdravstvene probleme.

Ključne riječi: holistički koncept, javno zdravstvo, mjerenje, tjelesna i zdravstvena kultura, učinci intervencija

Uvod

Globalni trendovi motoričke neaktivnosti djece svih dobnih skupina su u porastu, što posljedično dovodi do negativnih zdravstvenih ishoda – povećane pretilosti, lošijega kardiometaboličkog zdravlja, tjelesne spremnosti i prosocijalnoga ponašanja te smanjene kvalitete sna, kao i do opterećenja sustava zdravstvene zaštite (World Health Organization, 2024).

Tjelesna pismenost postaje sve aktualnija u krugovima javnoga zdravstva i kineziološkoga obrazovnog područja te je predložena kao holistički koncept za objašnjenje, procjenjivanje i povećanje kineziološke aktivnosti te kao način rješavanja rastućih zdravstvenih problema (Dlugonski et al., 2022).

Međunarodna udruga za tjelesnu pismenost interpretira tjelesnu pismenost kao motivaciju, samopouzdanje, tjelesnu kompetenciju, znanje i razumijevanje za vrednovanje i preuzimanje odgovornosti za bavljenje tjelesnim aktivnostima tijekom cijeloga života (International Physical Literacy Association, 2017). Organizacija SHAPE America – Društvo zdravstvenih i tjelesnih pedagoga koja definira američke nacionalne standarde tjelesnoga odgoja i pruža upute za učitelje u nastavi tjelesne i zdravstvene kulture, objavila je 2024. godine četiri standarda koja objašnjavaju kompetencije tjelesno pismene djece. To su razvoj raznih motoričkih sposobnosti, primjena znanja vezana uz koncepte kretanja i tjelesne spremnosti, razvoj socijalnih vještina pomoću kretanja te razvoj osobnih vještina, identifikacija osobne prednosti kretanja i odabir bavljenjem kineziološkom aktivnošću (SHAPE America – Society of Health and Physical Educators, 2024).

Suvremeni pravac kineziološke edukacije, osim u odgoju i obrazovanju, ima naglašen doprinos i u očuvanju i unapređenju zdravlja učenika (Findak, 2019). Adekvatna provedba nastave tjelesne i zdravstvene kulture postaje univerzalni korektiv motoričkoga inaktiviteta (Findak, 2017), a neuključivanje svih aspekata tjelesne pismenosti (tjelesni, afektivni, kognitivni i socijalni) može zanemariti holističke dobrobiti kinezioloških aktivnosti za cjelokupno zdravlje i razvoj djece (Green, 2024).

Time se tjelesna i zdravstvena kultura stavlja u kontekst javnozdravstvenoga resursa, a učitelji predstavljaju presudnu ulogu u usmjeravanju razvoja i maksimiranju potencijala tjelesne pismenosti.

Tjelesna pismenost noviji je koncept u razvoju i kao takav otvoren je za tumačenje zavisno o kulturi, području te razumijevanju, uvažavanju i primjeni praktičara (Green, 2024). S obzirom na navedeno, potrebno je racionalizirati postojeća znanja o tjelesnoj pismenosti kako bi bila korisna onima koji provode neposredno obrazovanje i znanstvena istraživanja u područjima kineziološke edukacije i javnoga zdravstva (Martins i sur., 2021).

Svrha ovoga rada je proučiti učestale i relevantne teme u objavljenim recenziranim sustavnim pregledima koji su usmjereni na proučavanje koncepta tjelesne pismenosti djece mlađe školske dobi (primarno obrazovanje).

Metodologija

Ovaj rad strukturiran je poštujući smjernice metodologije provođenja sustavnoga pregleda sustavnih pregleda zdravstvenih intervencija (Smith i sur., 2011).

Koncept istraživanja koji se tiče istraživačkoga pitanja, strategije pretraživanja baza podataka, kriterija prihvatljivosti i procjene te sinteze istraživanja utvrđen je prije samoga pretraživanja i pregleda literature.

Strategija pretraživanja i proces selekcije

Sljedećih sedam elektroničkih baza podataka pretraženo je u listopadu 2024. godine: MEDLINE (PubMed), Scopus, ERIC, Directory of Open Access Journals (DOAJ),

Google Scholar, The Cochrane Database of Systematic Reviews (CDSR) i The Database of Abstracts of Reviews of Effects (DARE). Pretraživanje naslova i sažetka publikacije u svim bazama (jedino je u Google Scholar bazi pretraživano samo u naslovu članka) provedeno je korištenjem Booleova operatora AND i pojmova „physical literacy” (hrv. tjelesna pismenost) i review* (hrv. pregled). Pojam *physical literacy* nalazi se u dvostrukim navodnicima kako bi se osiguralo da se pretraga odnosi na članke koji se isključivo odnose na tjelesnu pismenost, a ne na „physical” ili „literacy”, dok je *review* pretraživan sa zvjezdicom (*) kako bi se uključile različite kombinacije riječi (primjerice pregled, pregledi i slično). U ovoj početnoj fazi publikacije su pretraživane bez obzira na tip publikacije. Uz provedena pretraživanja baze podataka, dohvaćeni pregledi unakrsno su referencirani kako bi se pronašle druge potencijalno prikladne publikacije.

U istraživanje su uključene samo recenzirane publikacije, a kriteriji isključenja su sljedeći: (1) subjekt istraživanja nije populacija djece školske dobi, (2) tema nije prikladna za ovo istraživanje (primjerice tjelesna pismenost u populaciji osoba s invaliditetom ili tjelesna pismenost u vodenim aktivnostima), (3) nije pregledno istraživanje (isključivo treba biti sustavni pregled, a ne pregled literature ili pregled opsega), (4) nije napisano na engleskom jeziku, (5) nije dostupno u cijelom tekstu i (6) niska ili srednja kvaliteta dizajna istraživanja.

Rezultati pretrage iz svih baza podataka uvezeni su u program Excel te se proveo postupak uklanjanja dvostruke literature. Dvoje recenzenata neovisno su i naslijepo pregledali identificirane publikacije prema kriterijima uključivanja i isključivanja na temelju (1) naslova i sažetka i (2) pregleda cijelog teksta preostalih članaka. Neslaganja su riješena konsenzusom.

Ocjena kvalitete sustavnih pregleda

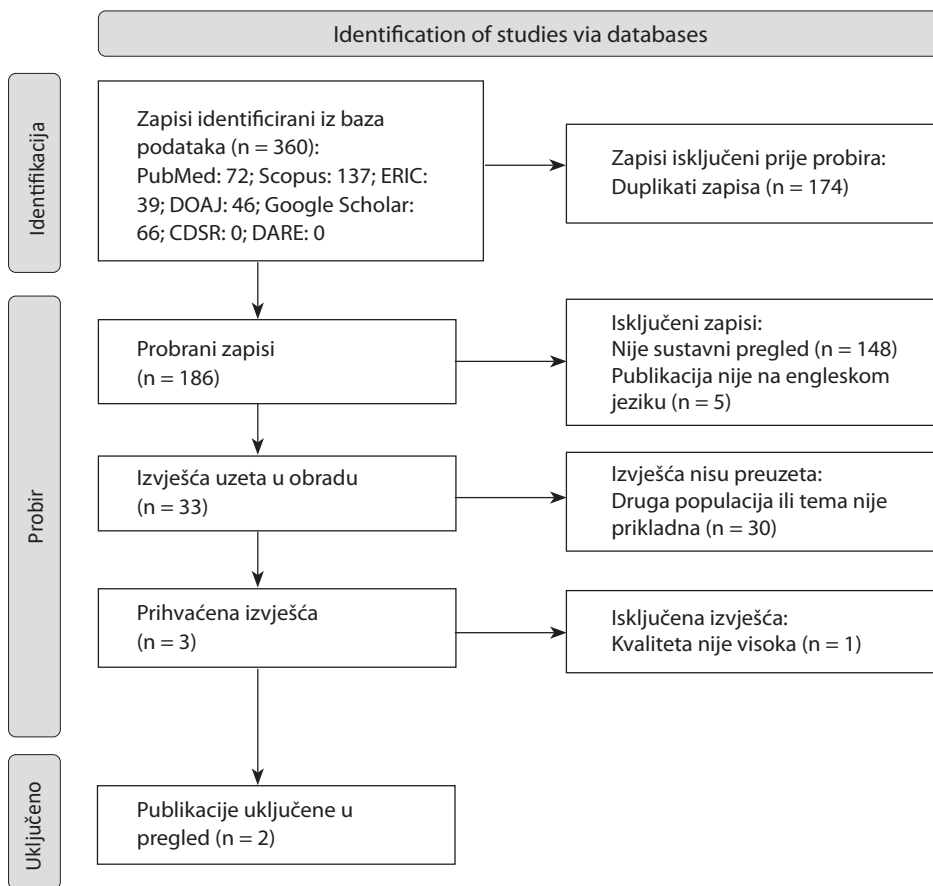
Za procjenu metodološke kvalitete sustavnih pregleda, odnosno kvalitete dizajna istraživanja i rizika od pristranosti pregleda korišten je mjerni instrument AMSTAR (Shea i sur., 2007; Shea i sur., 2009). AMSTAR je odabran zbog svojih dobrih metrijskih karakteristika – dobrog slaganja i pouzdanosti, konstrukcijske valjanosti te izvedivosti (visoko međupromatračko slaganje pojedinačnih stavki sa srednjom $kappa = 0,70$, koeficijenti unutarrazredne korelacije = 0,84, lakoća primjene/15-minutni pregled publikacije) (Shea i sur., 2009).

AMSTAR standard sadrži sljedećih 11 kriterija: *a priori* dizajn, dvostruki odabir istraživanja i ekstrakcija podataka, sveobuhvatno pretraživanje literature, korištenje statusa publikacije kao kriterija uključivanja, popis uključenih/isključenih istraživanja, karakteristike uključenih istraživanja, dokumentirana ocjena znanstvene kvalitete uključenih istraživanja, primjereno korištenje znanstvene kvalitete uključenih istraživanja u oblikovanju zaključaka, odgovarajuća uporaba metoda za kombiniranje nalaza istraživanja, procjena vjerojatnosti pristranosti objave i zapis o sukobu interesa (Shea i sur., 2009).

Svaki kriterij dobiva ocjenu 1 ako je ispunjen ili ocjenu 0 ako kriterij nije ispunjen, nije jasan ili nije primjenjiv. Zbroj ocjena pojedinačnih stavki odnosi se na kvalitetu pregleda, a ona može biti visoka (8-11), srednja (4-7) i niska (0-3).

Procijenjena su sva tri sustavna pregleda koji su identificirani kao relevantni nakon postupka selekcije.

Protok informacija kroz različite faze ovoga sustavnog pregleda prikazan je u dijagramu odabira istraživanja na Slici 1 a prema PRISMA izjavi (Liberati i sur., 2009; Moher i sur., 2009).



Slika 1. Dijagram tijeka procesa odabira, ekstrakcije i analize podataka

Rezultati i rasprava

Tijekom početne pretrage ustanovljeno je sveukupno 360 članaka, a nakon uklanjanja duplikata, isključenja publikacija koje nisu napisane na engleskom jeziku i koje nisu sustavni pregledi preostale su 33 publikacije.

Proučavanjem naslova i sažetaka utvrđeno je da 30 sustavnih pregleda nije relevantno za daljnju analizu, odnosno isključeni su zbog toga što subjekt istraživanja nisu djeca

školske dobi ili što tema nije prikladna za ovo istraživanje (Anico i sur., 2022; Bailey i sur., 2023; Boldovskaia i sur., 2023; Bopp i sur., 2022; Buckler i sur., 2023; Carl i sur., 2021; Carl i sur., 2022; Carl i sur., 2023; Chaeroni i sur., 2024; Demetriou i sur., 2015; Dlugonski i sur., 2022; Edwards i sur., 2017; Edwards i sur., 2018; Essiet i sur., 2021; Gani i sur., 2022; Jean de Dieu i Zhou, 2021; Jerebine i sur., 2022; Jimenez-Garcia i sur., 2024; Kretaine, 2024; Lim i sur., 2021; Mann i sur., 2021; Ou i sur., 2023; Plesh i sur., 2023; Porter i sur., 2023; Sortwell i sur., 2022; Thermou i Riga, 2020; Torres, 2024; Utami i sur., 2020; Weerackody i sur., 2023; Yin i sur., 2024; Zhang i sur., 2024).

Preostale 3 publikacije dostupne u cjelovitom tekstu (Barnett i sur., 2023; Jerebine i sur., 2024; Shearer i sur., 2021) podvrgnute su procjeni metodološke kvalitete i utvrđeno je da 2 imaju visoku kvalitetu (Shearer i sur., 2021; Jerebine i sur., 2024) te su uključene u analizu ovoga sustavnog pregleda. Popis analiziranih publikacija prikazan je u Tablici 1.

Teme uključenih sustavnih pregleda usmjerene su na procjenu alata za mjerenje tjelesne pismenosti i na učinke intervencija, što je u skladu s najnovijim istraživanjem, odnosno sustavnim pregledom sustavih pregleda o tjelesnoj pismenosti (Carl i sur., 2023) pri čemu je utvrđeno da su postojeći sustavni pregledi najčešće analizirali aspekte mjerenja, teoriju i intervencije, a rjeđe se raspravljalo o determinantama, ishodima i političkim aspektima.

Tablica 1

Cilj prvoga pregleda (Shearer i sur., 2021) bio je sustavno pregledati znanstvenu literaturu o temi procjene tjelesne pismenosti i njezinih fizičkih, kognitivnih i afektivnih domena kod djece u dobi od 7 do 11,9 godina. Autori su istražili i kritički raspravljali o svakom alatu za procjenu kako bi se ocijenila njegova mjerna svojstva, elementi tjelesne pismenosti koji se procjenjuju i izvedivost za korištenje unutar osnovnoškolskoga okružja. Identificirane su ukupno 52 jedinstvene kvantitativne procjene koje su naknadno ispitane u pogledu valjanosti, pouzdanosti, izvedivosti i elemenata tjelesne pismenosti koji se mjere, dok nije pronađena nikakva kvalitativna procjena tjelesne pismenosti unutar ove dobne skupine. Većina procjena razvijena je u Sjedinjenim Američkim Državama ($n = 28$), Europi ($n = 12$) i Australiji ($n = 5$). Za procjenu tjelesne pismenosti označena su 3 alata, 32 alata procjenjivala su elemente unutar afektivne domene, 15 unutar tjelesne domene a 2 unutar kognitivne domene.

Također, autori su razvili kontrolni popis elemenata tjelesne pismenosti kako bi se istaknulo koje je aspekte tjelesne pismenosti obuhvatila svaka procjena, a uključivao je sljedeće elemente:

- a) elementi afektivne domene (10): povjerenje, motivacija, emocionalna regulacija, uživanje, upornost/otpornost/predanost, prilagodljivost, spremnost na isprobavanje novih aktivnosti, autonomija, samoprihvatanje/samopoštovanje te percipirana tjelesna sposobnost
- b) elementi tjelesne domene (20): kontrola objekta, stabilnost, lokomotorika, vještine kretanja-zemlja, vještine kretanja-voda, kretanje pomoću opreme,

kardiovaskularna izdržljivost, mišićna izdržljivost, koordinacija, fleksibilnost, agilnost, snaga, vrijeme reakcije, brzina, jakost, ritmička sposobnost, estetska/izražajna sposobnost, sekvenciranje, prilagodba strategije kretanja situaciji/okruženju te napredak od jednostavnih do složenih vještina

- c) elementi kognitivne domene (11): poznavanje i razumijevanje dobrobiti tjelesne aktivnosti, poznavanje i razumijevanje važnosti tjelesne aktivnosti, poznavanje i razumijevanje učinaka tjelesne aktivnosti na organizam, poznavanje i razumijevanje mogućnosti za aktivnost, poznavanje i razumijevanje sjedilačkoga ponašanja, sposobnost prepoznavanja i opisivanja pokreta, kreativnost i mašta u primjeni pokreta, odlučivanje (sposobnost razmišljanja, razumijevanja i donošenja odluka, poznavanje kako i kada učiniti), sposobnost razmišljanja i poboljšanja vlastitoga učinka, uključujući postavljanje optimalnih izazova, poznavanje i razumijevanje taktike, pravila i strategije te poznavanje i razumijevanje sigurnosnih pitanja i rizika.

Kanadska procjena tjelesne pismenosti (Canadian Assessment of Physical Literacy: CAPL-2) pokazala je najjaču metodološku kvalitetu od tri eksplicitne procjene tjelesne pismenosti, uz dobru valjanost i pouzdanost zabilježenu u nekoliko istraživanja. Također, CAPL-2 jedini je od triju alata koji je pružio dokaze o međukulturalnoj valjanosti, podupirući potencijalnu upotrebu u drugim zemljama. CAPL-2 procjenjuje širok raspon elemenata tjelesne pismenosti (44 % svih elemenata), odnosno procijenio je 11 elemenata unutar tjelesne domene (najopsežnija procjena u tom pogledu), 4 elementa unutar afektivne domene i 3 elementa unutar kognitivne domene. Alat za procjenu Putovnica za život (Passport for Life: PFL) također ima prihvatljiva mjerna svojstva i procjenjuje 51 % svih elemenata tjelesne pismenosti, uz procjenu najviše elemenata unutar afektivne domene (8 od 10 identificiranih elemenata).

Ovim pregledom identificirano je niz valjanih, pouzdanih i izvedivih mjera elemenata tjelesne i afektivne domene koje bi mogle biti korisne u pragmatičnom pristupu procjene tjelesne pismenosti unutar tjelesnoga odgoja. Kognitivna domena najrjeđe je procjenjivana domena tjelesne pismenosti kod djece u dobi od 7 do 11,9 godina, a najmanje zastupljena domena u eksplicitnim procjenama tjelesne pismenosti. Ovo je problematično za holistička razmatranja fizičke pismenosti, stoga je potrebno više istraživanja kako bi se identificirali i razjasnili ključni kognitivni elementi koji su važni za koncept tjelesne pismenosti i obogatile procjene ovoga područja. Rezultati izvedivosti pokazali su da bi mnoge procjene bile prikladne za okruženje primarnoga obrazovanja, iako neke zahtijevaju razinu stručnosti za primjenu i bodovanje što zahtijeva dodatnu obuku.

Autori raspravljaju o tome da proces ocjenjivanja tjelesne pismenosti može biti dugotrajan u ocjenjivanju velikih grupa djece koje zahtijeva provođenje aktivnosti ocjenjivanja u nekoliko razreda. Navedeno ukazuje na izazove izvedivosti korištenja zasebnih procjena tjelesne pismenosti na razini domene kako bi se stvorila holistička

slika djetetove tjelesne pismenosti. Iako mogu biti potrebni dodatni resursi za učinkovitu pripremu učitelja razredne nastave za provođenje ocjenjivanja, omogućavanje učitelju da provede i tumači rezultate procjene tjelesne pismenosti posebno je važno jer će se učitelj razredne nastave povezati sa svojim učenicima i razumjeti ih na dubljoj razini. Učitelj razredne nastave, koristeći bliski odnos uspostavljen između učitelja i učenika, trebao bi biti ovlašten provesti procjenu tjelesne pismenosti, ispunjavajući uloge kao što su bilježenje napretka, davanje povratnih informacija i isticanje ključnih područja u kojima dijete može razviti svoju tjelesnu pismenost tijekom vremena.

Navedeno pregledno istraživanje omogućuje informacije koje mogu pomoći učiteljima tjelesnoga i zdravstvenoga odgoja prilikom odabira najprikladnijega alata te razumijevanja koji se elementi tjelesne pismenosti procjenjuju, a koji propuštaju.

Cilj drugoga preglednog rad (Jerebine i sur., 2024) bio je identificirati intervencije u školi koje su usvojile holističku konceptualizaciju tjelesne pismenosti i ispitati učinke na tjelesnu pismenost djece u tjelesnim, afektivnim, kognitivnim i socijalnim domenama učenja i sve druge ishode, uključujući tjelesnu aktivnost. Sintetizirani su podatci iz 12 intervencija koje su usvojile holističku, međusobno povezanu konceptualizaciju tjelesne pismenosti. Intervencije su uključile ukupno 1 427 sudionika u dobi od 5 do 14 godina iz sedam zemalja (polovica u Kanadi, zatim u Australiji, Hong Kongu, Italiji, Portugalu, Španjolskoj i Sjedinjenim Američkim Državama). S obzirom na vrstu intervencije u školi, šest je provedeno tijekom nastave tjelesnoga odgoja, tri su bili izvanškolski programi, jedan strukturirani program odmora i dvije višekomponentne intervencije koje uključuju kombinaciju nastave tjelesnoga odgoja, aktivne nastave i/ili aktivne igre tijekom odmora.

Rezultati analize dobivene iz kvantitativnih podataka ukazuju na snažne pozitivne dokaze za intervencije tjelesne pismenosti u tjelesnoj domeni te na mješovite dokaze za intervencije koje poboljšavaju ukupnu tjelesnu pismenost ili njezine afektivne i kognitivne domene. Nije bilo dokaza da holističke intervencije tjelesne pismenosti poboljšavaju socijalne komponente dječje tjelesne pismenosti (iako je to nedovoljno proučeno i nije uključeno u većinu definicija tjelesne pismenosti ili alata za mjerenje) ili druge ishode kao što su tjelesna aktivnost ili kognitivna izvedba. Kvalitativni nalazi ukazali su na percipirane dobrobiti za tjelesnu aktivnosti i u svim domenama tjelesne pismenosti, uključujući one koje su rjeđe ispitivane u kvantitativnim procjenama.

Autori zaključuju da se nalazi njihovoga istraživanja mogu koristiti u razvoju, provedbi i evaluaciji budućih intervencija tjelesne pismenosti. Buduće intervencije trebale bi biti usmjerene na poboljšanje i procjenu svih aspekata tjelesne pismenosti, a posebno one elemente koji se rjeđe ciljaju i ispituju u afektivnim, kognitivnim i društvenim domenama.

Prethodno izloženi nalazi mogu imati značajne implikacije za provedbu u primarnom obrazovanju. Tjelesna pismenost u djetinjstvu neophodna je za zdrav i aktivan stil života, a učitelji imaju ključnu ulogu u usmjeravanju njezinoga razvoja te postaju akteri u javnom zdravlju.

Učitelji mogu osigurati uvjete za stjecanje vještina, samopouzdanja i kreativnosti kod djece koje su potrebne za izvođenje raznovrsnih pokreta i kinezioloških aktivnosti (Essiet i sur., 2021). A kompetencije osoba koje poučavaju tjelesnu i zdravstvenu kulturu mogu poboljšati tjelesnu pismenost djece ako u učenju primjenjuju načela pedagogije, osobnosti i socijalnoga profesionalnog razvoja (Priadana i sur., 2023). Samo generično i predmetno-specifično kompetentan učitelj može osigurati kvalitetno provođenje nastave tjelesne i zdravstvene kulture u suvremenom kompleksnom procesu odgoja i obrazovanja u primarnom obrazovanju (Jenko Miholić, 2017).

Zaključak

Tjelesna pismenost u primarnom obrazovanju ima potencijal kao holistička baza javnozdravstvene prevencije nepovoljnih uvjeta biopsihosocijalnoga razvoja djece. Stvaranje tjelesno pismene generacije moglo bi biti odgovor na brojne javnozdravstvene probleme, ali i donijeti koristi u ekonomskom i medicinskom smislu.

U ovom radu nastojalo se analizom postojeće pregledne literature tematski povezane s tjelesnom pismenosti istražiti i raspravljati o značajnim implikacijama za praktičnu nastavu tjelesne i zdravstvene kulture u primarnom obrazovanju.

Napomena

Autorica zahvaljuje dvojici recenzenata na pronalaženju metodološki relevantnih publikacija, a za svoje sudjelovanje nisu tražili suautorstvo. Recenzenti su željeli ostati anonimni, ali ih je moguće kontaktirati posredovanjem autorice.