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# Physical education teacher leadership and student engagement in k–12 settings: a systematic review of evidence from 2016 to 2025

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**ABSTRACT**

Teacher leadership is increasingly recognised as an important determinant of the quality of physical education, yet evidence regarding leadership forms and student engagement remains fragmented. This systematic literature review synthesised evidence on physical education teacher leadership and its influence on students' behavioural, emotional, and cognitive engagement. Following the PRISMA 2020 framework, a structured search of the Scopus database identified 203 records, with 17 studies retained after screening and eligibility assessment. Data were analysed using thematic synthesis, while methodological quality was assessed using design-specific validated appraisal tools. Two independent reviewers conducted the screening, achieving strong inter-rater agreement (Cohen's $\kappa = 0.84$ for title/abstract screening and $\kappa = 0.89$ for full-text assessment). Meta-analysis was not conducted due to substantial heterogeneity in study designs, leadership constructs, and engagement measures. Overall, 15 of the 17 studies reported positive associations between at least one leadership form and student engagement, while two found non-significant effects on motivational climate outcomes. Transformational and need-supportive leadership were consistently associated with autonomous motivation and engagement, whereas controlling behaviours were linked to reduced engagement. The findings highlight the importance of supportive and transformational teacher leadership in promoting student engagement in physical education and emphasise the need for longitudinal studies, standardised engagement measures, and experimental research in under-represented regions.



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## Introduction

Physical education (PE) occupies a strategic position within contemporary schooling because it is one of the few curricular spaces designed to develop movement competence, health behaviours, and lifelong physical activity (Tremblay et al., 2018; Kwon et al., 2020). International consensus initiatives have framed quality PE as a foundation for physical literacy and public health, positioning schools as central settings for population-level activity promotion (Tremblay et al., 2018; Craig et al., 2025). Yet the capacity of PE to deliver these outcomes depends less on the curriculum on paper than on the way lessons are enacted, and pedagogical quality varies

substantially across contexts and school systems (Li & Yu, 2024; Kwon et al., 2020). Because engagement in PE is unevenly distributed and frequently declines across adolescence, understanding the classroom-level factors that sustain participation has become a pressing concern for researchers, teacher educators, and policymakers alike.

Among these classroom-level factors, the leadership exercised by the PE teacher has emerged as a decisive but under-theorised influence (Alatzoglou et al., 2017; Al-Sayegh et al., 2019). Leadership in the PE context extends beyond formal management functions to encompass the interpersonal, motivational, and instructional ways in which teachers organise learning, communicate expectations, and relate to students (Shao & Basar, 2025; Abdulrab et al., 2025). Whereas educational leadership scholarship has traditionally concentrated on principals and school administrators, a growing body of work locates leadership in the daily conduct of the teacher, whose leadership style and behaviour directly structure the learning climate experienced by students (Abdulrab et al., 2025; Towsen et al., 2020). This reframing makes the PE teacher a legitimate and consequential unit of analysis for understanding student engagement.

A substantial and expanding literature now links teacher leadership styles and behaviours to student motivation and participation in physical activity settings (Sánchez-García et al., 2024a; Jiang & Jia, 2018). Studies grounded in self-determination theory demonstrate that need-supportive teaching relates positively to autonomous motivation and engagement, while controlling behaviours relate to amotivation and disengagement (Leo et al., 2022). Parallel work drawing on transformational leadership models reports that inspirational and individually considerate teaching predicts adaptive psychological and behavioural outcomes among adolescents (Sánchez-García et al., 2024a). Insights from adjacent sport contexts, where the leadership behaviours of successful coaches have been associated with team functioning and athlete outcomes, further reinforce the salience of leadership for engagement (Yenen et al., 2023).

Recent trends have broadened both the theoretical lens and the methodological toolkit applied to this question. Researchers have increasingly integrated achievement goal and self-determination frameworks to model motivating and empowering climates (Milton et al., 2025), examined how teachers' own motivation and self-efficacy shape their behaviour under changing conditions such as the COVID-19 pandemic (Maltagliati et al., 2023), and scaled professional learning programmes through digital and blended formats (Lubans et al., 2022). The pandemic period, in particular, exposed the contextual fragility of engagement and the importance of adaptive teacher leadership (Ha et al., 2025). Collectively, these developments signal a shift from describing leadership styles toward explaining the mechanisms through which teacher leadership is translated into student engagement.

Despite this progress, several gaps constrain the field. First, much of the recent expansion has occurred in higher-education and extracurricular settings rather than in compulsory school PE (Nguyen et al., 2025; Wang & Danaa, 2024; Thakur et al., 2024), leaving the specific forms of leadership relevant to elementary, middle, and high-school students less clearly delineated. The literature is dispersed across distinct traditions, transformational leadership, autonomy-supportive teaching, and pedagogical models, that rarely speak to one another, so that no consolidated account exists of which leadership forms PE teachers actually enact to enhance engagement, or of how these forms map onto the behavioural, emotional, and cognitive dimensions of engagement.

Second, methodological and conceptual limitations persist. Cross-sectional and single-time-point designs predominate, and longitudinal evidence on the stability of leadership perceptions is scarce (Solera-Alfonso et al., 2025). Prior secondary work has tended to address single leadership constructs or single outcomes (Sánchez-García et al., 2024b), and professional-development evaluations frequently report implementation processes without connecting them to measured student engagement (Carson et al., 2020). Engagement itself is operationalised inconsistently, sometimes as motivation, sometimes as behaviour or affect, which impedes cumulative synthesis. These limitations make it difficult to draw robust, transferable conclusions for teacher education and practice.

Third, the policy and practice stakes are high and immediate. Governments and school systems continue to invest in PE reform, teacher development, and physical-activity policy, often without a clear evidence base on the leadership practices that make lessons engaging (Burnett, 2020; Alzahrani et al., 2024; Qin et al., 2025). A rigorous synthesis that consolidates the fragmented evidence, clarifies the forms of teacher leadership, and links them to a multidimensional conception of engagement is therefore both timely and necessary. Such a synthesis can inform curriculum leadership, guide professional learning, and set a coherent agenda for future research. For the purposes of this review, 'teacher leadership' is operationalised as the repertoire of interpersonal, motivational, and instructional behaviours through which a PE teacher organises learning, communicates expectations, and structures the motivational climate-encompassing transformational leadership (measured by

instruments such as the Transformational Teaching Questionnaire and the Leadership Scale for Sport), need-supportive versus controlling behaviour (measured within Self-Determination Theory frameworks via student-perceived need-support and behavioural observation), and instructional leadership enacted through student-centred pedagogical models. 'Student engagement' is defined as a multidimensional construct comprising behavioural participation (on-task behaviour, effort, moderate-to-vigorous physical activity), emotional engagement (enjoyment, satisfaction, affect), and cognitive engagement (autonomous motivation, valuing of PE, self-determined regulation)-consistent with the tripartite framework advanced by Fredricks, Blumenfeld, and Paris (2004). This operational clarity is essential to differentiate leadership from general teacher effectiveness, and engagement from motivation, which this review treats as an engagement antecedent rather than an equivalent. Prior secondary work has addressed single leadership constructs or single engagement outcomes; the present review integrates multiple forms and all three engagement dimensions within a PRISMA-compliant synthesis covering K–12 PE settings from 2016 to 2025.

Accordingly, this systematic literature review is guided by the following research questions:
**RQ1**: What forms of teacher leadership have been implemented by physical education teachers to enhance student engagement in school physical education?
**RQ2**: How does physical education teacher leadership influence students' behavioural, emotional, and cognitive engagement in physical education classes?
By addressing these questions through a transparent PRISMA 2020 procedure, the review contributes an integrated framework of PE teacher-leadership forms and their engagement outcomes, and identifies the methodological and contextual priorities that should shape the next generation of studies.

## Method

### Research Design and Framework

This study adopted a systematic literature review (SLR) design, an approach chosen for its capacity to identify, appraise, and synthesise the available evidence on a defined question in a transparent and reproducible manner (Tranfield et al., 2003; Liberati et al., 2009). The SLR is particularly appropriate for a field such as physical education teacher leadership, where findings are scattered across psychological, pedagogical, and public-health literatures and require systematic consolidation. Reporting followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) statement, which specifies standards for the identification, screening, eligibility assessment, and inclusion of studies, together with transparent flow reporting (Page et al., 2021).

### Search Strategy

Prior to constructing the search string, the review question was decomposed using the PICOS framework (Population, Intervention/Interest, Comparison, Outcome, Study design) to ensure systematic identification of the core search concepts. The Population comprised school students in elementary, middle, and high-school PE classes; the Intervention/Interest was physical education teacher leadership, including instructional, transformational, and autonomy-supportive teacher behaviours; the Comparison encompassed different leadership styles, conventional teaching, or no specific leadership approach where applicable; the Outcome was student engagement in its behavioural, emotional, and cognitive dimensions, together with participation and motivation; and the Study design included experimental, quasi-experimental, observational, cross-sectional, qualitative, and mixed-methods studies. Each PICOS element was translated into a cluster of synonyms that were combined with Boolean operators.

The following search string was executed in Scopus:
TITLE-ABS-KEY(("physical education" OR "PE" OR "physical education teacher*") AND ("teacher leadership" OR leadership OR "instructional leadership" OR "transformational leadership" OR "teacher behavior") AND ("student engagement" OR engagement OR participation OR involvement OR "student motivation"))

Truncation was applied (for example, teacher* to capture teacher, teachers, and teachers') and the field code TITLE-ABS-KEY restricted retrieval to the title, abstract, and keyword fields, balancing sensitivity and precision. The string was piloted and refined iteratively; broad terms such as leadership and engagement were retained alongside more specific phrases to avoid omitting relevant records, after an initial narrower string was found to exclude pertinent pedagogical studies.

### Database and Information Sources

Scopus served as the primary and authoritative bibliographic source because of its broad multidisciplinary coverage of peer-reviewed journals in education, sport science, and health. The search was executed and the

records exported for screening in a single session, yielding 203 records. No supplementary databases were used, a boundary acknowledged among the limitations of the review.

**Eligibility Criteria**

Records were assessed against predefined inclusion and exclusion criteria, summarised in Table 1. Studies were eligible if they were English-language journal articles published between 2016 and 2025, reported original findings on physical education teacher leadership or motivating teacher behaviour, and examined student engagement, participation, or motivation as an outcome.

**Table 1.** Inclusion and exclusion criteria applied during study selection.

| Criterion | Inclusion | Exclusion |
|---|---|---|
| Language | English | Non-English |
| Document type | Journal article (original study) | Conference paper, book chapter, editorial, review |
| Publication period | 2016–2025 | Before 2016 |
| Source type | Peer-reviewed journal; final publication stage | Non-journal; in-press or preprint |
| Population/setting | School students in PE (elementary, middle, high school) | Higher-education, clinical, or workplace populations |
| Focus | PE teacher leadership or motivating teacher behaviour | No leadership/teacher-behaviour focus |
| Outcome | Student engagement, participation, or motivation | Outcome unrelated to engagement/motivation |
| Accessibility | Full text available (open access) | Abstract only / not retrievable |

**Study Selection Process**

Study selection proceeded in sequential stages consistent with PRISMA 2020. Following the removal of duplicate records, titles and abstracts were screened against the eligibility criteria, and records that were clearly irrelevant were excluded. The full texts of the remaining reports were then assessed in detail for eligibility. Screening was conducted independently, and disagreements about borderline records were resolved through discussion until consensus was reached. The exact number of records at each stage is reported in the Results and depicted in the PRISMA flow diagram (Figure 1). Inter-rater agreement for title and abstract screening was assessed using Cohen's kappa and yielded $\kappa = 0.84$, indicating strong reliability. For full-text eligibility assessment, kappa was $\kappa = 0.89$. These values exceed the threshold of $\kappa \geq 0.80$ established a priori as satisfactory, consistent with the benchmarks of Landis and Koch (1977). All disagreements were resolved through discussion with reference to the written eligibility criteria in Table 1.

**Quality Assessment**

Methodological quality was appraised independently from the search strategy. Rather than applying a single instrument to all studies, each included study was first classified by its research design, and the most appropriate validated critical appraisal tool was then selected. Randomised trials were appraised with the Cochrane Risk of Bias 2 tool (Sterne et al., 2019); non-randomised intervention and quasi-experimental studies with the ROBINS-I tool (Sterne et al., 2016) or the Joanna Briggs Institute (JBI) quasi-experimental checklist (Aromataris & Munn, 2020); cross-sectional and cohort studies with the corresponding JBI checklists (Aromataris & Munn, 2020); qualitative studies with the Critical Appraisal Skills Programme checklist (CASP, 2018); and mixed-methods studies with the Mixed Methods Appraisal Tool (Hong et al., 2018). Each study was assessed against every criterion of its instrument using the original response categories (Yes, No, Unclear), without converting responses into aggregate cut-off scores, in line with the guidance of the MMAT developers (Hong et al., 2018). Methodological strengths and limitations were carried into the synthesis so that findings from studies with greater concerns were interpreted more cautiously. Appraisal was performed by two reviewers, with disagreements resolved by discussion; inter-rater agreement was quantified with Cohen's kappa and interpreted following Landis and Koch (1977). A summary of the appraisal is presented in the Results (Table 4).

**Data Extraction Procedure**

A standardised extraction form was used to capture, for each included study, the authors and year, country or context where reported, research design, sample, the leadership form or teacher-behaviour construct examined, the engagement or motivation outcomes assessed, and the key findings. Extracted data were tabulated to support both the descriptive characterisation of the evidence base and the thematic synthesis.

**Bibliometric Characterisation**

To characterise the evidence base descriptively, the included records were profiled by year of publication and by research design, and the keyword and thematic content of the corpus was examined to derive the leadership categories used in the synthesis. These descriptive analyses complement, rather than replace, the qualitative synthesis of findings.

### Data Analysis and Synthesis

Findings were integrated using thematic synthesis (Thomas & Harden, 2008), an approach well suited to combining quantitative and qualitative evidence around a common set of analytic themes. Free codes were generated from the findings of each study, grouped into descriptive themes reflecting recurring leadership forms and engagement outcomes, and organised into analytic themes aligned with the two research questions. Themes were reviewed against the primary studies to ensure fidelity, and discrepancies in interpretation were resolved through discussion.

### Reporting and Documentation

The review was conducted and reported in accordance with the PRISMA 2020 statement to maximise transparency and reproducibility (Page et al., 2021). The flow of records through identification, screening, eligibility, and inclusion is documented in Figure 1, and all reported counts are numerically consistent across the abstract, methods, and result.

## Results and Discussions

### Study Selection Results

The Scopus search identified 203 records. After 15 duplicate records were removed, 188 records were screened by title and abstract, of which 135 were excluded as clearly irrelevant to physical education teacher leadership or student engagement. The full texts of 53 reports were sought and assessed for eligibility, and 36 were excluded with reasons: 18 did not focus on PE teacher leadership or motivating teacher behaviour, 10 examined outcomes unrelated to student engagement or motivation, 5 involved ineligible populations or settings such as higher-education, clinical, or workplace contexts, and 3 were reviews or other secondary studies. Seventeen studies met all criteria and were included in the synthesis. The complete flow is depicted in Figure 1, which was prepared following the PRISMA 2020 statement (Page et al., 2021).

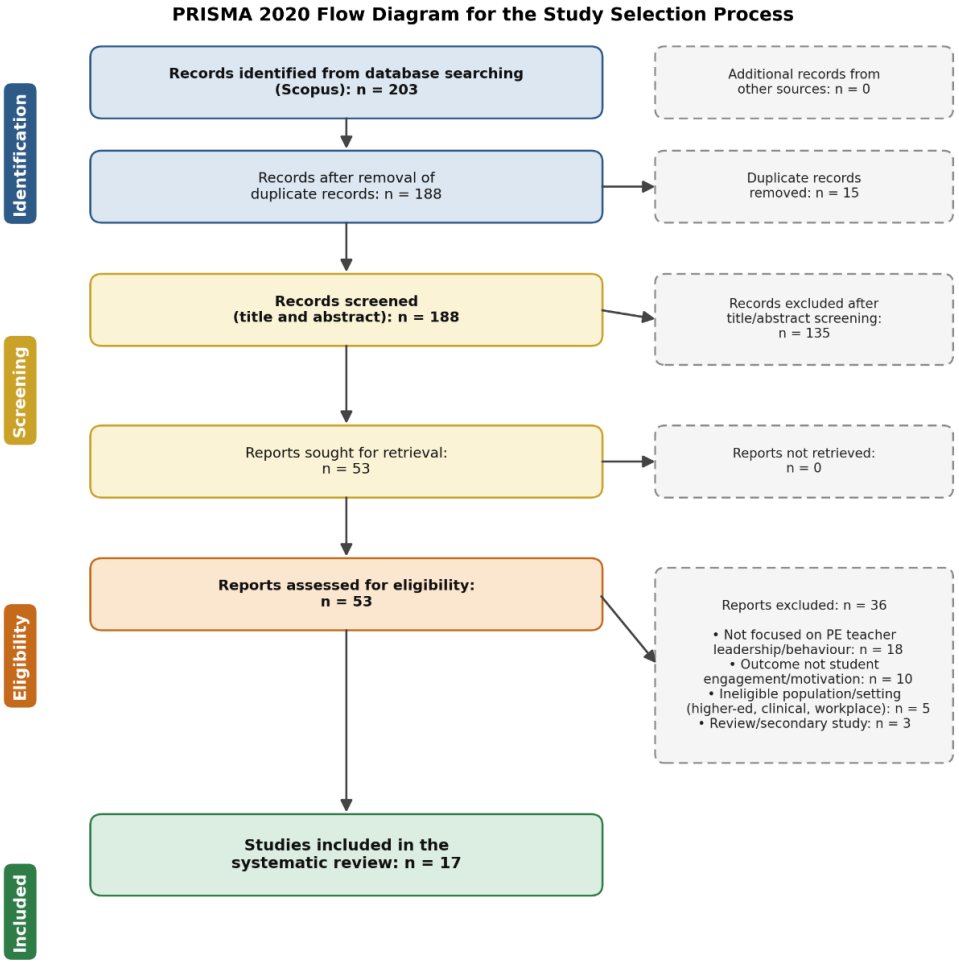


**Figure 1.** PRISMA 2020 flow diagram of the study identification, screening, eligibility, and inclusion process (Page et al., 2021).

**Descriptive Characteristics of the Included Studies**

The 17 included studies were published between 2017 and 2025, with a clear concentration in the most recent years and a peak in 2025, reflecting intensifying scholarly attention to teacher leadership and engagement in PE (Figure 2). The evidence base is methodologically diverse (Figure 3): cross-sectional and observational designs predominate, complemented by quasi-experimental studies, longitudinal surveys, experimental trials including a cluster randomised controlled trial, mixed-methods evaluations, and one qualitative study. Sample sizes ranged from small classroom-based studies to large multi-school surveys exceeding one thousand participants. Full bibliographic and substantive details of each study are presented in Table 2.

Table 2. Summary of the included studies (n = 17).

| Title | Author(s) | Year | Country | Method | Key findings |
|---|---|---|---|---|---|
| Leadership Styles in Physical Education: A Longitudinal Study on Students' Perceptions and Preferences | Solera-Alfonso et al. | 2025 | Not reported | Longitudinal survey (2 time points), LSS-1/LSS-2 questionnaires | Students preferred leadership emphasising social support and positive feedback; perceived-preferred congruence was linked to satisfaction, with significant gender and academic-level differences and broadly stable perceptions over 12 months. |
| Teachers' perception of classes' engagement, observed motivating teaching practices, and students' motivation: A mediation analysis | André et al. | 2023 | Not reported | Cross-sectional, observation of practices + student survey; mediation analysis | Teachers' perception of class engagement predicted students' self-determined motivation, and this relation was fully mediated by teachers' need-supportive behaviours. |
| Effectiveness of a lesson study intervention on teacher behaviour and student motivation in physical education lessons | Borghouts et al. | 2023 | Not reported | Quasi-experimental continuing professional development (CPD) intervention | A lesson-study follow-up to a workshop enhanced motivating teacher behaviour and aspects of the student-perceived motivational climate and motivation, beyond the workshop alone. |
| An internet-supported school physical activity intervention in low socioeconomic status communities: Results from the Activity and Motivation in Physical Education (AMPED) cluster randomised controlled trial | Lonsdale et al. | 2019 | Australia | Two-arm cluster randomised controlled trial | A blended teacher professional-learning intervention (AMPED) increased the proportion of lesson time students spent in moderate-to-vigorous activity and improved motivational outcomes in low-SES schools. |
| Predicting Changes in Physical Education Teachers' Behaviors Promoting Physical Activity During the COVID-19 Pandemic Using an Integrated Motivational Model | Maltagliati et al. | 2023 | Italy and France | Cross-sectional survey; path analysis | Increases in teachers' autonomous motivation, self-efficacy, and perceived usefulness of digital tools predicted stronger intention and behaviours promoting students' physical activity during the COVID-19 pandemic. |
| Promoting a more empowering motivational climate in physical education: a mixed-methods study on the impact of a theory-based professional development programme | Milton et al. | 2025 | Not reported | Mixed-methods longitudinal professional-development study | An empowering-climate professional-development programme improved teachers' understanding and use of motivational strategies and perceived pupil engagement, although quantitative change in climate and motivation was non-significant. |

| Title | Author(s) | Year | Country | Method | Key findings |
|---|---|---|---|---|---|
| Transformational teaching, self-presentation motives, and identity in adolescent female physical education | Verma et al. | 2019 | United Kingdom | Longitudinal survey (2 time points); mediation | Perceived transformational teaching predicted adolescent girls' moderate-to-vigorous activity through self-presentation motives and physical-activity identity, with PE class engagement modelled as a linked construct. |
| Fifth-graders' social interactions in a student-designed games unit | Vidoni & André | 2019 | Not reported | Qualitative case study; field notes and interviews; inductive analysis | Within student-designed games, student leaders who adopted a democratic approach motivated peers' engagement and created opportunities for compromise, illustrating how democratic leadership fosters participation. |
| Engagement in Transformational Leadership by Teachers Influences the Levels of Self-Esteem, Motor Self-Efficacy, Enjoyment, and Intention to Be Active in Physical Education Students | Sánchez-García et al. | 2024 | Spain | Cross-sectional; correlational, comparative, and predictive design | Transformational teacher leadership correlated with and predicted adolescents' self-esteem, motor self-efficacy, enjoyment, and intention to be active; inspirational motivation and intellectual stimulation were the strongest predictors. |
| Perceived teachers' behavior and students' engagement in physical education: the mediating role of basic psychological needs and self-determined motivation | Leo et al. | 2022 | Spain | Cross-sectional; multilevel path model | Need-supportive teaching related positively to physical-activity engagement and intentions via need satisfaction and autonomous motivation, whereas need-thwarting teaching related negatively via need frustration and amotivation. |
| Effects of physical education teachers' leadership styles and classroom climate on learning motivation for basketball course | Jiang & Jia | 2018 | China | Cross-sectional survey; multiple stepwise regression | Charismatic, individualised, and intellectually stimulating leadership, together with a supportive classroom climate, positively predicted autonomous motivation, while laissez-faire and passive management-by-exception predicted non-autonomous motivation. |
| Impact of a hybrid TGfU-Sport Education unit on student motivation in physical education | Gil-Arias et al. | 2017 | Not reported | Experimental crossover intervention (counterbalanced) | A hybrid Teaching Games for Understanding–Sport Education unit improved students' autonomous motivation, basic-need satisfaction, enjoyment, and intention to be active relative to direct instruction. |
| Middle and Elementary School Students' Changes in Self-Determined Motivation in a Basketball Unit Taught using the Tactical Games Model | Harvey et al. | 2017 | United States | Quasi-experimental pre–post; systematic observation | A Tactical Games Model basketball unit produced changes in need satisfaction and self-determined motivation that differed by school level, linking game-centred teaching to motivation and engagement. |
| Motivational profiles of high school physical education students: The | Hernández et al. | 2019 | Not reported | Cross-sectional; cluster and multivariate analysis | A 'less self-determined' motivational profile was associated with perceived |

| Title | Author(s) | Year | Country | Method | Key findings |
|---|---|---|---|---|---|
| role of controlling teacher behavior | | | | | controlling teacher behaviour, external regulation, and amotivation, whereas a 'self-determined' profile showed need satisfaction and stronger activity intentions. |
| The Effect of Education Model in Physical Education on Student Learning Behavior | Chu et al. | 2022 | Not reported | Quasi-experimental; pre–post with comparison group | The Sport Education model improved college students' learning motivation, affect, cognition, and behaviour more than traditional teaching, indicating strong receptivity to student-centred instruction. |
| Hybridisation of the teaching personal and social responsibility model and gamification in physical education | Valero-Valenzuela et al. | 2020 | Spain | Mixed-methods intervention; systematic observation + questionnaires | Hybridising the Teaching Personal and Social Responsibility model with gamification increased the teacher's assignment of autonomy and responsibility and students' self-determined motivation. |
| Do observed teaching behaviors relate to students' engagement in physical education? | González-Peño et al. | 2021 | Not reported | Observational cross-sectional; systematic observation; stepwise regression | Structure during activity and relatedness support positively predicted student engagement, whereas controlling behaviour and pre-activity structure predicted it negatively, with teaching behaviours explaining 39% of engagement variance. |

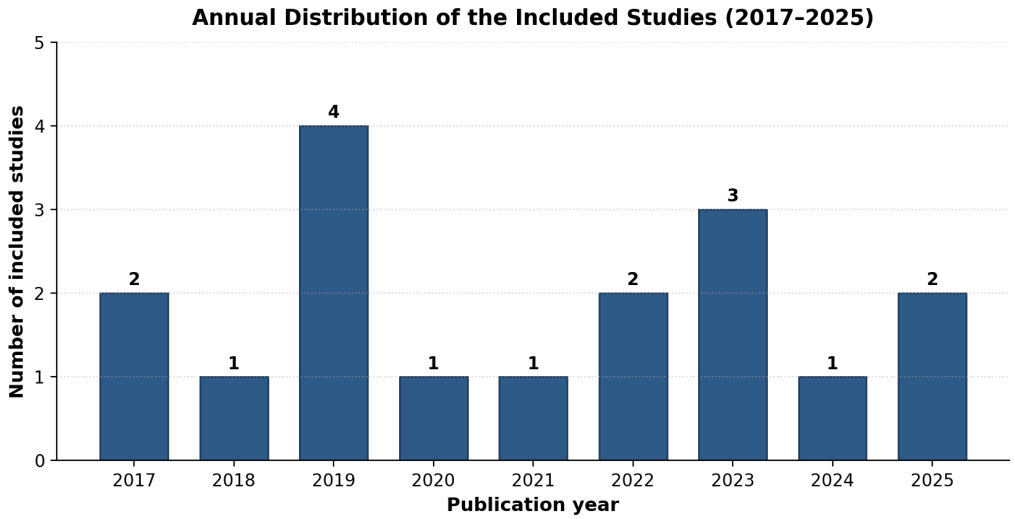


**Figure 2.** Annual distribution of the included studies (2017–2025).

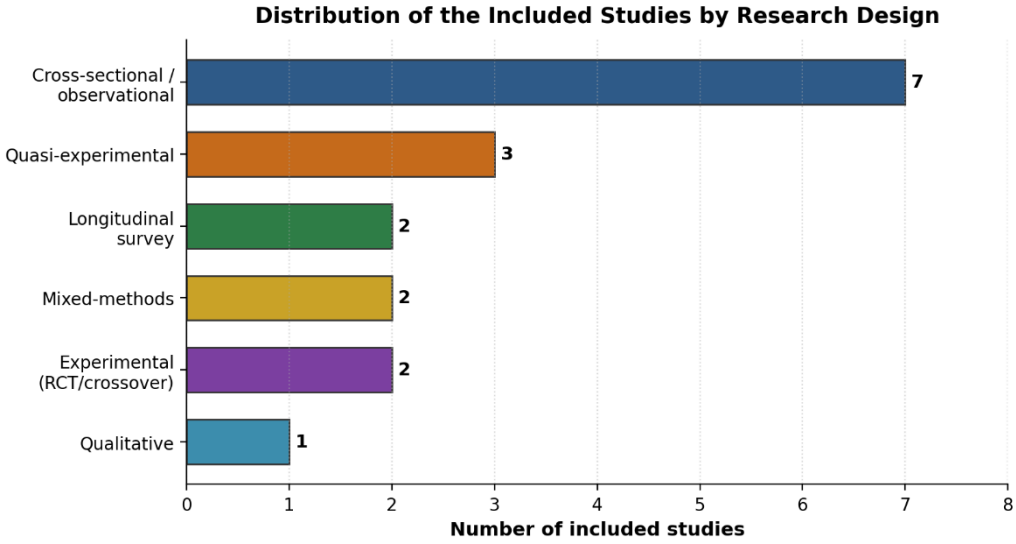


**Figure 3.** Distribution of the included studies by research design.

Table 3 classifies each study by research design, the leadership form or teacher-behaviour construct examined, the intervention or approach, and the engagement-related outcome, providing the analytic basis for the thematic synthesis that follows.

**Table 3.** Classification of the included studies by design, leadership form, approach, and outcome.

| Author(s) | Year | Country | Research design | Theme / leadership form | Approach / intervention | Outcome |
|---|---|---|---|---|---|---|
| Solera-Alfonso et al. | 2025 | Not reported | Longitudinal survey | Transformational & multidimensional leadership styles | Multidimensional leadership model (LSS) | Perceptions/preferences, satisfaction |
| André et al. | 2023 | Not reported | Cross-sectional (mediation) | Autonomy-supportive vs. controlling teacher behaviours | Need-supportive teaching (SDT) | Self-determined motivation |
| Borghouts et al. | 2023 | Not reported | Quasi-experimental | Professional development to build motivating leadership | Lesson study CPD (AGT/SDT) | Motivating behaviour; student motivation |
| Lonsdale et al. | 2019 | Australia | Experimental (RCT) | Professional development to build motivating leadership | AMPED teacher professional learning | MVPA; motivation |
| Maltagliati et al. | 2023 | Italy and France | Cross-sectional survey | Autonomy-supportive vs. controlling teacher behaviours | Integrated motivational model of teacher behaviour | Behaviours promoting activity |
| Milton et al. | 2025 | Not reported | Mixed-methods (intervention) | Professional development to build motivating leadership | Empowering PE professional development (AGT/SDT) | Pupil engagement; motivation |
| Verma et al. | 2019 | United Kingdom | Longitudinal survey | Transformational & multidimensional leadership styles | Transformational teaching | MVPA; engagement; identity |
| Vidoni & André | 2019 | Not reported | Qualitative | Instructional leadership via student-centred | Student-designed games | Engagement; social interaction |

| Author(s) | Year | Country | Research design | Theme / leadership form | Approach / intervention | Outcome |
|---|---|---|---|---|---|---|
| | | | | pedagogical models | | |
| Sánchez-García et al. | 2024 | Spain | Cross-sectional (correlational) | Transformational & multidimensional leadership styles | Transformational teaching (TTQ) | Self-esteem; enjoyment; intention |
| Leo et al. | 2022 | Spain | Cross-sectional (multilevel) | Autonomy-supportive vs. controlling teacher behaviours | Need-supportive vs. need-thwarting teaching | Engagement; intentions |
| Jiang & Jia | 2018 | China | Cross-sectional survey | Transformational & multidimensional leadership styles | Leadership-style and classroom-climate scales | Learning motivation |
| Gil-Arias et al. | 2017 | Not reported | Experimental (crossover) | Instructional leadership via student-centred pedagogical models | Hybrid TGfU–Sport Education | Autonomous motivation; enjoyment |
| Harvey et al. | 2017 | United States | Quasi-experimental (pre–post) | Instructional leadership via student-centred pedagogical models | Tactical Games Model (game-centred) | Self-determined motivation |
| Hernández et al. | 2019 | Not reported | Cross-sectional | Autonomy-supportive vs. controlling teacher behaviours | Controlling teacher behaviour (SDT) | Motivational profiles |
| Chu et al. | 2022 | Not reported | Quasi-experimental | Instructional leadership via student-centred pedagogical models | Sport Education model | Learning motivation; behaviour |
| Valero-Valenzuela et al. | 2020 | Spain | Mixed-methods (intervention) | Instructional leadership via student-centred pedagogical models | TPSR + gamification | Self-determined motivation |
| González-Peño et al. | 2021 | Not reported | Observational (cross-sectional) | Autonomy-supportive vs. controlling teacher behaviours | Observed need-supportive/controlling behaviours | Student engagement |

**Methodological Quality of the Included Studies**

The appraisal indicated that the evidence base was of moderate-to-high methodological quality overall. Correlational and observational studies were generally clear in their measurement and analysis but limited by cross-sectional designs that preclude causal inference; intervention studies varied in the rigour of their comparison conditions, with the cluster randomised trial providing the strongest causal evidence; and the qualitative and mixed-methods studies were transparent about context but drew on small samples. Table 4 summarises the design-specific appraisal for each study. Consistent with the guidance of the instrument developers, appraisal outcomes informed the cautious interpretation of findings rather than serving as exclusion thresholds (Hong et al., 2018).

**Table 4.** Design-specific methodological quality appraisal of the included studies.

| Author(s), year | Study design | Appraisal tool | Criterion responses | Overall interpretation |
|---|---|---|---|---|
| Solera-Alfonso et al., 2025 | Longitudinal survey | JBI Cohort | Y, Y, Y, U, Y, Y, Y, U, Y, Y, Y | Moderate–High |
| André et al., 2023 | Cross-sectional (mediation) | JBI Cross-Sectional | Y, Y, Y, Y, U, Y, Y, Y | High |
| Borghouts et al., 2023 | Quasi-experimental | JBI Quasi-Experimental | Y, Y, Y, N, U, Y, Y, Y, Y | Moderate |
| Lonsdale et al., 2019 | Experimental (RCT) | Cochrane RoB 2 | Low, Some, Low, Low, Low | Low risk of bias |
| Maltagliati et al., 2023 | Cross-sectional survey | JBI Cross-Sectional | Y, Y, Y, Y, U, Y, Y, Y | High |
| Milton et al., 2025 | Mixed-methods (intervention) | MMAT 2018 | Y, Y, Y, Y, Y | High |
| Verma et al., 2019 | Longitudinal survey | JBI Cohort | Y, Y, Y, U, Y, Y, Y, U, Y, Y, Y | Moderate–High |
| Vidoni & André, 2019 | Qualitative | CASP Qualitative | Y, Y, Y, Y, U, Y, Y, Y, Y | Moderate–High |
| Sánchez-García et al., 2024 | Cross-sectional (correlational) | JBI Cross-Sectional | Y, Y, Y, Y, U, Y, Y, Y | High |
| Leo et al., 2022 | Cross-sectional (multilevel) | JBI Cross-Sectional | Y, Y, Y, Y, U, Y, Y, Y | High |
| Jiang & Jia, 2018 | Cross-sectional survey | JBI Cross-Sectional | Y, Y, Y, Y, U, Y, Y, Y | High |
| Gil-Arias et al., 2017 | Experimental (crossover) | Cochrane RoB 2 | Low, Some, Low, Low, Low | Low risk of bias |
| Harvey et al., 2017 | Quasi-experimental (pre–post) | JBI Quasi-Experimental | Y, Y, Y, N, U, Y, Y, Y, Y | Moderate |
| Hernández et al., 2019 | Cross-sectional | JBI Cross-Sectional | Y, Y, Y, Y, U, Y, Y, Y | High |
| Chu et al., 2022 | Quasi-experimental | JBI Quasi-Experimental | Y, Y, Y, N, U, Y, Y, Y, Y | Moderate |
| Valero-Valenzuela et al., 2020 | Mixed-methods (intervention) | MMAT 2018 | Y, Y, Y, Y, Y | High |
| González-Peño et al., 2021 | Observational (cross-sectional) | JBI Cross-Sectional | Y, Y, Y, Y, U, Y, Y, Y | High |

*Note. Criterion responses are the reviewers' appraisal against each item of the selected instrument (Y = yes; N = no; U = unclear; for RoB 2, domain-level risk). Responses are reported rather than aggregated into a single exclusion score (Hong et al., 2018; Landis & Koch, 1977).*

**Thematic Synthesis**

Thematic synthesis of the 17 studies generated four leadership forms enacted by PE teachers: transformational and multidimensional leadership styles; autonomy-supportive versus controlling teacher behaviours; instructional leadership enacted through student-centred pedagogical models; and continuing professional development to build motivating leadership. Their distribution across the corpus is shown in Figure 4. These forms provide the answer to RQ1 and the organising structure for interpreting engagement outcomes under RQ2.

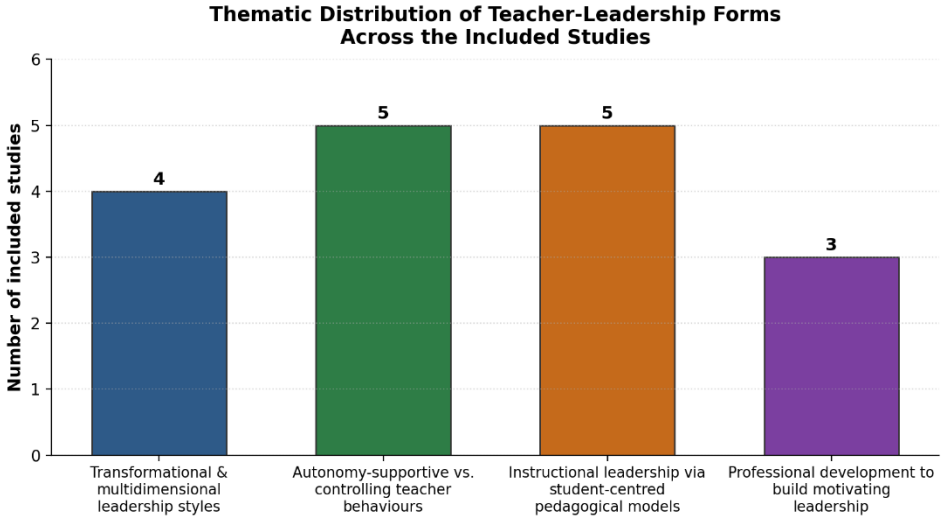


**Figure 4.** Thematic distribution of teacher-leadership forms across the included studies.

**Forms of Physical Education Teacher Leadership (RQ1)**

The first and most explicit form is transformational and multidimensional leadership. Several studies operationalised leadership through validated instruments capturing dimensions such as training and instruction, democratic and autocratic behaviour, social support, and positive feedback (Solera-Alfonso et al., 2025), or through transformational components including inspirational motivation, intellectual stimulation, and individualised consideration (Sánchez-García et al., 2024a; Verma et al., 2019). Where these dimensions were examined alongside classroom climate, charismatic, individualised, and intellectually stimulating leadership emerged as the styles most consistently associated with adaptive student outcomes, whereas laissez-faire and passive management-by-exception were linked to less autonomous forms of motivation (Jiang & Jia, 2018). Across these studies, leadership is portrayed not as a single trait but as a repertoire of behaviours that students perceive, prefer, and respond to differentially according to gender, maturity, and prior sport experience.

The second form concerns the interpersonal quality of teacher behaviour, framed within self-determination theory as a continuum from autonomy-supportive and need-supportive to controlling and need-thwarting practice (André et al., 2023; Leo et al., 2022). Studies in this cluster treated leadership less as a named style than as the moment-to-moment provision of structure, autonomy support, and relatedness. Observational work identified specific behaviours, such as providing structure during activity and supporting relatedness, that predicted engagement, alongside controlling behaviours that suppressed it (González-Peño et al., 2021). Related studies showed that teachers' own motivation and self-efficacy shape whether they enact these supportive behaviours, particularly under demanding conditions (Maltagliati et al., 2023), and that controlling behaviour is embedded within a distinct, less self-determined student motivational profile (Hernández et al., 2019).

The third form is instructional leadership exercised through student-centred pedagogical models. Here teachers lead by designing learning environments, hybrid Teaching Games for Understanding and Sport Education units, the Tactical Games Model, the Sport Education model, the Teaching Personal and Social Responsibility model, and student-designed games, that redistribute responsibility and decision-making to students (Gil-Arias et al., 2017; Harvey et al., 2017; Chu et al., 2022; Valero-Valenzuela et al., 2020; Vidoni & André, 2019). In these studies the teacher's leadership is enacted through the choice and orchestration of the model, and student engagement arises from the autonomy, meaningful roles, and social interaction that the model affords. Notably, one qualitative study showed that leadership can also be devolved to students, whose democratic peer-leadership itself motivated engagement (Vidoni & André, 2019).

The fourth form addresses how motivating leadership is developed rather than merely described. Three studies evaluated professional-development approaches, ranging from lesson study to empowering-climate programmes and blended teacher professional learning, intended to strengthen teachers' motivating behaviours (Borghouts et al., 2023; Milton et al., 2025; Lonsdale et al., 2019). These studies position teacher leadership as a learnable and improvable capacity, and they connect leadership development to changes in classroom behaviour and, in the strongest design, to increased in-class activity. Together, the four forms answer RQ1: PE teachers enhance engagement through transformational and multidimensional styles, need-supportive interpersonal behaviour, model-based instructional leadership, and the professional development that cultivates these practices.

**Influence on Students' Behavioural, Emotional, and Cognitive Engagement (RQ2)**

Behavioural engagement, expressed as participation, effort, time-on-task, and activity intensity, was the most frequently reported outcome. Need-supportive teaching and structure predicted observable engagement in lessons (González-Peño et al., 2021; Leo et al., 2022), transformational teaching predicted adolescent girls' moderate-to-vigorous activity through identity and self-presentation pathways (Verma et al., 2019), and blended teacher professional learning increased the proportion of lesson time spent in vigorous activity (Lonsdale et al., 2019). Student-centred models similarly translated instructional leadership into behavioural involvement and intention to be active (Gil-Arias et al., 2017; Chu et al., 2022). Across these studies, the behavioural dimension of engagement was most reliably moved when leadership provided both autonomy and clear structure.

Emotional engagement, encompassing enjoyment, satisfaction, and affect, was closely tied to the relational and inspirational qualities of leadership. Transformational leadership predicted enjoyment, self-esteem, and motor self-efficacy (Sánchez-García et al., 2024a), congruence between perceived and preferred leadership was associated with satisfaction (Solera-Alfonso et al., 2025), and model-based teaching enhanced students' affect and enjoyment relative to direct instruction (Gil-Arias et al., 2017; Chu et al., 2022). Cognitive engagement, reflected in self-determined and autonomous motivation, valuing of activity, and learning-oriented regulation, was consistently supported by need-supportive and transformational leadership and undermined by controlling behaviour (André et al., 2023; Jiang & Jia, 2018; Hernández et al., 2019; Valero-Valenzuela et al., 2020). A recurring pattern is that the three dimensions are interdependent: leadership that satisfies psychological needs tends to elevate emotional and cognitive engagement, which in turn sustain behavioural participation, answering RQ2 by showing that PE teacher leadership operates on engagement as an integrated, multidimensional construct.

**Comparative and Critical Analysis**

Comparing methods across the corpus reveals both strengths and structural weaknesses. The field is dominated by cross-sectional and correlational designs that establish association but not causation, and self-report instruments are the norm, raising the possibility of shared-method variance. A smaller set of intervention studies, culminating in a cluster randomised controlled trial, provides stronger causal warrant, and a growing number of observational and mixed-methods studies add ecological validity by coding real lessons. Over time, the literature has evolved from describing leadership styles toward testing mediational mechanisms, most often through self-determination and achievement-goal frameworks, and from single-outcome studies toward integrated models linking leadership, psychological needs, motivation, and engagement. Nevertheless, longitudinal designs remain rare, engagement is measured inconsistently, and the transformational-leadership and self-determination traditions are seldom integrated within a single study, limiting cumulative theory building.

Interpreted as a whole, the evidence indicates that PE teacher leadership is a robust correlate, and in experimental studies a probable cause, of student engagement. The consistency of findings across diverse designs and settings suggests that the mechanism is not tied to a single leadership label but to the underlying quality of the learning climate the teacher creates: leadership that is inspirational, need-supportive, and structured tends to engage students, whereas controlling and disengaged leadership does not. This convergence lends theoretical coherence to a literature that has developed in parallel streams.

Theoretically, the synthesis extends self-determination and transformational-leadership frameworks by showing that their behavioural markers overlap in practice: inspirational and individually considerate teaching functions, in effect, as need-supportive teaching, and both operate through the satisfaction of competence, autonomy, and relatedness (Sánchez-García et al., 2024a; Leo et al., 2022; André et al., 2023). The findings also resonate with evidence from adjacent domains, where transformational and authentic leadership relate to engagement through psychological empowerment (Abdulrab et al., 2025; Towsen et al., 2020), and where coach leadership behaviours shape participant outcomes (Yenen et al., 2023), suggesting a generalisable leadership-to-engagement pathway that PE research can both draw on and inform.

Practically, the results offer actionable guidance. Teacher-education and professional-development programmes should cultivate the specific behaviours, structure, autonomy support, relatedness, and inspirational communication, that the evidence links to engagement, and should do so through sustained, collaborative formats rather than one-off workshops (Borghouts et al., 2023; Milton et al., 2025; Lonsdale et al., 2019). School and curriculum leaders can support this by legitimising student-centred pedagogical models and by building the organisational conditions for their implementation (Carson et al., 2020; Ha et al., 2025). Policymakers investing in PE reform and physical-activity strategy should treat teacher leadership as a lever for quality, not merely as a matter of curriculum content or facilities (Burnett, 2020; Alzahrani et al., 2024; Qin et al., 2025).

Situating these findings relative to prior secondary work, this review both corroborates and extends earlier syntheses. A previous systematic review of transformational teacher leadership and adolescents' optimal experiences reported comparable associations but focused on a single leadership construct (Sánchez-García et al., 2024b); the present review integrates multiple leadership forms and a multidimensional conception of engagement. At the same time, contradictions in the literature warrant attention. Some studies report null or non-significant change in motivational climate despite perceived benefits (Milton et al., 2025), and unexpected predictors, such as certain forms of structure or even cold teaching, occasionally emerge (González-Peño et al., 2021), indicating that the leadership-engagement relationship is contingent on context, dosage, and measurement rather than uniform.

Several research gaps follow. First, the near-absence of longitudinal and adequately powered experimental designs leaves causal claims underdetermined (Solera-Alfonso et al., 2025). Second, the inconsistent operationalisation of engagement, sometimes as motivation, sometimes as behaviour or affect, impedes meta-analytic accumulation and should be resolved through validated multidimensional measures. Third, the evidence is geographically and developmentally uneven, with limited representation from many regions and school levels and a bias toward contexts where studies were most often conducted (Vaquero-Cristóbal et al., 2024; Nolte & Roux, 2023; Robinson et al., 2023). Broader participation, including students with disabilities and diverse cultural settings, is needed for generalisable conclusions.

This review has limitations. Reliance on a single database (Scopus) and on English-language, open-access journal articles may have excluded relevant evidence and introduced selection and language bias. The restriction to the 2016–2025 window, while appropriate for capturing contemporary practice, excludes earlier foundational work. Finally, because most included studies were correlational and country or context was not always reported in the source records, the synthesis emphasises patterns of association and cannot establish definitive causal magnitudes.

Future research should therefore prioritise longitudinal and cluster-randomised designs that track engagement over time; adopt standardised, multidimensional engagement measures that distinguish behavioural, emotional, and cognitive components; and deliberately integrate transformational-leadership and self-determination frameworks within single studies (Sánchez-García et al., 2024a; Leo et al., 2022). Investment in scalable, sustained professional development with embedded outcome measurement is also warranted (Lubans et al., 2022; Carrad et al., 2021; McLoughlin et al., 2020). In summary, RQ1 is answered by four identifiable leadership forms, transformational and multidimensional styles, autonomy-supportive behaviour, model-based instructional leadership, and leadership-building professional development, and RQ2 is answered by the finding that these forms enhance the behavioural, emotional, and cognitive dimensions of engagement in an interdependent manner, chiefly by satisfying students' basic psychological needs.

## Conclusions

This systematic review of 17 studies establishes that physical education teacher leadership is a consistent correlate, and in the strongest designs a likely cause, of student engagement. In answer to RQ1, PE teachers enhance engagement through four leadership forms: transformational and multidimensional styles, autonomy-supportive interpersonal behaviour, instructional leadership enacted through student-centred pedagogical models, and the professional development that cultivates these practices. In answer to RQ2, these forms strengthen the behavioural, emotional, and cognitive dimensions of engagement in an interdependent way, principally by satisfying students' needs for competence, autonomy, and relatedness. The review's core contribution is to integrate previously separate leadership and motivational traditions into a single framework linking leadership forms to multidimensional engagement, offering practical direction for teacher education, professional development, and school leadership. Its conclusions are tempered by the predominance of cross-sectional evidence and a single-source search, and it calls for longitudinal, experimental, and cross-cultural research using standardised engagement measures to consolidate and extend these findings.

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## References


Abdulrab, M., Alwaleedi, K.A.T., Al-Mamary, Y.H., Zumrah, A.R., Al-Tahitah, A.N., & Al-Mekhlafi, A.-B.A. (2025). Beyond Leadership: How Transformational Leaders Foster Organizational Citizenship and Engagement through Psychological Empowerment. *Journal of Chinese Human Resources Management*, *16*(1), 119–145. https://doi.org/10.47297/wspchrmWSP2040-800507.20251601

Al-Sayegh, A.M.J., Al Gburi, A.H.A., & Shalakha, F.K. (2019). Evaluation of the performance of sports management according to a standard scale for teachers of physical education in najaf governorate. *Indian Journal of Public Health Research and Development*, *10*(6), 465–470. https://doi.org/10.5958/0976-5506.2019.01317.2

Alatzoglou, A., Athanailidis, I., Laios, A., & Derri, V. (2017). The managerial capacity of physical education teachers - principals: The case of Greece. *Journal of Human Sport and Exercise*, *12*(3), 742–752. https://doi.org/10.14198/jhse.2017.123.18

Alzahrani, A.A., Gelius, P., Bauman, A.E., & Gebel, K. (2024). Physical activity policies in Saudi Arabia and Oman: a qualitative study using stakeholder interviews. *Health Research Policy and Systems*, *22*(1), Article 111. https://doi.org/10.1186/s12961-024-01192-w

André, A., Tessier, D., Louvet, B., & Girard, E. (2023). Teachers' perception of classes' engagement, observed motivating teaching practices, and students' motivation: A mediation analysis. *Social Psychology of Education*, *26*(6), 1527–1542. https://doi.org/10.1007/s11218-023-09805-y

Aromataris, E., & Munn, Z. (Eds.). (2020). *JBI manual for evidence synthesis*. Joanna Briggs Institute. https://doi.org/10.46658/JBIMES-20-01

Borghouts, L., Slingerland, M., Weeldenburg, G., van Dijk-van Eijk, B., Laurijssens, S., Remmers, T., & Haerens, L. (2023). Effectiveness of a lesson study intervention on teacher behaviour and student motivation in physical education lessons. *Physical Education and Sport Pedagogy*, *28*(2), 121–138. https://doi.org/10.1080/17408989.2021.1958175

Burnett, C. (2020). From policy to practice for school sport: Lessons from South Africa. *Journal of Physical Education and Sport*, *20*(4), 1754–1761. https://doi.org/10.7752/jpes.2020.04238

Carrad, A., Parrish, A.-M., & Yeatman, H. (2021). Building public health capacity through organizational change in the sport system: A multiple-case study within Australian gymnastics. *International Journal of Environmental Research and Public Health*, *18*(13), Article 6726. https://doi.org/10.3390/ijerph18136726

Carson, R.L., Kuhn, A.P., Moore, J.B., Castelli, D.M., Beighle, A., Hodgin, K.L., & Dauenhauer, B. (2020). Implementation evaluation of a professional development program for comprehensive school physical activity leaders. *Preventive Medicine Reports*, *19*, Article 101109. https://doi.org/10.1016/j.pmedr.2020.101109

Chu, Y., Chen, C., Wang, G., & Su, F. (2022). The Effect of Education Model in Physical Education on Student Learning Behavior. *Frontiers in Psychology*, *13*, Article 944507. https://doi.org/10.3389/fpsyg.2022.944507

Craig, D.W., Lanza, K., Pfledderer, C.D., Pavlovic, A., Onadeko, K., Heredia, N.I., Injil, J., DeFina, L.F., & Walker, T.J. (2025). Using the R = MC2 heuristic to assess whole-of-school physical activity implementation in elementary schools: a cross-sectional study. *International Journal of Behavioral Nutrition and Physical Activity* , *22*(1), Article 114. https://doi.org/10.1186/s12966-025-01815-7

Critical Appraisal Skills Programme. (2018). *CASP qualitative checklist*. CASP UK. https://casp-uk.net/casp-tools-checklists/

Gil-Arias, A., Harvey, S., Cárceles, A., Práxedes, A., & Del Villar, F. (2017). Impact of a hybrid TGfU-Sport Education unit on student motivation in physical education. *PLoS ONE*, *12*(6), Article e0179876. https://doi.org/10.1371/journal.pone.0179876

González-Peño, A., Franco, E., & Coterón, J. (2021). Do observed teaching behaviors relate to students' engagement in physical education?. *International Journal of Environmental Research and Public Health*, *18*(5), 1–13. https://doi.org/10.3390/ijerph18052234

Ha, A.S.-C., Chan, C.H.S., & Lander, N. (2025). Critical contextual factors of sustainable online teaching: learning the lessons of pandemic times from physical education teachers' and school administrators' perspectives. *Physical Education and Sport Pedagogy*, *30*(4), 416–429. https://doi.org/10.1080/17408989.2023.2232802

Harvey, S., Gil-Arias, A., Smith, M.L., & Smith, L.R. (2017). Middle and Elementary School Students' Changes in Self-Determined Motivation in a Basketball Unit Taught using the Tactical Games Model. *Journal of Human Kinetics*, *59*(1), 39–53. https://doi.org/10.1515/hukin-2017-0146

Hernández, E.H., Moreno-Murcia, J.A., González, L.R., & González, J.L. (2019). Motivational profiles of high school physical education students: The role of controlling teacher behavior. *International Journal of Environmental Research and Public Health*, *16*(10), Article 1714. https://doi.org/10.3390/ijerph16101714

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M.-C., & Vedel, I. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Education for Information, 34*(4), 285–291. https://doi.org/10.3233/EFI-180221

Jiang, Z., & Jia, Z.-R. (2018). Effects of physical education teachers' leadership styles and classroom climate on learning motivation for basketball course. *Eurasia Journal of Mathematics, Science and Technology Education*, *14*(4), 1351–1357. https://doi.org/10.29333/ejmste/81296

Kwon, S., Welch, S., & Mason, M. (2020). Physical education environment and student physical activity levels in low-income communities. *BMC Public Health*, *20*(1), Article 147. https://doi.org/10.1186/s12889-020-8278-8

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*(1), 159–174. https://doi.org/10.2307/2529310

Leo, F.M., Mouratidis, A., Pulido, J.J., López-Gajardo, M.A., & Sánchez-Oliva, D. (2022). Perceived teachers' behavior and students' engagement in physical education: the mediating role of basic psychological needs and self-determined motivation. *Physical Education and Sport Pedagogy*, *27*(1), 59–76. https://doi.org/10.1080/17408989.2020.1850667

Li, Y., & Yu, H. (2024). Assessment of Pedagogical Contributions toward Enhancing Physical Activity within the Secondary School Physical Education Curricula in Southwestern China. *Sustainability (Switzerland)* , *16*(5), Article 1862. https://doi.org/10.3390/su16051862

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions. *PLoS Medicine, 6*(7), Article e1000100. https://doi.org/10.1371/journal.pmed.1000100

Lonsdale, C., Lester, A., Owen, K.B., White, R.L., Peralta, L., Kirwan, M., Diallo, T.M.O., Maeder, A.J., Bennie, A., Macmillan, F., Kolt, G.S., Ntoumanis, N., Gore, J.M., Cerin, E., Cliff, D.P., & Lubans, D.R. (2019). An internet-supported school physical activity intervention in low socioeconomic status communities: Results from the Activity and Motivation in Physical Education (AMPED) cluster randomised controlled trial. *British Journal of Sports Medicine*, *53*(6), 341–347. https://doi.org/10.1136/bjsports-2017-097904

Lubans, D.R., Sanders, T., Noetel, M., Parker, P., McKay, H., Morgan, P., Salmon, J., Kirwan, M., Bennie, A., Peralta, L., Cinelli, R., Moodie, M., Hartwig, T., Boyer, J., Kennedy, S.G., Plotnikoff, R.C., Hansen, V., Vasconcellos, D., Lee, J., Antczak, D., & Lonsdale, C. (2022). Scale-up of the Internet-based Professional Learning to help teachers promote Activity in Youth (iPLAY) intervention: a hybrid type 3 implementation-effectiveness trial. *International Journal of Behavioral Nutrition and Physical Activity*, *19*(1), Article 141. https://doi.org/10.1186/s12966-022-01371-4

Maltagliati, S., Carraro, A., Escriva-Boulley, G., Bertollo, M., Tessier, D., Colangelo, A., Papaioannou, A., di Fronso, S., Cheval, B., Gobbi, E., & Sarrazin, P. (2023). Predicting Changes in Physical Education Teachers' Behaviors Promoting Physical Activity During the COVID-19 Pandemic Using an Integrated Motivational Model. *Journal of Teaching in Physical Education*, *42*(1), 23–33. https://doi.org/10.1123/jtpe.2021-0116

McLoughlin, G.M., Candal, P., Vazou, S., Lee, J.A., Dzewaltowski, D.A., Rosenkranz, R.R., Lanningham-Foster, L., Gentile, D.A., Liechty, L., Chen, S., & Welk, G.J. (2020). Evaluating the implementation of the SWITCH® school wellness intervention and capacity-building process through multiple methods. *International Journal of Behavioral Nutrition and Physical Activity*, *17*(1), Article 162. https://doi.org/10.1186/s12966-020-01070-y

Milton, D., Appleton, P.R., Bryant, A., & Duda, J.L. (2025). Promoting a more empowering motivational climate in physical education: a mixed-methods study on the impact of a theory-based professional development programme. *Frontiers in Psychology*, *16*, Article 1564671. https://doi.org/10.3389/fpsyg.2025.1564671

Nguyen, T.T., Ha Nguyen, L.T., Van Trinh, C., & Duong, T.T. (2025). The role of extracurricular activities in university education: Student engagement and institutional management. *International Journal of Advanced and Applied Sciences*, *12*(8), 129–138. https://doi.org/10.21833/ijaas.2025.08.013

Nolte, P.L., & Roux, C.J. (2023). Judo as a tool to reinforce value-based education in the South African Primary Schools physical education and school sport programmes. *Journal of Physical Education and Sport*, *23*(1), 24–31. https://doi.org/10.7752/jpes.2023.01003

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA

2020 statement: An updated guideline for reporting systematic reviews. *BMJ, 372*, Article n71. https://doi.org/10.1136/bmj.n71

Qin, L., Ho, W.K.Y., Xu, B., & Khoo, S. (2025). Developing a model of quality physical education in the Chinese context: a grounded theory investigation of secondary school physical education teachers' perceptions. *Frontiers in Public Health*, *13*, Article 1569222. https://doi.org/10.3389/fpubh.2025.1569222

Robinson, D.B., Harenberg, S., Walters, W., Barrett, J., Cudmore, A., Fahie, K., & Zakaria, T. (2023). Game Changers: A participatory action research project for/with students with disabilities in school sport settings. *Frontiers in Sports and Active Living*, *5*, Article 1150130. https://doi.org/10.3389/fspor.2023.1150130

Shao, Y., & Basar, A. (2025). Educational leadership and the sustainable development of martial arts education in Chinese secondary schools: evidence from Xiaoshan, Hangzhou. *Frontiers in Education*, *10*, Article 1647058. https://doi.org/10.3389/feduc.2025.1647058

Solera-Alfonso, A., Mijarra-Murillo, J.-J., Marconnot, R., García-González, M., Delfa-de-la-Morena, J.-M., Anglada-Monzón, P., & Ruiz-Barquín, R. (2025). Leadership Styles in Physical Education: A Longitudinal Study on Students' Perceptions and Preferences. *Children*, *12*(9), Article 1139. https://doi.org/10.3390/children12091139

Sterne, J. A. C., Hernán, M. A., Reeves, B. C., Savović, J., Berkman, N. D., Viswanathan, M., Henry, D., Altman, D. G., Ansari, M. T., Boutron, I., Carpenter, J. R., Chan, A.-W., Churchill, R., Deeks, J. J., Hróbjartsson, A., Kirkham, J., Jüni, P., Loke, Y. K., Pigott, T. D., … Higgins, J. P. T. (2016). ROBINS-I: A tool for assessing risk of bias in non-randomised studies of interventions. *BMJ, 355*, Article i4919. https://doi.org/10.1136/bmj.i4919

Sterne, J. A. C., Savović, J., Page, M. J., Elbers, R. G., Blencowe, N. S., Boutron, I., Cates, C. J., Cheng, H.-Y., Corbett, M. S., Eldridge, S. M., Hernán, M. A., Hopewell, S., Hróbjartsson, A., Junqueira, D. R., Jüni, P., Kirkham, J. J., Lasserson, T., Li, T., McAleenan, A., … Higgins, J. P. T. (2019). RoB 2: A revised tool for assessing risk of bias in randomised trials. *BMJ, 366*, Article l4898. https://doi.org/10.1136/bmj.l4898

Sánchez-García, C., Reigal, R.E., Hernández-Martos, J., Hernández-Mendo, A., & Morales-Sánchez, V. (2024a). Engagement in Transformational Leadership by Teachers Influences the Levels of Self-Esteem, Motor Self-Efficacy, Enjoyment, and Intention to Be Active in Physical Education Students. *Sports*, *12*(7), Article 191. https://doi.org/10.3390/sports12070191

Sánchez-García, C., Morales-Sánchez, V., Reigal, R.E., & Hernández-Mendo, A. (2024b). Relationships between Transformational Leadership of the Teacher and Optimal Experiences of Adolescents in Physical Education: A Systematic Review. *Cuadernos de Psicologia del Deporte*, *24*(3), 1–18. https://doi.org/10.6018/cpd.623711

Thakur, T.S., Srivastava, D., & Chanda, M. (2024). Physical Education and Sports for enhancing professional life of engineering students – An initiative towards implementing National Education Policy in Engineering Education. *Journal of Engineering Education Transformations*, *37*(Special Issue 2), 901–907. https://doi.org/10.16920/jeet/2024/v37is2/24138

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology, 8*, Article 45. https://doi.org/10.1186/1471-2288-8-45

Towsen, T., Stander, M.W., & van der Vaart, L. (2020). The Relationship Between Authentic Leadership, Psychological Empowerment, Role Clarity, and Work Engagement: Evidence From South Africa. *Frontiers in Psychology*, *11*, Article 1973. https://doi.org/10.3389/fpsyg.2020.01973

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management, 14*(3), 207–222. https://doi.org/10.1111/1467-8551.00375

Tremblay, M.S., Costas-Bradstreet, C., Barnes, J.D., Bartlett, B., Dampier, D., Lalonde, C., Leidl, R., Longmuir, P., McKee, M., Patton, R., Way, R., & Yessis, J. (2018). Canada's Physical Literacy Consensus Statement: Process and outcome. *BMC Public Health*, *18*, Article 1034. https://doi.org/10.1186/s12889-018-5903-x

Valero-Valenzuela, A., García, D.G., Camerino, O., & Manzano, D. (2020). Hybridisation of the teaching personal and social responsibility model and gamification in physical education. *Apunts. Educacion Fisica y Deportes*, 63–74. https://doi.org/10.5672/APUNTS.2014-0983.ES.(2020/3).141.08

Vaquero-Cristóbal, R., Mateo-Orcajada, A., Dağlı Ekmekçï, Y.A., Pereira, A., Amin, S., Meroño, L., González-Gálvez, N., Ballı, Ö.M., Mendes, F., Mbah, O., Abenza-Cano, L., Leiva-Arcas, A., Doğan, Y.İ., Figueiredo, A., Ponce-Ramírez, C.M., Esparza-Ros, F., & Albaladejo-Saura, M. (2024). Gender equity in sport from the perspective of European women athletes and sport managers, physical education teachers and sport coaches. *Frontiers in Psychology*, *15*, Article 1419578. https://doi.org/10.3389/fpsyg.2024.1419578

Verma, N., Eklund, R.C., Arthur, C.A., Howle, T.C., & Gibson, A.-M. (2019). Transformational teaching, self-presentation motives, and identity in adolescent female physical education. *Journal of Sport and Exercise Psychology*, *41*(1), 1–9. https://doi.org/10.1123/JSEP.2017-0299

Vidoni, C., & André, M. (2019). Fifth-graders' social interactions in a student-designed games unit. *Early Child Development and Care*, *189*(6), 1004–1017. https://doi.org/10.1080/03004430.2017.1360875

Wang, R., & Danaa, G. (2024). Application of Diversified Teaching Strategies in University Physical Education Courses. *Pakistan Journal of Life and Social Sciences*, *22*(2), 8470–8486. https://doi.org/10.57239/PJLSS-2024-22.2.00639

Yenen, E., Atamturk, H., & Atamturk, N. (2023). Exploring leadership behaviors of the coaches of champion teams. *Frontiers in Psychology*, *13*, Article 1091703. https://doi.org/10.3389/fpsyg.2022.1091703