



FINANCIAL CONSTRAINTS AND PHYSICAL EDUCATION: PATHWAYS TO REDUCED QUALITY, ACCESS, AND EFFECTIVENESS IN SCHOOLS AND COLLEGES

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ABSTRACT

Background: Physical education (PE) is central to schooling, but delivery depends on funding. Indian policy — NEP 2020, NCF-SE 2023, and the CBSE curriculum — frames PE as part of holistic development (Ministry of Education, 2020; NCERT, 2023). **Objective:** This synthesis examines how financial constraints affect PE quality, access, and effectiveness. **Methods:** The review draws on peer-reviewed studies and policy documents from UNESCO, WHO, OECD, and India, using a structure-process-outcome framework. Results: Underinvestment produces teacher shortages, weak facilities, and family costs, lowering quality and MVPA, and adding barriers for girls, disabled learners, and lower-income students. Secondary-school MVPA is reported at 40.5% of lesson time, below the 50% benchmark. Conclusion: PE is best protected as a core entitlement with ring-fenced funding and specialist staffing.

KEYWORDS : Financial Constraints; Physical Education; School Funding; Accessibility; Quality; Effectiveness; Educational Equity

INTRODUCTION

Physical education supports fitness, psychosocial development, and lifelong engagement in movement (Bailey, 2006). Quality physical education (QPE) is more than a timetable entry — it requires regularity, diversity, inclusion, and educational value. NEP 2020, NCF-SE 2023, and the CBSE curriculum place health and physical development inside the Indian curriculum (Ministry of Education, 2020; NCERT, 2023; CBSE, 2026).

The policy case for PE is clear, but implementation weakens when budgets tighten. Samagra Shiksha funds sports in Indian schools, and higher-education guidance promotes fitness; yet PE is often among the first areas to lose time, staff, or space during austerity (Department of School Education and Literacy, 2023; Ministry of Education, 2023).

Much of the literature treats PE funding as a single input, yet evidence shows linked pathways between finance and educational experience. Structure (staffing, facilities, equipment), process (organization, feedback, safety), and outcomes (MVPA, motivation, inclusion) can be undermined by financial constraints. Indian evidence mirrors this, with activity gaps shaped by school opportunity and resources (Bhawra et al., 2023; Satija et al., 2018; Shirotriya et al., 2023; Choudhary et al., 2024). This review asks what channels link financial constraints to PE quality, access, and effectiveness.

Conceptual Background

Financial constraints in PE

Financial constraints are long-term restrictions on the availability, timing, and flexibility of resources needed to deliver instruction. In PE, they include inadequate budgets, delayed funds, weak maintenance, equipment shortages, unsafe spaces, or reliance on student payments for uniforms or transport — daily conditions that shape teaching and learning.

Quality physical education as an entitlement

QPE is best understood as a rights-based, inclusive model of PE. UNESCO holds that quality PE needs regularity, diverse activities, inclusive teaching, and educational benefit. Underfunding is thus not merely administrative; it becomes a barrier to learners' right to a safe, meaningful PE experience.

Structure-process-outcome perspective

The structure-process-outcome model clarifies the issue. Structure covers resources — gyms, equipment, teachers, time. Process covers lesson organization, feedback, and safety. Outcome covers skills, participation, motivation, and health. When resources are limited, structure is affected first, then process and outcomes.

Objectives

- To analyze how financial constraints influence the quality of physical education programs in schools and colleges.
- To examine how funding limitations shape access and inclusion in PE and related sport opportunities.

- To evaluate the effect of inadequate resourcing on the effectiveness of PE in achieving educational and health outcomes.
- To identify the main pathways through which resource scarcity operates within PE delivery.
- To suggest policy directions for improving PE financing and programme equity.

Statement of the Problem

Financial constraints limit school and college PE through inadequate facilities, teacher shortages, reduced time, and rising costs, undermining quality, access, and effectiveness. In India, this persists despite NEP 2020, Samagra Shiksha, and CBSE guidance, pointing to a gap between policy and delivery (Ministry of Education, 2020; Department of School Education and Literacy, 2023).

Review Methodology

A narrative synthesis design was used given the heterogeneous scope of available evidence, prioritizing peer-reviewed systematic reviews and empirical studies alongside major international and Indian policy documents on PE funding and access.

Targeted searches of ERIC, PubMed, and Scopus were supported by gray-literature searches of UNESCO, WHO, OECD, and Indian government sources. Search terms included physical education, funding, quality, access, and Samagra Shiksha. Studies were included if they addressed PE resourcing with relevant evidence.

The synthesis is thematic rather than meta-analytic, since evidence ranges from policy documents to meta-analyses, suiting a topic needing integration across funding, pedagogy, and health. No formal risk-of-bias assessment was performed.

Delimitations

This review is deliberately bounded: it focuses on schools and colleges rather than elite sport; treats financial constraints as central while recognizing leadership, curriculum, and teacher preparation also matter; prioritizes peer-reviewed and major policy sources for comparability; and emphasizes quality, access, inclusion, and MVPA as key outcomes.

Limitations

This review is not exhaustive and produces no pooled effect size. Included studies vary in context and design, complicating comparison, and many are cross-sectional, showing associations rather than causal change. No formal risk-of-bias grading was applied, so conclusions are read as broad patterns rather than universal laws.

Results and Discussion

Financial constraints affect PE through a linked chain: a shortage in one area, such as staffing, creates pressure elsewhere, narrowing PE from a developmental subject into a compliance activity.

Table 1. Analytical pathways through which financial constraints shape physical education.

Constraint area	Typical manifestation	Likely effect on PE	Supporting evidence
Staffing	Limited recruitment of specialist PE teachers or overreliance on non-specialists	Weaker instruction, less feedback, and reduced lesson quality	Bevans et al. (2010); UNESCO (2024)
Facilities	Poorly maintained fields, courts, changing areas, or indoor spaces	Restricted activity choice and higher safety risk	UNESCO (2024); WHO (2022)
Equipment	Insufficient balls, mats, markers, nets, or adaptive tools	Repetitive lessons and reduced active participation	Bevans et al. (2010); Lonsdale et al. (2013)
Timetable allocation	Reduced PE frequency or shorter lesson duration	Lower exposure to movement learning and fitness development	Hollis et al. (2017); UNESCO (2015)
Participation costs	Fees, uniforms, transport, or event charges passed on to families	Exclusion of learners from lower-income households	OECD (2021); UNESCO (2024)
Inclusion support	Little adaptive equipment or specialist support for learners with disabilities	Formal access without meaningful participation	Wilhelmsen and Sørensen (2017)

Note. Evidence synthesized from Bevans et al. (2010), Hollis et al. (2017), Lonsdale et al. (2013), OECD (2021), UNESCO (2015, 2024), WHO (2022), Wilhelmsen and Sørensen (2017), and Indian policy sources including NEP 2020, Samagra Shiksha, and CBSE guidance.

Impact on Quality

Placing PE on the timetable does not ensure quality. Effective PE needs qualified teachers, safe environments, varied activities, and time for feedback. Bevans et al. (2010) linked staffing and equipment directly to activity levels, and in India, NEP 2020, NCF-SE 2023, and CBSE curricula frame PE as holistic learning, making under-resourcing a direct threat (Ministry of Education, 2020; NCERT, 2023; CBSE, 2026).

UNESCO's QPE framework emphasizes frequency, inclusion, and learning: a programme may exist yet fail quality standards under limited funding, becoming repetitive with reduced engagement. Most studies remain cross-sectional, so long-term pathways deserve further attention.

Impact on Accessibility and Inclusion

Accessibility in PE means more than opening the door — participation must stay meaningful and sustained. Financial barriers appear through uniforms, transport, and fees; less visible barriers arise when shrinking budgets cut PE time. Satija et al. (2018) and Shirotriya et al. (2023) document such barriers by gender, school type, and parental perception in India.

Inclusion depends on resources: inclusive PE for disabled learners requires trained teachers, adapted instruction, and equipment. When funds are constrained, these supports weaken first. Indian policy links school sports and higher-education fitness guidance to student welfare (Department of School Education and Literacy, 2023; Ministry of Education, 2023).

These barriers fall unevenly: low-income learners and girls in poorly resourced schools face unsafe spaces and added costs. The 2022 India Report Card suggests activity gaps remain a concern, reinforcing that financial constraints deepen existing inequities (Bhawra et al., 2023).

Impact on Effectiveness

Effectiveness concerns whether PE achieves its intended outcomes. Hollis et al. (2017) found secondary-school students spent 40.5% of lesson time in MVPA, below the 50% benchmark. Financial constraints reduce active time further through poor organization. The 2022 India Report Card found only half of adolescents meet recommended activity levels, and Choudhary et al. (2024) reported a

pandemic-era decline in activity (Bhawra et al., 2023; Choudhary et al., 2024).

Intervention studies show effectiveness improves with stronger lesson design and specialist input: Lonsdale et al. (2013) and Wong et al. (2021) report targeted changes raise MVPA. Underfunding thus weakens PE's capacity to improve, leaving smaller, less consistent gains where resources are lacking.

Not every low-resource setting performs poorly — some achieve strong outcomes through teacher creativity or careful timetabling.

Physical Activity, Behavior, and Broader School Outcomes

PE also contributes to reduced sedentary behavior. da Silva et al. (2022) found PE participation associated with healthier activity patterns and less sitting time, and WHO (2022, 2024) frames schools as strategic settings for activity, while Indian evidence shows persistent adolescent inactivity (Bhawra et al., 2023; Choudhary et al., 2024).

Reducing PE for financial reasons affects more than one subject: it weakens active learning opportunities, so benefits are less likely to reach students in underfunded settings, widening institutional gaps over time.

Colleges and Higher Education Settings

Financial constraints are not limited to schools. Colleges face pressures on infrastructure, staffing, and participation costs. India's 2023 higher-education guidelines encourage fitness plans, but implementation depends on budgets (Ministry of Education, 2023). College provision — gym access, intramural sport, fitness classes — is affected accordingly.

When budgets are reduced, these offerings are often cut first — significant because college students are at a life stage when active habits consolidate or decline.

Policy Meaning and the Limits of the Evidence

Financial constraints operate as a structural determinant of PE quality, access, and effectiveness: they reduce specialist teaching, undermine facilities, and weaken inclusion. Indian policy and evidence confirm this, showing the same pathways in a system that formally supports PE but struggles with implementation (Ministry of Education, 2020; Department of School Education and Literacy, 2023; Bhawra et al., 2023).

International policy confirms these are not minor issues: UNESCO (2024) presents QPE as high-impact, WHO (2022, 2024) frames schools as strategic settings, and OECD (2021) links equitable funding to quality. In India, NEP 2020, Samagra Shiksha, and CBSE guidance agree.

A further concern is resource fungibility: even protected PE budgets may be reallocated. Funding should be linked to lesson frequency, equipment, participation, and inclusion indicators, not accounting lines.

Table 2. Policy priorities for a more equitable and effective PE system.

Logic model element	What it means in PE	Practical implementation	Expected result
Inputs	Protected budgets, specialist staff, equipment, and accessible facilities	Ring-fence minimum PE allocations at school and college level	Resources are available and predictable
Activities	Teaching, practice, feedback, adaptation, and inclusive lesson design	Use specialist-led instruction and differentiated activities	Lessons become safer and more engaging
Outputs	Lesson frequency, active time, participation, and curricular variety	Track MVPA opportunity and participation across groups	PE becomes measurable and accountable

Short-term outcomes	Improved quality, access, and inclusion	Remove fees, provide adaptations, and maintain facilities	More learners participate meaningfully
Long-term outcomes	Health, behavioral, and educational benefits	Sustain PE as a core curricular entitlement	PE contributes to lifelong activity and wellbeing

Note. The logic model draws on UNESCO (2015, 2024), OECD (2021), WHO (2022, 2024), NEP 2020, Samagra Shiksha, CBSE curriculum guidance, and the studies cited in the main text.

CONCLUSION

This review shows financial constraints have a substantial effect on PE. Underinvestment weakens quality through limited staffing and facilities; reduces access through hidden costs; and undermines effectiveness by lowering engagement and health outcomes — a pattern reinforced by Indian policy and evidence.

PE should be treated as a core entitlement, not a peripheral activity. Evidence supports sustained investment so PE remains quality, accessible, and effective.

The key question is not whether money matters, but how much investment is needed for meaningful change, especially to raise MVPA. Future research should track funding shifts, budget protections across contexts, and which resources most reduce equity gaps.

Declarations

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