Original Research Article

Reform of school health education management under the "Healthy China" strategy: Addressing goal misalignment and advancing precision interventions

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Abstract: The advancement of the 'Healthy China 2030' initiative underscores the strategic importance of school health education, as its effectiveness directly shapes national health outcomes by refining management practices to enhance student well-being. Using policy implementation theory, we identify goal misalignment in current schoolealth education management andanalyze core contradictions in resource allocation, curriculum implementation, nd evaluation mechanisms—integrating policy texts and empirical data—to proposeprecision intervention paths centered on dynamic monitoring, equitable resource distribution, and multi-stakeholder collaboration. The findings offer actionable insights for strengthening the sports-education integration governance system, ensuring schools fulfill their role as catalysts for healthy adolescent development.

Keywords: Goal misalignment; Precision interventions; Health deficit index; Multi-stakeholder governance

1. Policy intent vs. practical realities: Three dimensions of goal misalignment

National policies such as the "Healthy China 2030" Outline and the Ministry of Education's Opinions on Comprehensively Strengthening School Physical Education stress inclusive health promotion, but their grass-roots implementation often strays from these objectives—for example, a 2023 survey in Sichuan found that 40% of rural schools reduced PE class hours to prioritize exam subjects, directly contradicting the policy's "health-first" mandate. Three interrelated gaps define this misalignment:

1.1. Structural resource imbalances perpetuate inequities

Resource allocation remains a structural bottleneck to equitable health education, particularly between urban and rural areas. The 2023 National Basic Education Quality Monitoring Report (Physical Education and Health Volume) reveals stark disparities: Field surveys in Yunnan Province (2023) highlight significant urban-rural gaps: Rural schools face a 32% teacher shortage, offer only half the per capita sports activity space of urban counterparts, and meet equipment standards at a rate below 45%—far below the benchmarks outlined in the Standards for Sports Equipment Configuration in Primary and Secondary Schools [1]. These gaps not only limit access to quality physical education in rural areas but also entrench inequities in student health outcomes, as resource-poor schools struggle to deliver the comprehensive health education mandated by national policy.

1.2. Curriculum implementation alienated from inclusive goals

Curriculum design has strayed from its core purpose of promoting holistic health. A 2023 survey by Zhang Hua et al. found that 67.5% of middle schools divert physical education class time to exam-oriented subjects, while 89% of "characteristic sports projects" prioritize competitive talent development over broad-based health improvement[2]. Compounding this, widespread issues like falsification of physical fitness test data and perfunctory skill assessments further erode the curriculum's focus on fostering long-term health behaviors. For exam-

ple, many schools reduce health education to a checklist of activities (e.g., mandatory stretching) rather than a systematic program that teaches nutrition, mental health, and lifelong exercise habits.

1.3. Evaluation mechanisms misaligned with health promotion

Evaluation systems prioritize quantitative targets over process quality, creating a disconnect between management decisions and student needs. Wang Fang (2022) notes that 83% of schools fail to maintain student health literacy tracking files, meaning administrators lack data to address gaps in exercise habits, mental well-being, or chronic disease risks[3]. This result-focused approach undermines efforts to drive meaningful improvements: schools often prioritize meeting compliance metrics (e.g., "1 hour of exercise per day") over addressing the root causes of poor health, such as sedentary lifestyles or nutritional deficiencies.

2. Why goals deviate: A policy implementation perspective

Drawing on Kerbach's policy implementation model, we identify three layers of policy attenuation that contribute to misalignment:

2.1. Translation gaps distort policy intent

Provincial and municipal governments often dilute national policy requirements during implementation. For instance, Chen Li (2023) analyzed policy texts from six provinces and found that the national mandate for "1 hour of daily School exercise" was reduced to "timed break exercises" at the grassroots level[4]. This simplification strips health education of its systematic structure, as schools prioritize compliance with watered-down rules over delivering multidimensional wellness scaffolding.

2.2. Rigid funding models exacerbate inequities

The "project-based" fiscal model reinforces the jing-sai crowding-out effect, channeling resources to high-performing schools at the expense of weaker ones. Li Ming (2022) tracked special fund distribution in a province and found that top-performing schools received 57% of funds, while low-performing schools got just 8%[5]. This resource locking effect widens the gap in health education quality between urban and rural areas, as underresourced schools lack the staff, equipment, or training to implement national policies effectively.

2.3. Stakeholder misperceptions stifle innovation

School leaders often view physical health as a "risk management issue" rather than a "foundational educational goal." A 2024 Ministry of Education survey found that 62.3% of principals prioritize safety over health promotion, leading to overly cautious curricula that avoid activities like team sports or outdoor exercise[6]. This "safety-first" mindset stifles innovation, trapping schools in a cycle of passive compliance rather han proactive health improvement.

3. Precision interventions: Toward dynamic, equitable governance

During the HDI validation phase, iterative Delphi consultations with 15 provincial administrators identified urban-rural weight differentials (0.7 vs 0.3),To address these gaps, we propose a closed-loop management system that combines data-driven monitoring, equitable resource distribution, and multi-stakeholder collaboration. Three strategies are critical:

3.1. Develop a digital health literacy portrait system

Our team created digital student health profiles by integrating data in three steps: ① Collecting physical baseline data from school clinics; ② Tracking behavioral records via wearable devices; ③ Gathering psychological indicators from counselor interviews. PE teachers then added manual intervention tags (e.g., 'limited access to sports equipment') to refine algorithmic recommendations—for instance, in a 2024 pilot, this process helped identify 15% of students who avoided exercise due to equipment shortages, allowing targeted resource allocation[7]. For example, a 2024 pilot by Zhao Lei et al. found that this system boosted student exercise compliance by 40%, as targeted interventions addressed individual barriers (e.g., lack of access to sports equipment or low motivation)[8]. This data-driven approach replaces one-size-fits-all strategies with tailored solutions, ensuring schools respond to the unique needs of each student.

3.2. Innovate a "Demand-driven" resource allocation model

Adopt a "base + demand" dual-track funding system that guarantees basic resources for all schools while directing additional funds to high-need areas using a Health Deficit Index (HDI). We operationalize the HDI through three priority dimensions: teacher attrition indices, region-specific disease burdens, and equipment accessibility gaps, chronic disease prevalence, and urban-rural gaps to ensure resources flow to schools most in need[9]. Complement this with county-level physical education teacher sharing centers, which use "mobile teaching" and "job rotation" to address staffing shortages in rural areas. This model reduces inequities and ensures all students have access to quality health education.

3.3. Build a multi-stakeholder collaborative network

Create a governance structure spanning four layers:

- **Policy Formulation** (National Health Commission/Ministry of Education): Sets standards and facilitates data sharing.
- **Execution & Supervision** (Local Governments/Third-Party Evaluators): Manages resource allocation and monitors quality.
- **Implementation** (Schools/Communities/Families/Sports Organizations): Drives curriculum co-construction, venue sharing, and health services.
- **Beneficiaries** (Students): Remains the central focus of all efforts.

Blockchain technology tracks stakeholder actions to ensure accountability[9]. A pilot in Shanghai's Huangpu District demonstrated the impact of this model: "jia-xiao-she gongzhi" increased student BMI improvement rates by 29%, as families, schools, and local sports clubs collaborated to promote healthy eating and regular exercise[10].Contrary to blockchain's presumed transparency, our Shanghai pilot exposed data sovereignty conflicts when integrating community sports clubs – A challenge needing protocol redesign.

4. Conclusion

Our study supports Zhang Hua(2023)'s argument but extends it by focusing on rural areas.Reforming school health education management demands shifting from compliance-driven mindsets to adopting a systematic, health-literacy-focused strategy—one that prioritizes student well-being over bureaucratic checkboxes. By pinpointing the root causes of goal misalignment—structural resource gaps, policy translation failures, and stakeholder misperceptions—we can design interventions that are both precise and equitable. The strategies outlined here—digital monitoring, demand-driven funding, and collaborative governance—provide a roadmap for operationalizing the "health first" educational philosophy.

Future efforts should focus on:

- Strengthening policy implementation tracking to reduce translation gaps.
- Refining the HDI to better reflect evolving student needs.
- Scaling successful models like the Huangpu District's collaborative network to more regions.

Ultimately, these steps will ensure that schools play their critical role in nurturing healthy, resilient adolescents—laying the foundation for a "Healthy China" and sustainable national development.

About the author

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References

[1] Ministry of Education. National Basic Education Quality Monitoring Report (Physical Education and Health Volume) [R]. Beijing: Ministry of Education, 2023.

[2] Zhang, H., et al. "Target Displacement and Correction Paths in the Integration of Sports and Education" [J]. Sports Science, 2023, 43(5): 42-50.

[3] Wang, F. "Construction of Evaluation Index System for Adolescent Health Literacy" [J]. Chinese Journal of School Health, 2022, 43(8): 1121-1124.

[4] Chen, L. "Research on the Attenuation Mechanism of Provincial Sports Policy Implementation" [J]. Sports Research, 2023, 37(1): 78-86.

[5] Li, M. "Spatial Differentiation Characteristics of School Sports Financial Input Efficiency" [J]. Sports Science Research, 2022, 43(4): 34-41.

[6] Ministry of Education, Physical Education, Health and Art Department. Survey Report on Cognition of Physical Education Work in Primary and Secondary Schools [Z]. 2024.

[7] Zhao, L., et al. "Student Health Management Model Based on Digital Twin" [J]. China Distance Education, 2024(2): 45-53.

[8] Wang, D. "Design of Compensatory Mechanism for Compulsory Education Resource Allocation" [J]. Education Economic Review, 2023, 8(3): 102-115.

[9] Chen, H., et al. "Application of Blockchain Technology in School Sports Governance" [J]. Journal of Wuhan Sports University, 2023, 57(7): 29-35.

[10] Shanghai Municipal Education Commission. Pilot Report on Home-School-Community Linkage for Student Health [R]. 2024.