



Integrating Traditional Health-Preserving Sports into Public Physical Education in Higher Vocational Colleges: Pathways and Practices for Community Health and Longevity

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Abstract. Public physical education in higher vocational colleges continues to emphasize physical conditioning, which limits the integration of traditional health-preserving sports into the curriculum and reduces its capacity to respond to the needs of community health and longevity. To address this gap, this study explores pathways for incorporating traditional health-preserving sports into public physical education from the perspective of mind–body development and cultural inheritance. The study focuses on three major strategies: the selection and modularization of health-preserving sports programs, the service-oriented restructuring of curriculum content, and the transformation of traditional movement practices into accessible modern pedagogical approaches. In addition, an organizational model combining classroom instruction with community-based practice is proposed to promote students' transition from learners to active participants in community health services and to foster school–community collaboration. Evaluation based on the implementation process and pilot-course practice indicates that this integrative model produced relatively stable improvements in student engagement, service adaptability, and the rationality of practical teaching design. Furthermore, students demonstrated enhanced awareness of the functional value and cultural significance of traditional health-preserving sports. The findings provide a practical framework for reforming public physical education in higher vocational colleges and offer useful evidence for promoting community health and healthy longevity through the educational inheritance of traditional sports culture.

Keywords: mind–body development; traditional health-preserving sports; higher vocational public physical education; community health; healthy longevity; cultural inheritance.

1 Introduction

With the acceleration of population aging and growing public health awareness, promoting community health and healthy longevity through diversified forms of physical activity has become an important concern. As a bridge between school education and social service, public physical education in higher vocational colleges

not only contributes to students' physical development but also has the potential to support community health services and cultural inheritance. However, current public physical education still mainly emphasizes physical conditioning and skill attainment, while the systematic integration of traditional health-preserving sports remains limited. Traditional health-preserving sports possess distinctive value in improving physical function, emotional regulation, and cultural identity. Therefore, there is a need to explore feasible pathways for integrating these practices into public physical education in higher vocational colleges. In response, this study examines such integration from the perspective of mind-body development and cultural inheritance, with a particular focus on curriculum design, teaching organization, and implementation effects.

Through a pilot intervention combining classroom teaching with community-based practice, this study further evaluates the practical effects of the proposed model on student engagement, service competence, and cultural awareness. The study aims to provide a practical reference for reforming public physical education in higher vocational colleges and for promoting community health and healthy longevity through the educational inheritance of traditional sports culture.

2 Related Works

Recent studies have provided important theoretical and practical support for understanding the role of sports, health education, and community-based activity in promoting mind-body development and social well-being. In the field of community sports, previous research has shown that sports organizations can contribute not only to participation and physical activity promotion, but also to social governance, mental health support, and inclusive community development [1, 2, 9, 10, 11]. These findings suggest that sports can function beyond physical training alone and may serve broader educational and social purposes.

In the field of education, technology-supported and innovative teaching approaches have also been reported to improve students' health literacy, engagement, and competence development [3, 5, 7, 8]. In addition, studies on physical fitness and long-term development have indicated that motor competence and improved fitness are positively associated with cognitive and psychological outcomes, further highlighting the value of physical activity in promoting mind-body development [6]. At the same time, healthy aging has been increasingly recognized as an urgent public issue, and previous evidence has suggested that appropriately designed physical activity programs may help support functional health, quality of life, and social participation in later life [4].

Although these studies have advanced research on community sports, health education, and physical activity intervention, limited attention has been paid to the systematic integration of traditional health-preserving sports into public physical education in higher vocational colleges. In particular, insufficient research has examined how such integration may simultaneously contribute to students' physical and psychological development, community health service competence, and cultural inheritance. Therefore, further research is needed to explore practical pathways and implementation effects in this context [1–11].

3 Methods

3.1 Principles and Orientations for Integrating Traditional Health-Preserving Sports into Public Physical Education

The integration of traditional health-preserving sports into public physical education should go beyond physical fitness improvement and respond more directly to community health needs. In this sense, the curriculum should not only help students develop physical abilities, but also enhance their capacity to participate in health-service practice in community settings.

At the same time, curriculum design should support students' coordinated mind-body development. Traditional health-preserving sports possess value not only in physical training, but also in emotional regulation, stress relief, and self-awareness. Through structured learning and practice, students may gradually develop the ability to combine physical activity with health-related service competence.

Another important orientation is cultural inheritance. By organizing learning through movement, breathing, and practice, traditional health-preserving culture can be integrated into students' everyday learning experience in a more concrete and sustainable way. This approach helps students acquire practical skills while strengthening their understanding of traditional cultural values, thereby supporting both the educational and social-service functions of public physical education.

3.2 Pathways for Reconstructing Curriculum Content of Traditional Health-Preserving Sports

Successfully integrating traditional health-preserving sports into public physical education in higher vocational colleges requires a systematic reconstruction of curriculum content. In selecting program content, priority should be given to activities that are relatively safe, adjustable in intensity, and broadly applicable, such as Baduanjin, Tai Chi, and simplified Qigong. These activities are suitable for classroom teaching and can also be adapted to the needs of community participants with different ages and physical conditions.

In terms of curriculum design, a modular approach may be adopted by combining single-skill training with integrated routine practice. Students may first learn key movement elements through isolated practice and then progress to complete movement sequences. This approach not only facilitates teaching and learning, but also improves students' ability to demonstrate and instruct these practices in community-based settings.

In addition, curriculum reconstruction should remain closely aligned with community health needs and be oriented toward practical service. To reduce the learning threshold, traditional terminology and techniques should be explained in concise and accessible language. In this way, students can acquire practical skills more efficiently and better apply traditional health-preserving sports in community health-service activities.

3.3 Teaching Organization and Implementation Pathways for Traditional Health-Preserving Sports in Public Physical Education in Higher Vocational Colleges

The effective integration of traditional health-preserving sports into public physical education in higher vocational colleges requires an organizational model that combines classroom teaching with community-based practice. Classroom instruction should provide students with core movement skills and basic health-preserving knowledge, while community practice should serve as an application context in which students can

use what they have learned in authentic service settings. In this way, the curriculum can promote the transition from knowledge acquisition to practical competence.

An important feature of this model is the transformation of students' roles from passive learners to active participants in community health services. Through demonstration, assisted instruction, and activity organization, students are able to develop not only technical skills, but also communication ability, coordination skills, and social responsibility. This process helps align educational goals with the practical demands of community service.

In addition, the implementation of this model depends on effective school-community cooperation. By establishing stable partnerships with communities and related institutions, public physical education can better connect teaching resources with community health-service needs. Such coordination helps create a structured environment for sustainable service activities and enhances the practical value of the curriculum.

3.4 Process-Oriented Evaluation of Integrating Traditional Health-Preserving Sports into Public Physical Education

Formative Evaluation Oriented Toward Learning Engagement. Formative evaluation is primarily based on students' behavioral performance and assesses teaching quality by measuring the frequency, duration, and level of students' engagement in the learning process, both inside and outside the classroom. Students' initiative, activeness, and willingness to sustain participation in classroom learning and community practice serve as important indicators of their learning attitudes and degree of skill acquisition. Formative evaluation also enables teachers to identify learning difficulties in a timely manner and provide corrective support, thereby helping students gradually improve their skills and apply them in practice.

Comprehensive Performance Evaluation Oriented Toward Service Competence. Course evaluation should also pay attention to students' overall performance in community service, including communication, organization, and instructional demonstration skills. This type of evaluation emphasizes students' operational and coordination abilities in authentic service settings rather than relying solely on conventional assessments of movement technique. By observing the service process and providing feedback, teachers can determine whether students are able to transform classroom learning into community service competence, thereby promoting a two-way alignment between curricular objectives and the practical value of social service.

Reflective Evaluation of Cultural Identity and Mind–Body Experience. The evaluation system should further address students' cognition and understanding of traditional health-preserving culture, as well as their related mind–body experiences. In addition, learning journals, practice reflections, and activity summaries may be used to examine how students understand and internalize health-preserving concepts. During the reflective process, students can record their bodily sensations, psychological changes, and evolving sense of cultural identity. This not only helps teachers better understand the effectiveness of instruction, but also encourages students to internalize traditional culture through embodied experience, thereby facilitating the organic integration of holistic mind–body development and cultural inheritance.

4 Results and Discussion

4.1 Pilot Participants and Implementation Arrangement

A total of 96 students enrolled in the compulsory public physical education course at a higher vocational college were recruited as pilot participants. Two intact classes were assigned to an experimental group ($n = 48$) and a control group ($n = 48$). No significant differences were found between the two groups at baseline ($p > 0.05$), indicating acceptable comparability.

The intervention lasted for 16 weeks, with one 90-minute session per week. The experimental group received a curriculum integrating traditional health-preserving sports, including Baduanjin, basic Tai Chi movements, and Daoyin stretching, together with community health-service practice. The control group received conventional public physical education and did not participate in community practice activities.

The study was conducted in accordance with academic ethical standards. All participants provided informed consent, and the collected data were anonymized for research use.

4.2 Evaluation Indicators and Data Collection

Learning engagement was assessed using an adapted version of the School Engagement Scale, which covers behavioral, emotional, and cognitive engagement. A five-point Likert scale was used, and the scale showed good internal consistency in this study (Cronbach's $\alpha = 0.89$) [12]. Perceived stress was measured using the 10-item Perceived Stress Scale, with higher scores indicating greater stress (Cronbach's $\alpha = 0.86$).

Community health service competence was assessed using a teacher-rated scale covering movement demonstration, communication, organizational coordination, and service sustainability. Each dimension was scored from 1 to 5, and inter-rater reliability was high ($ICC = 0.87$).

The evaluation indicators included physical function (resting heart rate, sit-and-reach performance, and single-leg standing time with eyes closed), psychological and behavioral outcomes (learning engagement and perceived stress), and service competence. All indicators were measured before and after the intervention. Data were analyzed using SPSS 26.0, and the level of statistical significance was set at 0.05.

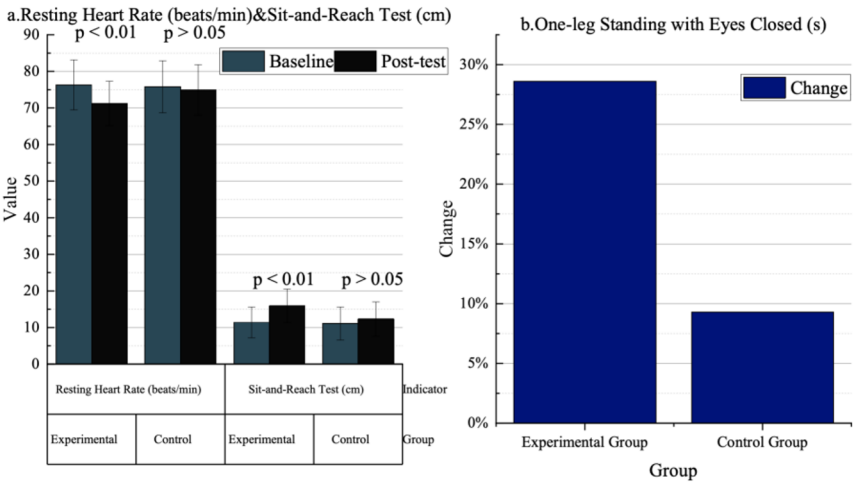


Figure 1. Changes in students’ physical function indicators before and after the integration of traditional health-preserving sports ($\bar{x} \pm s$)

As shown in Figure 1, the experimental group demonstrated clearer improvements than the control group across multiple physical function indicators after the integration of traditional health-preserving sports into public physical education. Resting heart rate in the experimental group decreased significantly from 76.3 ± 6.8 beats/min to 71.2 ± 6.1 beats/min ($p < 0.01$), whereas the control group showed only a slight non-significant decrease. The experimental group also showed a significant improvement in sit-and-reach performance, with an increase of 4.5 cm ($p < 0.01$), while the improvement in the control group was limited. In addition, single-leg standing time with eyes closed increased by 28.6% in the experimental group, compared with 9.3% in the control group. Overall, these results indicate that integrating traditional health-preserving sports into public physical education may contribute to improvements in cardiopulmonary regulation, flexibility, and balance among students.

Table 1. Effects of the Integration of Traditional Health-Preserving Sports on Learning Engagement, Perceived Stress, and Community Health Service Competence (mean $\pm$ SD)

Indicator	Group	Baseline / Pre-test	Post-test / After Intervention	p-value (within group)	Effect Size (Cohen' s d)
Learning Engagement Score	Experimental Group	3.42 $\pm$ 0.51	4.13 $\pm$ 0.47	$p < 0.01$	d = 0.82
	Control Group	3.39 $\pm$ 0.48	3.56 $\pm$ 0.50	$p > 0.05$	d = 0.21
Perceived Stress Score	Experimental Group	22.8 $\pm$ 4.6	18.9 $\pm$ 4.2	$p < 0.05$	d = 0.75
	Control Group	23.1 $\pm$ 4.4	22.5 $\pm$ 4.3	$p > 0.05$	d = 0.14
Community Health Service Capacity Score	Experimental Group	71.2 $\pm$ 6.3	87.6 $\pm$ 5.9	$p < 0.01$	d = 0.91
	Control Group	72.0 $\pm$ 6.1	79.3 $\pm$ 6.4	$p > 0.05$	d = 0.38

Table 2. Results of the Mixed ANOVA for the Group $\times$ Time Interaction Effects and Effect Sizes

Variable	Source	F-value	p-value	Partial η^2	Effect Size Interpretation
Learning Engagement	Time	32.14	<0.001	0.26	Large
	Group	11.57	<0.01	0.12	Medium
	Time $\times$ Group	18.92	<0.001	0.18	Large
Perceived Stress	Time	21.36	<0.001	0.21	Large
	Group	8.44	<0.01	0.09	Medium
	Time $\times$ Group	15.27	<0.001	0.16	Large
Community Health Service Capacity	Time	45.62	<0.001	0.34	Large
	Group	19.83	<0.001	0.18	Large
	Time $\times$ Group	27.51	<0.001	0.24	Large

To further examine the effects of the traditional health-preserving sports intervention on learning engagement, perceived stress, and community health service competence, a mixed-design ANOVA was conducted to test the interaction effects of time and group. As shown in Table 2, significant group $\times$ time interaction effects were found for all three outcomes, indicating that the intervention produced differential changes between the experimental and control groups.

For learning engagement, the experimental group showed a more marked improvement than the control group, suggesting that the integration of traditional health-preserving sports may enhance students' participation and motivation in public physical education. For perceived stress, the experimental group demonstrated a greater reduction after the intervention, indicating that this curriculum model may also contribute to students' emotional regulation and psychological well-being. In addition, community health service competence improved more substantially in the experimental group, further supporting the practical value of combining classroom learning with community-based practice.

Overall, these findings suggest that the integrated curriculum not only promoted positive psychological and behavioral changes, but also strengthened students' ability to apply what they had learned in authentic service settings. Therefore, the integration of traditional health-preserving sports into public physical education appears to have both educational and practical significance.

5 Conclusion

This study systematically explored the integration of traditional health-preserving sports into public physical education in higher vocational colleges and examined its practical effects through a pilot intervention. In response to the needs of community

health and healthy longevity, the study proposed a curriculum model based on modular content design, the combination of classroom instruction and community practice, and process-oriented evaluation.

The pilot findings suggest that this model demonstrated positive effects in improving students' physical function, learning engagement, perceived stress, and community health service competence. At the same time, students developed a clearer understanding of the functional value and cultural significance of traditional health-preserving sports. These findings support the feasibility and practical value of integrating traditional health-preserving sports into public physical education for promoting mind-body development, cultural inheritance, and community health.

However, this study was limited by its single-site pilot design and relatively small sample. Future research should further examine the long-term effects, sustainable implementation mechanisms, and wider applicability of this model across different institutional and regional contexts.

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