Research on the Construction of a Health Promotion Model in University Martial Arts Curriculum from the Perspective of "Integration of Sports and Medicine"

Jinxin Chang*
School of Physical Education, Shanxi University, Taiyuan, Shanxi, China
**Corresponding Author*

Abstract: Objective: Against the strategic backdrop of "Healthy China" and the "Integration of Sports and Medicine, " this study explores the pathway for transforming university martial arts courses from traditional skill instruction into health promotion platforms and constructs a systematic curriculum model. Methods: Through theoretical analysis, the study elucidates the health promotion foundations of martial arts at both medical (e. g., regulating the nervous system, improving postural control) and sports science (e. g., enhancing cardiorespiratory function, coordination) levels. It then examines the current practical challenges in the curriculum's objectives, content, and evaluation. Results: the research reveals several issues in current university martial arts courses, including an objective that "overemphasizes technical skills at the expense of health outcomes, " a disconnect between course content and medical knowledge, and a singular evaluation system. Consequently, a health promotion model centered on "Objective Reshaping - Content Integration - Implementation Optimization - Evaluation Reform" is constructed. This model emphasizes health literacy as the core objective, integrates medical theory with martial arts practice, and establishes a multidimensional process-oriented evaluation mechanism. Conclusion: This "Integration of Sports and Medicine" model provides a theoretical framework and practical direction for the reform of university martial arts curricula. It holds significant reference value for enhancing the health status of university students and innovating the educational pathways of university physical education.

Keywords: Integration of Sports and Medicine; University Martial Arts; Health Promotion; Curriculum Model; University Students

1. Introduction

The "Healthy China 2030" initiative positions the Integration of Sports and Medicine as a core strategy for advancing public health. This paradigm emphasizes combining physical activity with non-medical interventions for proactive health management[1] . As key institutions for talent development, universities significantly influence national health outcomes through student well-being. However, prevalent issues including sedentary lifestyles, spinal problems, and psychological stress among students necessitate innovative approaches in physical education to enhance health promotion.

Martial arts represent an ideal vehicle for this integration. Traditional practices like Tai Chi and Baduanjin demonstrate inherent compatibility with medical rehabilitation principles through their movement patterns and health-preservation philosophy[2] . These characteristics position university martial arts curricula as promising platforms for comprehensive health promotion, extending beyond their conventional role in skill development.

Nevertheless, current practices remain limited by technical-focused objectives and a disconnect from medical knowledge systems. This neglect has marginalized the health promotion potential of martial arts. Accordingly, this study establishes a theoretical model to bridge this gap, providing a framework for curriculum reform that leverages martial arts for student health enhancement[3] .

2. Theoretical Foundation: the Medical and Sports Science Basis of Martial Arts for Health Promotion

The health promotion value of university martial arts courses is deeply rooted in their unique

physical activity patterns and profound health preservation philosophy. This establishes a high degree of alignment with the concept of "Integration of Sports and Medicine" across both medical and sports science dimensions, forming a solid theoretical foundation for model construction[4] .

At the medical level, martial arts, especially internal practices such as Tai Chi and Baduanjin, exhibit health effects supported by systematic physiological and psychological mechanisms. From a physiological perspective, their slow, gentle, and continuous movement characteristics, combined with deep abdominal breathing, can effectively regulate the autonomic nervous system and enhance vagal tone, thereby helping to lower blood pressure, alleviate anxiety, and improve sleep quality. Simultaneously, the spiral stretching of the spine and weight shifting inherent in the movements significantly improve proprioception and postural control, offering targeted benefits for preventing and alleviating neck and lumbar discomfort in university students caused by prolonged sitting. From a psychological standpoint, the martial arts emphasis on "cultivating both body and spirit" and "integrating mind and body" requires practitioners to maintain high levels of mental focus and relaxation during exercise. This process itself constitutes an active mindfulness practice, aiding in stress reduction and enhancing emotional regulation capabilities[5] .

At the sports science level, martial arts training constitutes a comprehensive physical exercise system. the practice of routines effectively enhances fundamental physical fitness components such as the practitioner's cardiorespiratory endurance, muscular strength, and flexibility. More importantly, martial arts place extremely high demands on movement precision, emphasizing the coordinated unity of hands, eyes, body, techniques, and footwork. Long-term practice can significantly improve an individual's coordination, balance, and reaction speed. This development of comprehensive physical motor skills, which is difficult to match by many modern sports, lays a solid foundation for the good physical function required by university students to cope with daily academic life and future career development.

In summary, martial arts is not merely a set of physical techniques but a comprehensive health practice integrating physical exercise and mental cultivation. Through the tripartite path of "body adjustment, breath regulation, and mental cultivation, " it achieves physiological regulation and psychological nourishment from a medical perspective, and accomplishes physical enhancement and skill development from a sports science perspective. This provides full intrinsic justification for martial arts to undertake the important task of health promotion in the university setting[6] .

3. Examining the Status Quo: Deficiencies in Health Promotion within Current University Martial Arts Curricula

Despite the profound health promotion potential of martial arts at both theoretical and practical levels, a significant gap exists between the current implementation of university martial arts courses and the requirements of "Integration of Sports and Medicine. " Their health promotion function exhibits a systematic deficiency, primarily manifested in three core areas: objective orientation, content system, and implementation/evaluation[7] .

Firstly, regarding curriculum objective orientation, a clear tendency of "overemphasizing technical skills at the expense of holistic physical development, and prioritizing physical conditioning while undervaluing health outcomes" is prevalent. Syllabi generally focus on mastering martial arts routines and enhancing specific physical qualities as core objectives, while lacking explicit articulation of the course's intended concrete outcomes in improving students' specific health conditions, such as alleviating cervical spine fatigue or regulating anxiety. This deviation in value orientation confines health promotion to the vague concept of "enhancing physical fitness, " failing to translate it into executable and assessable teaching tasks, thereby marginalizing it from the outset in the curriculum's top-level design.

Secondly, within the teaching content system, health promotion elements appear fragmented and superficial, lacking organic integration with medical knowledge. the content remains predominantly based on traditional bare-handed and weapon routines. Even when health-preserving exercises like Tai Chi or Baduanjin are introduced, the teaching focus often remains on superficial movement imitation, rarely delving into the underlying Traditional Chinese Medicine meridian theory, the physiological basis of breath regulation, or the intervention

mechanisms for modern common health issues. This creates a "mismatch between supply and demand" between the course content and the actual health needs of contemporary university students. Consequently, students often end up "knowing the movements without understanding the underlying principles, " making it difficult to effectively translate classroom learning into daily self-management health behaviors.

Finally, at the level of teaching implementation and evaluation, the pathway to achieving health promotion is ambiguous and lacks effective feedback. Teaching methods still primarily rely on instructor demonstration and collective student imitation, lacking personalized guidance and process supervision tailored to individual health improvement. More critically, the course evaluation system relies almost exclusively on summative assessments of martial arts techniques. Students' grasp of health knowledge, development of health behaviors, and positive changes in physiological and psychological indicators are largely excluded from the evaluation framework. This "technique-only" evaluation orientation fails to provide effective feedback on the health promotion outcomes of teaching and cannot motivate both teachers and students to jointly pursue the achievement of health results.

4. Model Construction: Proposing a Health Promotion Model for Martial Arts Based on the "Integration of Sports and Medicine"

To effectively bridge the gap between the health promotion potential of martial arts courses and their actual outcomes, this study, based on the aforementioned theoretical and practical foundations, attempts to construct a health promotion model for university martial arts curricula, guided by the core principle of "Integration of Sports and Medicine. " This model aims to systematically restructure the curriculum, elevating health promotion from a secondary objective to its central core. Its basic framework consists of four interconnected subsystems—objectives, content, implementation, and evaluation—forming an organic whole[8] .

First, in the objective subsystem, a fundamental shift from "skill acquisition" to "health literacy enhancement" must be realized. the overarching course objective should be explicitly defined as: enhancing students' core knowledge and ability to maintain their own physical and mental health through martial arts learning. Specific objectives need to be detailed across three dimensions: the cognitive dimension (mastering the basic medical principles underlying the health effects of martial arts), the skill dimension (being able to perform exercises standardizedly and select appropriate techniques based on personal needs), and the behavioral and outcome dimension (developing regular practice habits and showing improvement in key health indicators).

Second, in the content subsystem, an integrated curriculum content system unifying "theory-practice-assessment" should be constructed. the theoretical module must systematically incorporate knowledge from exercise physiology, fundamental theories of Traditional Chinese Medicine (e. g., meridian theory), and health management, explaining the scientific rationale behind martial arts movements. the practical module needs to move beyond teaching standardized routines alone. It should design "targeted teaching units" addressing common health issues among university students (e. g., neck-shoulder syndrome, anxiety), utilizing traditional practices like Tai Chi and Baduanjin as precise "exercise prescriptions" for instruction and application[9] .

Finally, in the implementation and evaluation subsystems, personalized teaching centered on student health and process-oriented evaluation should be implemented. Teaching implementation should integrate health screening and physical fitness test results to provide stratified and categorized personalized guidance. the evaluation system must break through the singular assessment of technical skills and establish a multidimensional process-oriented evaluation mechanism. This mechanism should encompass the understanding of health knowledge, application of skills, development of health behaviors (e. g., attendance, practice logs), and improvements in physiological and psychological indicators (e. g., posture, stress levels). This forms a health-outcome-oriented teaching-learning closed loop, ensuring the model's effective implementation and continuous optimization[10] .

5. Conclusion

This study establishes a health promotion model for university martial arts curricula through the "Integration of Sports and Medicine" framework. the proposed model, structured around four interconnected dimensions—objective redesign,

content integration, implementation optimization, and evaluation reform—effectively transforms martial arts education from skill acquisition toward health literacy development, unlocking its potential for proactive health intervention.

Future implementation requires standardized teaching resources and specialized teacher training. Further research should validate the model's efficacy through longitudinal studies and controlled trials, particularly examining its impact on physiological indicators, psychological well-being, and health behaviors. Integrating this approach with campus health services could establish a sustainable health promotion ecosystem.

This reform aligns with national health and education strategies, offering an innovative pathway for cultivating students' lifelong health competencies while preserving cultural heritage. It represents a significant step toward developing a distinctive Chinese approach to university health promotion.

References

[1] Larkey LK, James D, Belyea M, Jeong M, Smith LL. Body Composition Outcomes of Tai Chi and Qigong Practice: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Int J Behav Med. 2018; 25:487–501.

[2] Hernandez-Martinez J, Cid-Calfucura I, Guzmán-Muñoz E, Herrera-Valenzuela T, Delgado-Floody P, Nuñez-Espinosa C, et al. Effects of olympic combat sports on physical fitness in non-athlete students: a systematic review with meta-analysis. Front Physiol. 2025; 16:1620621.

[3] Tymoshenko OV, Domina ZH, Bilyk VH, Serhiienko YP, Lavrentiev OM, Dakal NA, et al. Health-promoting effect for students from physical loads of speed and strength orientation. Wiad Lek. 2024; 77:1243–8.

[4] Li X, Bae J-H, Lim B, Seo J-W, Sung Y, Jiang S, et al. Impact of Taekwondo training on cognitive and physical function in elderly individuals: A comprehensive review of randomized controlled trials. Complement Ther Clin Pract. 2024; 57:101878.

[5] Du Z, Zhang X, Qin H, Wang R, Bai Y, Yao X. META analysis on the effect of taijiquan on improving negative psychological symptoms of college students and the optimal dose. Front Public Health. 2022; 10:1032266.

[6] La Forge R. Mind-body fitness: encouraging prospects for primary and secondary prevention. J Cardiovasc Nurs. 1997; 11:53–65.

[7] Ke Y, Bao M, Qu X, Yan Y, Li L, Wang Y, et al. the effect of diverse sports skills interventions on physical fitness and brain development among Chinese high school students: a cluster randomized controlled trial study protocol. Trials. 2025; 26:102.

[8] Robins JL, Elswick RK, Sturgill J, McCain NL. the Effects of Tai Chi on Cardiovascular Risk in Women. Am J Health Promot. 2016; 30:613–22.

[9] Xie M-C, Chang Y-C, Cai C-M. Understanding the effect of social media marketing activity for promoting intention to participate in martial arts. Front Psychol. 2022; 13:999153.

[10] Ortiz-Franco M, Zurita-Ortega F, Melguizo-Ibáñez E, González-Valero G, Lindell-Postigo D, Ubago-Jiménez JL. Violent Behaviour and Emotional Intelligence in Physical Education: the Effects of an Intervention Programme. Eur J Investig Health Psychol Educ. 2024; 14:1881.

