



Scoping review of Wushu interventions: themes, methods, and sociological gaps

Revisión de alcance sobre intervenciones de Wushu: temas, métodos y vacíos sociológicos

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Received: 19-04-26
 Accepted: 30-05-26

How to cite in APA

Gemin Vidal, R., do Prado Sedelak Pinheiro, F. F., & Pilatti, L. A. (2026). Scoping review of Wushu interventions: themes, methods, and sociological gaps. *Retos*, 83, 131-143.
<https://doi.org/10.47197/retos.v83.119721>

Abstract

Background: This scoping review aimed to map Wushu-based interventions across four domains—educational, clinical/health, psychological/motor, and cultural—highlighting how they are implemented, evaluated, and where methodological and sociological gaps persist.

Materials and Methods: The review followed the frameworks of Arksey & O'Malley and Levac et al., integrating PRISMA-ScR guidelines. Searches were conducted in Scopus, Web of Science, and PubMed (2015–2025), using PCC criteria. A total of 2,671 records were identified, and 22 studies were included after a full-text evaluation.

Results: The selected studies span 11 countries and report interventions lasting 8 to 52 weeks. Recurring outcomes include improvements in balance, cardiorespiratory fitness, body composition, bone density, and psychosocial indicators such as anxiety and self-efficacy. Methodological heterogeneity prevented quantitative synthesis.

Conclusions: Wushu interventions demonstrate promising applications across diverse contexts; however, future research should address gaps in standardization, geographic and demographic diversity, and the integration of sociological analysis to strengthen comparative designs and evidence-based implementation.

Keywords

Cultural heritage; psychological well-being; public health; school physical education; wushu.

Resumen

Antecedentes: Esta revisión de alcance tuvo como objetivo cartografiar las intervenciones basadas en Wushu en cuatro dominios —educativo, clínico/sanitario, psicológico/motor y cultural— destacando cómo se implementan, cómo se evalúan y en qué puntos persisten vacíos metodológicos y sociológicos.

Materiales y Métodos: La revisión siguió los marcos de Arksey & O'Malley y de Levac et al., integrando las directrices PRISMA-ScR. Se realizaron búsquedas en Scopus, Web of Science y PubMed (2015–2025), aplicando los criterios PCC. Se identificaron 2.671 registros y, tras la evaluación de textos completos, se incluyeron 22 estudios.

Resultados: Los estudios seleccionados abarcan 11 países y reportan intervenciones con duraciones entre 8 y 52 semanas. Los resultados recurrentes incluyen mejoras en el equilibrio, la aptitud cardiorrespiratoria, la composición corporal, la densidad ósea y diversos indicadores psicosociales, como ansiedad y autoeficacia. La heterogeneidad metodológica impidió realizar una síntesis cuantitativa.

Conclusiones: Las intervenciones de Wushu muestran aplicaciones prometedoras en contextos diversos; sin embargo, las investigaciones futuras deben abordar vacíos en la estandarización, la diversidad geográfica y demográfica, así como la integración de análisis sociológicos que fortalezcan los diseños comparativos y la implementación basada en evidencia.

Palabras clave

Patrimonio cultural; bienestar psicológico; salud pública; educación física escolar; wushu.



Introduction

Chinese martial arts, particularly Wushu, have evolved into multifaceted practices that transcend the realm of sport, serving as tools for health promotion, psychosocial development, and cultural preservation. Recent studies have shown that Wushu-based interventions can significantly improve physiological parameters, such as postural balance (Sahli et al., 2021), cardiorespiratory fitness (Wang, Tien, & Huang, 2025), and bone mineral density (Kong, Tian, & Zhu, 2023), while also enhancing emotional regulation and psychological well-being (Walther, Lacker, & Ehlert, 2018; Xu et al., 2025).

In educational contexts, Wushu has been integrated as a complementary discipline in schools and universities, with positive impacts on interpersonal skills, academic engagement, and social cohesion (Yang, Yao, & Wang, 2025; Hsu et al., 2025). Moreover, its practice has been associated with the promotion of ethical values, self-control, and mutual respect—core elements in the holistic development of children and adolescents (Li et al., 2025; Song & Shapie, 2024).

From a cultural perspective, Wushu represents an intangible heritage that interweaves corporeality, spirituality, and national identity (Chen, 2023; Bai, 2017). Its presence in school curricula, public health programs, and community initiatives reflects a growing appreciation for traditional bodily practices as instruments for integrating health, education, and culture.

Despite the diversity of empirical and theoretical studies on Wushu, the literature remains fragmented and sectoral. Previous reviews have focused on specific areas such as bone density (Kong, Tian, & Zhu, 2023), emotional regulation (Walther, Lacker, & Ehlert, 2018), or philosophical and monastic ethnographies (Cynarski, 2012), without integrating findings into a transversal perspective that simultaneously addresses educational, clinical/health, psychological/motor, and cultural domains.

Additionally, there is considerable methodological heterogeneity across studies, including variations in practiced styles, intervention duration, weekly frequency, and participant demographics. This diversity hampers cross-study comparisons and the construction of robust evidence to guide public policy or pedagogical practice.

Another critical gap is the lack of sociological analyses that consider variables such as gender, social class, territory, and cultural capital in the adoption and outcomes of Wushu practice. Studies have revealed disparities between urban and rural schools in China (Bai, 2017) and shown that being an only child may moderate the effects of Wushu on social skills (Yang, Yao, & Wang, 2025). These findings suggest that contextual factors directly influence intervention outcomes, yet remain underexplored in the literature.

In response to this scenario, the present study proposes a comprehensive scoping review, conducted in accordance with PRISMA-ScR guidelines and the frameworks of Arksey & O'Malley (2005) and Levac et al. (2010), aiming to map Wushu interventions from the past decade (2015–2025) across educational, clinical/health, psychological/motor, and cultural domains. The review aims to describe the implementation and evaluation of these interventions, identify patterns and methodological gaps, and propose directions for future research.

By integrating findings from diverse areas and contexts, this review contributes to a more holistic understanding of Wushu as a complex bodily practice with the potential to promote health, education, and cultural inclusion. Furthermore, by identifying limitations in intervention standardization, geographic diversity, and sociological integration, the study offers insights for improving public policies, school curricula, and community programs based on traditional martial arts.

Method

This scoping review was conducted following the frameworks proposed by Arksey and O'Malley (2005) and Levac et al. (2010), incorporating methodological recommendations from the Joanna Briggs Institute (2017) and adhering to the PRISMA-ScR checklist (Tricco et al., 2018).

The protocol was registered on the Open Science Framework (OSF), detailing the objectives, scope, strategies, and methodological steps (DOI: 10.17605/OSF.IO/R6ADW).



The guiding research question was: *How have Wushu interventions been implemented and described across educational, clinical/health, psychological/motor, and cultural domains (2015–2025)? What outcomes have been measured and reported, and what methodological and sociological gaps remain in the literature?* Eligibility criteria were defined using the PCC model (Population, Concept, Context), as shown in Table 1.

Table 1. Eligibility criteria structure

Criterion	Applied Definition
Population (P)	Individuals of any age, gender, or sociodemographic profile involved as participants, practitioners, instructors, or teachers in studies on Wushu and its substyles (e.g., Tai Chi/Taijiquan, Shaolin, Bajiquan, Nanquan).
Concept (C)	Interventions, practices, teaching, or conceptual analyses related to Wushu (including traditional styles), encompassing clinical, psychomotor, sociocultural, and ethnographic effects, as well as pedagogical and implementation approaches.
Context (C)	Any institutional, community, or clinical setting: schools (primary, secondary, and higher education), public health programs, cultural centers, academies, universities, rural and urban communities; both formal (curricular) and informal (extracurricular workshops and activities).
General Eligibility Criteria	Timeframe: 2015–2025; Languages: English and Portuguese; Document type: peer-reviewed journal articles. (Additional operational criteria are described in the Methods section and PRISMA-S/OSF documentation.)

Classification Note: Studies were categorized by their primary objective and targeted outcomes, not by physical or organizational setting. For example, university-based activities were classified as educational when they were pedagogical/curricular in nature, and as clinical/health when they were therapeutic or preventive.

Source: Authors' own elaboration

Information sources and search strategy included Scopus, Web of Science, and PubMed, with the final search conducted on July 12, 2025. The search strategy combined an umbrella term for Chinese martial arts (Wushu/Kung Fu) with the main substyles (Tai Chi/Taiji/Taijiquan), incorporating synonyms, historical spellings, and Chinese terms. In PubMed, controlled vocabulary (MeSH), such as “Tai Ji” and “Martial Arts,” was used in combination with free-text terms in titles/abstracts; in Scopus and Web of Science, proximity operators (W/1 or NEAR/1) and truncations were applied. An example of the term set used: “tai chi” OR “tai ji” OR taiji* OR taijiquan OR “tai chi chuan” OR “t'ai chi” OR “t'ai chi ch'uan” OR wushu OR “kung fu” OR gongfu OR kuoshu OR “chinese martial art*” OR “chinese boxing” OR 太极拳 OR 太极 OR 武术 OR 功夫. Filters for period (2015–2025), language (English and Portuguese), and document type (peer-reviewed journal articles) were applied as eligibility criteria. Reference lists of selected articles were screened (snowball sampling) to identify additional studies that met the established criteria. The entire search strategy, in accordance with PRISMA-S, including complete search strings per database, dates, and applied filters, is available in the OSF repository, ensuring transparency and auditability of the study identification process.

Eligibility criteria for studies included: (i) empirical or theoretical studies with explicit focus on Wushu, including those comparing it with other martial arts, provided Wushu was the central axis of the intervention, analysis, or discussion; (ii) any disciplinary approach (health, culture, philosophy, sociology); (iii) publications in English or Portuguese, between 2015 and 2025, published in peer-reviewed journals and available in full text.

Operational definition of “Wushu.” For this review, “Wushu” was adopted as an umbrella term encompassing Chinese martial arts and their recognized substyles in the literature. Eligible studies were those that self-identified as Wushu/Kung Fu (武术/功夫) or explicitly addressed substyles, including but not limited to: Taijiquan (Tai Chi, Tai Ji, T'ai Chi, Tai Chi Chuan; 太极拳/太极), Changquan (Long Fist), Nanquan, Shaolinqan, Bajiquan, Baguazhang, Xingyiquan, and Sanda/Sanshou (when treated as a Wushu-derived modality). This definition guided the screening process (including mixed interventions when the Wushu component was predominant or separately analyzed; excluding studies focused on non-Chinese martial arts) and the search strategy, which incorporated synonyms, historical spellings, and Chinese terms, as well as controlled vocabulary (MeSH/Emtree) and proximity operators in the consulted databases.

Grey literature (e.g., theses, dissertations, technical reports, and conference proceedings) was excluded to maximize reproducibility, comparability of methodological quality (based on peer-review standards), and standardization of metadata across databases. It is acknowledged that this decision may reinforce



publication bias and underrepresent school/community experiences; this risk was partially mitigated through snowballing of references from included sources.

Articles were excluded if they: (i) were secondary reviews without primary data; (ii) presented descriptive accounts of athletic performance without methodological analysis; (iii) focused on other martial arts without emphasis on Wushu; (iv) involved the development of technologies/algorithms for movement analysis in Wushu.

The data collection and synthesis process followed these steps: importation of records and removal of duplicates using EndNote version 20 (Clarivate Analytics); title and abstract screening by two independent reviewers using Rayyan (Rayyan Systems Inc.), updated web version in 2025; full-text reading of eligible articles and final application of criteria; resolution of disagreements by consensus; documentation of the process in a PRISMA-ScR flowchart.

A structured spreadsheet (Excel/Google Sheets) was used, containing: author/year; country; sample; style/dose of intervention; setting; outcomes and measures; main findings; methodological notes (design, blinding, follow-up); and sociological annotations (e.g., gender/race/class when reported). Two reviewers independently extracted data; discrepancies were reconciled. Calibration: pilot with 50 random records; Cohen's $\kappa = 0.82$; Po = 0.94 (R Foundation for Statistical Computing, version 4.4.1, script available on OSF). Theoretical studies were extracted in a separate tab and were not included in the empirical research counts.

Data were organized into tables of characteristics stratified by study design (quantitative/qualitative/mixed/theoretical) and by domain (educational, clinical/health, psychological/motor, or cultural). Frequency charts (themes, methods, outcomes) and an evidence map by domain were produced. Due to heterogeneity in interventions and outcomes, no meta-analysis was conducted; the synthesis is narrative and analytical, with identification of methodological and sociological gaps. No formal quality assessment was performed, as per PRISMA-ScR; however, a descriptive robustness matrix (sample size, design, blinding, adherence/attrition) is presented in Supplementary Table A1.

As this scoping review is based exclusively on previously published data, with no direct involvement of human participants, it did not require approval from a Research Ethics Committee. The review was conducted in accordance with PRISMA-ScR guidelines (Tricco et al., 2018) and adhered to principles of scientific integrity and research transparency.

This study employed artificial intelligence tools in an assisted manner to support writing, language revision, and text organization, including ChatGPT (OpenAI) and Grammarly. All decisions regarding data analysis, extraction, and synthesis were made exclusively by the authors, ensuring the academic and methodological integrity of the work. The use of these tools was limited to editorial support functions and did not interfere with the interpretation of results or scientific conclusions. The prompts used in the manuscript are available in the OSF record.

The review was conducted in accordance with PRISMA-ScR, with a registered protocol in OSF, dual screening, and complete documentation of search procedures; nevertheless, some limitations must be considered. Grey literature (e.g., theses, dissertations, conference proceedings, and technical reports) was excluded to enhance reproducibility, comparability, and metadata standardization—a decision that may reinforce publication bias and underrepresent school and community-based experiences, only partially mitigated through snowballing.

The temporal scope (2015–2025) and linguistic scope (English and Portuguese) may have excluded earlier evidence and studies published in other languages, notably Chinese and Spanish. Considerable heterogeneity was observed among styles/substyles, intervention formats, and outcomes, which prevented quantitative synthesis and limited direct comparisons, thus justifying the adoption of a narrative synthesis.

“Wushu” was adopted as an umbrella term for Chinese martial arts; in mixed interventions or those with non-standard terminology, conservative application of eligibility criteria may have led to the exclusion of some reports. No formal risk of bias assessment (RoB/ROBINS-I) was conducted—only a descriptive characterization of robustness, which is insufficient to judge internal study quality. Despite the use of MeSH/Emtree terms, synonyms, historical spellings, and Chinese characters, it is possible that studies



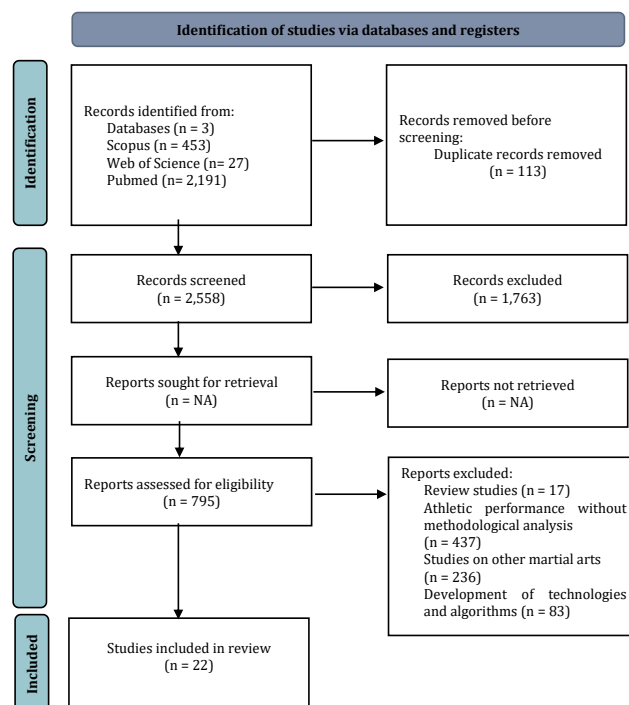
indexed only in unsearched databases or regional journals were missed, and residual classification or transcription errors may have occurred despite duplicate screening and extraction.

Finally, the search was completed in July 2025; evidence published thereafter was not captured. Overall, the findings should be interpreted as a broad but non-exhaustive map. Future studies are encouraged to conduct targeted searches of grey literature, define minimum outcome sets per domain, apply TI-DieR/CERT for reporting standardization, and, where sufficient homogeneity exists, pursue focused reviews with formal risk of bias assessment.

Results

The search was completed in July 2025. The process of identification, screening, and inclusion resulted in 22 eligible studies; detailed counts for each stage are presented in Figure 1 (PRISMA-ScR), and the reasons for exclusion are listed in Supplementary Table A2.

Figure 1. PRISMA-ScR Flow Diagram of the Study Identification, Screening, and Inclusion Process



Source: Authors' own elaboration.

Characterization of Included Studies

Of the 22 studies included in this review, 16 were empirical (12 quantitative, two qualitative, and two mixed-methods) and six were theoretical. The empirical studies formed the main analytical set, with extracted data on sample characteristics, study design, intervention dose, outcomes, and measurement tools. The theoretical studies were analyzed separately, focusing on conceptual scope, curricular approaches, and sociological contributions, and were excluded from the quantitative analyses and robustness matrix.

The empirical studies were conducted across 11 countries, with a predominance of research from China (13 studies), followed by Taiwan, Italy, Lebanon, Japan, Chile, South Korea, Tunisia, Switzerland, and one multinational European study. Interventions ranged from 8 to 52 weeks in duration, with weekly frequency varying from 1 to 5 sessions depending on the protocol and context. Measured outcomes included physiological indicators (cardiorespiratory fitness, body composition, and bone density),

psychosocial variables (anxiety, well-being, and self-control), and educational metrics (engagement and social skills).

The qualitative studies involved interviews with teachers, students, and instructors, as well as field observations. These investigations explored perceptions of Wushu instruction, pedagogical approaches, contextual barriers, and cultural aspects of practice. Due to their interpretive nature, it was not possible to quantify the total number of participants in a manner comparable to experimental studies.

The theoretical studies focused on conceptual, curricular, and sociological analyses, addressing themes such as corporeality, embodied spirituality, intangible heritage, and pedagogical models. These works did not involve human samples and were therefore excluded from participant counts.

To avoid confusion between different study types, data were organized into separate tables by methodological design, as presented in the following sections. Quantitative interventions were described individually, without aggregated averages, to respect the diversity of protocols and contexts.

Wushu in Physical Education Teaching

Eight studies addressed Wushu interventions in school settings, spanning early childhood education, primary education, and higher education. Interventions ranged from 8 to 24 weeks, with a weekly frequency of 1 to 3 sessions per week. The studies explored pedagogical approaches, psychosocial effects, and curricular aspects across different countries and age groups. A synthesis of the main objectives, methods, and findings is presented in Table 2.

Table 2. Summary of studies on Wushu interventions in school physical education

Author (Year) - Country	Objective	Sample/Participants	Intervention (Duration/Frequency)	Method/Design	Main Outcomes	Key Findings
Li et al. (2025) - China	Compare sensory-integrated martial arts program (MAST) vs. traditional martial arts teaching (MATT) in improving attentional networks in preschool children.	Preschool children, randomized into 3 groups	10 weeks, fixed-duration sessions	Randomized allocation to MAST, MATT, or outdoor free play	Attentional networks (alerting, orienting, executive control)	MAST produced superior gains in executive control and alerting efficiency compared to MATT and free play.
Hsu et al. (2025) - Chile	Assess impacts of Taekwondo and Shaolin Kung Fu on emotional well-being, academic engagement, and physical health in university students.	11 undergraduates	Regular practice, mixed martial arts	Mixed-methods: biometric measures, questionnaires, structured interviews	Physical health, stress regulation, motivation, academic engagement	Reduced BMI, waist circumference, BP, HR; improved oxygen saturation; enhanced stress regulation, motivation, concentration, and interpersonal skills.
Yang, Yao, & Wang (2025) - China	Investigate Wushu's impact on interpersonal skills in adolescents, with psychological quality as mediator and only-child status as moderator.	379 adolescents (12-15 years)	Protocol of Chinese martial arts	Randomized controlled trial (experimental vs. control)	Interpersonal skills, psychological quality	Wushu improved interpersonal skills; psychological quality fully mediated; only-child status moderated effects.
Xu et al. (2025) - China	Compare aggression levels between adolescents practicing traditional Chinese martial arts vs. other martial arts; test self-control and depression as mediators.	847 martial arts practitioners (410 Chinese styles; 437 other styles)	Cross-sectional exposure	Cross-sectional survey with psychometric scales	Aggression, self-control, depression	No significant difference in aggression between groups; martial arts exercise level negatively predicted aggression.
Song & Shapie (2024) - China	Examine implementation of Kung Fu Wushu in primary education, focusing on curricular popularity, student interest, and teaching models.	315 certified teachers, 44 schools	Curricular practice (1-3 sessions/week or daily)	Survey study	Curricular frequency, student interest, teaching models	50% schools offered 1-3 sessions/week, 40% daily; 69% of students disliked classes; 85% teachers used "basic skills + routines"; 12% included sparring.
Ziyi (2024) - Japan	Assess effects of Kung Fu Wushu on physical, psychological, and social health of students.	96 students (experimental vs. control)	24 weeks, 1 session/week	Quasi-experimental design	Physical, psychological, social health	Significant improvements across physiological, psychological, and



Chen (2023) – China	Evaluate Wushu as an elective discipline in universities for physical health promotion.	Undergraduate students	Elective course, duration not specified	Conceptual analysis with empirical basis	Physical fitness, mental health	social domains after Wushu practice. Wushu electives improved strength, flexibility, endurance, and mental health; aligned with higher education health promotion guidelines.
Zhang et al. (2023) – China	Investigate impact of Wushu education on social adaptability of university students.	University students in Wushu programs	Regular curricular practice	Quantitative study with psychometric scales	Social adaptability (interaction, cooperation, empathy, integration)	Wushu practice associated with higher social adaptability, especially empathy, cooperation, and peer integration.

Source: Authors' own elaboration.

Clinical and Health Promotion Interventions

Six studies evaluated interventions involving Wushu and related styles (Tai Chi, Bajiquan, Nanquan) in clinical and public health contexts. Intervention durations ranged from 8 to 52 weeks, with a weekly frequency of 2 to 5 sessions per week. The measured outcomes included cardiorespiratory fitness, body composition, bone mineral density, and hormonal and metabolic indicators. A synthesis of the main objectives, methods, and findings is presented in Table 3.

Table 3. Summary of studies on Wushu interventions in clinical and health contexts

Author (Year) - Country	Objective	Sample/Participants	Intervention (Duration/Frequency)	Method/Design	Main Outcomes	Key Findings
Walther, Lacker, & Ehlert (2018) – Switzerland	To evaluate the effects of Tai Chi Qigong and/or self-defense Kung Fu on steroid profiles (testosterone, cortisol) and mental/sexual health indicators in middle-aged and older men.	Healthy middle-aged and older men, practitioners for ≥1 year, with age-matched controls	Cross-sectional exposure, regular practice	Cross-sectional study	Hormonal balance, depression, life satisfaction	High-frequency practice associated with favorable cortisol/testosterone ratio, lower depression, and greater life satisfaction.
Sahli et al. (2021) – Tunisia	To assess postural control and neuromuscular responses in adolescents trained in Wushu compared to non-practitioners, and to examine the effect of visual suppression in postural tasks.	Adolescents aged 11–13, Wushu practitioners vs. non-practitioners	Regular Wushu practice	Comparative cross-sectional design	Postural balance, neuromuscular activation	Wushu-trained adolescents showed superior dynamic balance, reduced visual dependence, and faster, stronger muscular responses to perturbations.
Khalil, Pinti, & El Hage (2023) – Lebanon	To investigate effects of a recreational Wushu protocol on bone health parameters (BMC, BMD, femoral neck strength indices) in inactive youth.	Inactive young adults, randomized into Wushu group vs. control	1 year, 2 sessions/week; standardized routines of strikes, kicks, falls, resistance and power training	Randomized allocation, controlled design	Bone mineral content/density, VO ₂ max, strength, performance	Wushu reversed whole-body bone mass loss, increased forearm density, improved maximal strength, VO ₂ max, and performance in jumps and runs.
Kong, Tian, & Zhu (2023) – China	To compare effects of three Tai Chi programs (24-Style TC Chuan, TC Kung Fu Fan, TC Softball) on bone mineral density variation.	49 adults aged 55–65 at risk of osteoporosis	24 weeks, style-specific Tai Chi practice	Randomized controlled trial, blinded assessment	Bone mineral density (lumbar spine, femoral neck, Ward's triangle)	All styles effective in preventing bone loss; 24-Style TC Chuan showed earlier lumbar/Ward's improvements; Kung Fu Fan excelled in femoral neck gains.
Wang, Tien, & Huang (2025) – Taiwan	To evaluate effects of an 8-week Bajiquan training program on physical fitness, body composition, and perceived exercise benefits.	30 adults, experimental vs. control groups	8 weeks, Bajiquan practice	Quasi-experimental design	Body weight, fat %, cardiorespiratory endurance, explosive power, core strength	Bajiquan group showed significant improvements in fitness parameters and reported greater personal/social benefits compared to controls.



Cha & Jee (2018) – South Korea	To compare effects of Wushu Nanquan (NQ) vs. Changquan (CQ) on body composition and cardiac function in children.	37 children aged 8–12, randomized to CQ (n=20) or NQ (n=17)	8 weeks, 40 min, 3×/week	Randomized intervention	Body weight, basal metabolic rate (BMR), physical efficiency index (PEI), heart rate	NQ group showed significant weight reduction, increased BMR, higher PEI; HR during routines was significantly higher in NQ, indicating greater intensity and potential cardiac benefits.
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Source: Authors' own elaboration.

Psychological and Motor Performance

Four studies investigated the effects of Wushu on executive functions, postural control, emotional regulation, and social skills. The interventions were applied to children, adolescents, and adults, using different protocols and assessment instruments. The main objectives, methods, and findings are summarized in Table 4.

Table 4. Summary of studies on Wushu interventions in psychological and motor domains

Author (Year) - Country	Sample/Population	Intervention/Protocol (Duration/Dosage)	Study Design	Main Outcomes	Key Findings
Wei & Liu (2023) – China	123 university students	6 weeks of structured exercise protocol	Quantitative study using psychometric surveys	Psychological effects, perceived well-being	Demonstrated a positive impact of structured exercise on stress reduction and emotional regulation in college students.
Moore, Woodcock, & Dudley (2021) – Australia	283 secondary school students	Martial arts wellbeing program (<i>Resilience</i>)	Randomized Controlled Trial (RCT)	Resilience, anxiety, and psychosocial well-being	Significant increase in resilience and self-regulation; reduction in anxiety levels in the intervention group.
Wong et al. (2019) – Hong Kong / China	60 community-dwelling older adults	Chinese martial art training	Controlled clinical trial	Static/dynamic balance, fall prevention and fall rates	Null/Negative Finding: Chinese martial art training failed to improve balance or inhibit falls in older adults.
Song, Shapie, & Alam (2024) – China	Primary school students	Integrated Wushu teaching model (morality, skill, and fitness)	Quasi-experimental study	Social skills, physical fitness, and student interest	The integrated model promoted improvements in psychomotor development, moral conduct, and social engagement among students.

Source: Authors' own elaboration.

Cultural and Ethnographic Investigations

Four theoretical and qualitative studies examined Wushu as a cultural, spiritual, and educational practice, focusing on identity, embodiment, and martial ethos. The analyses encompassed school, community, and monastic contexts, with emphasis on ethnographic and curricular approaches. A synthesis of the studies is presented in Table 5.

Table 5. Summary of cultural and ethnographic studies on Wushu

Author (Year) - Country	Objective	Sample/Participants	Intervention/Context	Method/Design	Main Outcomes	Key Findings
Nešković (2024) – China	To analyze how Kung Fu practice at Shaolin Monastery incorporates Chan Buddhist teachings, enabling embodied spirituality.	Monastic practitioners, ethnographic immersion (2018–2020)	Shaolin Monastery, Kung Fu practice integrated with Chan Buddhism	Full ethnography: intensive participant observation, formal/informal interviews, group discussions, archival and audiovisual analysis	Habitus formation, religious dispositions, embodied spirituality	Practitioners' habitus evolves through correspondence with monastic culture; Kung Fu incorporates Chan at two levels: as a martial path with spiritual depth and as complementary practice to monastic ethos for ordained monks.
Jia et al. (2022) – Europe	To explore experiences and pedagogical approaches of	21 Wushu coaches (8 Chinese immigrants, 13 Europeans; 16	Teaching children aged 4–16 in European contexts	Qualitative study: semi-structured interviews	Teaching objectives, content, class structure, competition focus	Most follow official Chinese content; few adapt routines with playful/problem-based methods. Majority persist



	Wushu coaches teaching youth in Europe.	professionals, 5 amateurs)				with analytical/repetitive methods from traditional training, unsuitable for recreational learners. Professionals emphasize competition; amateurs emphasize leisure.
Fan (2021) – China	To develop a model for integrating didactic resources in Wushu and traditional national sports education systems.	Experts, literature review, questionnaires, interviews	Curricular integration of Wushu and traditional sports	Qualitative study: literature review, expert consultation, logical model analysis	Curricular resource integration, strengths/weaknesses of system	Proposed integration plan for professional teaching platforms, with guidelines for unification, modularization, and sharing of Wushu/traditional sports content. Identified strengths (comprehensive system, technique classification) and weaknesses (content overlap, lack of standardization), with improvement measures suggested.
Bai (2017) – China	To compare Kung Fu education in urban vs. rural schools, evaluating curriculum structure, workload, content variety, and perceptions of teachers/students.	Primary and secondary schools in Hubei (urban vs. rural)	School-based Kung Fu education	Comparative analysis with quantitative data collection	Curricular diversity, teacher attitudes, student understanding	Urban schools offered greater diversity of disciplines (basic forms, long/short routines, applied martial arts), more hours, and more formats (recess activities, extracurricular training) than rural schools. Urban teachers valued Kung Fu more and showed more favorable attitudes than rural counterparts.

Source: Authors' own elaboration.

Discussion

This scoping review mapped Wushu interventions between 2015 and 2025 across four domains: educational, clinical/health, psychological/motor, and cultural. It described how these interventions have been implemented (in terms of styles, doses, and contexts), the outcomes measured, and the methodological and sociological gaps that persist. The corpus comprised 2,671 records, of which 113 duplicates were removed, 1,763 records were screened by title/abstract, 795 were assessed for eligibility, and 22 studies were included. Interventions, broadly speaking, ranged from 8 to 52 weeks, with small to moderate sample sizes and a notable variety of measurement instruments. The synthesis was narrative and analytical, consistent with the mapping objective, and findings were presented stratified by study design and domain.

Overall, the studies report recurring signals in functional and psychosocial outcomes, particularly in balance/postural control (Sahli et al., 2021), cardiorespiratory fitness indicators (Wang, Tien, & Huang, 2025), body composition and bone mineral density markers (Kong, Tian, & Zhu, 2023; Khalil, Pinti, & El Hage, 2023), as well as perceived stress, well-being, and self-efficacy measures (Walther, Lackner, & Ehlert, 2018; Xu et al., 2025). These signals, however, emerge from heterogeneous designs and instruments, with differences in dose (frequency, session duration), configuration (school, clinical, community), and metrics (varied balance tests, distinct protocols for body composition and BMD, and diverse questionnaires for psychological variables). As a result, direct comparability across studies is limited, and there is no basis for strict efficacy inferences; the contribution of this review is to describe what has been done, where, and how it was measured, establishing a useful panorama for future standardization.

When analyzed by domain, distinct patterns emerge. In the educational domain, curricular or extracurricular interventions focusing on psychomotor engagement prevail, often involving samples of children and adolescents (Li et al., 2025; Yang, Yao, & Wang, 2025). There is a diversity of objectives, such as motor coordination (Ziyi, 2024), practice discipline (Song & Shapie, 2024), and classroom engagement (Hsu et al., 2025), with little uniformity in outcomes, which hinders longitudinal comparison across programs. In the clinical/health domain, studies with adults and older adults prioritize functional and bone-related outcomes (Kong, Tian, & Zhu, 2023; Khalil, Pinti, & El Hage, 2023; Walther, Lackner, & Ehlert, 2018), but vary widely in dose and protocols, and rarely include standardized comparators, which limits



consistency assessment. In the psychological/motor domain, executive attention measures (Li et al., 2025), postural control (Sahli et al., 2021), and emotional regulation (Xu et al., 2025) predominate, sometimes combined with subjective assessments of stress and well-being (Walther, Lacker, & Ehlert, 2018); the variety of instruments and timeframes prevents cumulative synthesis. In the cultural domain, descriptive or ethnographic works prevail (Bai, 2017), offering valuable historical and martial ethos contextualization, but with limited integration into intervention evaluations using standardized measures—suggesting an opportunity for methodological convergence between cultural analysis and applied studies.

A cross-sectional reading of the methods reveals explicit constraints to cumulative robustness in the field. Small sample sizes, short-duration interventions, and the absence of shared core outcomes reduce inferential power and interstudy comparability. Moreover, the evidence is geographically concentrated and linguistically restricted, introducing location and language bias and limiting generalizability to other contexts. The diversity of styles within Wushu also emerges as a source of heterogeneity: when substyles are not precisely described (or when “doses” and technical progressions are not detailed), it becomes difficult to interpret whether observed signals are associated with technical content, intensity, volume, social practice context, or a combination of these factors (Wang, Tien, & Huang, 2025; Kong, Tian, & Zhu, 2023; Song & Shapie, 2024).

In light of these limitations, the claims made in this discussion are deliberately measured and oriented toward improving study design and reporting, rather than extrapolating effects. A minimum set of intervention descriptors and a preliminary core outcome set per domain are proposed, along with preferred instruments and standardized measurement windows, to enable comparability and facilitate cumulative synthesis. Second, it is recommended to qualify implementation reporting (fidelity, adherence, contextual conditions, instructor training) and to provide disaggregated data by sex/gender, age, and socioeconomic status to allow subgroup analyses and reduce selection bias. Third, geographic and linguistic coverage should be expanded to test replicability in contexts beyond the countries currently dominating the literature. Fourth, the sociological agenda lacks explicit strategies, including mixed-methods studies that incorporate gender, class, and race/ethnicity variables; network analyses between schools and masters; and comparative ethnographies that engage with functional metrics to elucidate how social structures modulate access, adherence, and the meaning of practice (Bai, 2017).

These recommendations do not replace the need for more rigorous analytical designs, but rather precede them. Implementation pilots, process evaluations, longitudinal studies, and, when appropriate and feasible, controlled trials with preregistration and standardized outcomes are rational steps following this mapping phase. At the same time, there is room for comparative studies between substyles (Wang, Tien, & Huang, 2025; Kong, Tian, & Zhu, 2023), provided that dose and technical progression equivalence are carefully defined and reported. Finally, integrating the cultural domain—where the ethos and symbolic grammar of Wushu reside—into applied evaluations may enrich understanding of social mechanisms of engagement, retention, and educational/health meaning, expanding the reach of interventions without sacrificing measurable rigor (Cynarski, 2012).

The conclusions presented here should be interpreted within the framework of a scoping review design and the limitations of the study itself: heterogeneity of designs, interventions, and instruments; frequent small sample sizes and short durations; geographic and linguistic concentration; absence of formal quality assessment (a feature of PRISMA-ScR); and time and language constraints, in addition to the deliberate exclusion of grey literature. These factors discourage efficacy inferences. The contribution of this discussion is to transparently and cautiously organize the current state of evidence, identify operational and sociological gaps, and outline a methodological progression path (minimum standardization of interventions and outcomes, qualified reporting, and geographic/linguistic expansion) that may enable, in subsequent stages, more precise testing of hypotheses regarding effects in educational, clinical, psychological/motor, and cultural contexts.

Conclusions



This scoping review described how Wushu interventions have been implemented and evaluated between 2015 and 2025 across educational, clinical/health, psychological/motor, and cultural domains. The resulting overview highlights where, with whom, and under what doses and styles these interventions have been conducted, as well as the most frequently measured outcomes. Collectively, the studies report recurring signals in balance/postural control, cardiorespiratory fitness, body composition, bone mineral density, and psychosocial indicators, including perceived stress, well-being, and self-efficacy. These findings, however, emerge from heterogeneous designs and instruments, with relevant differences in dose, context, and metrics, which restrict direct comparisons and discourage efficacy inferences. The contribution of this synthesis lies less in estimating effects and more in organizing what has been done, where, with whom, and how it was measured—marking the methodological and sociological gaps that limit cumulative progress in the field.

The interpretation of the results must consider the limitations inherent to both the body of evidence and the design of this review, including generally small samples, short-duration interventions, the absence of standardized comparators, geographic and linguistic concentration, poorly systematized diversity of styles and doses, and wide variation in instruments used to measure similar outcomes. Added to this are the temporal and linguistic scope adopted, the deliberate exclusion of grey literature, and the absence of formal quality assessment. These elements reduce generalizability and reinforce the need for greater operational standardization and for implementation and evaluation strategies that are comparable across contexts.

In light of this diagnosis, the research and practice agenda requires coordinated steps: standardizing the description of interventions (style/substyle, technical components, frequency, session duration, and total duration), documenting fidelity and adherence, and defining core outcome sets per domain with specified instruments and measurement windows for balance, bone mineral density, body composition, and psychosocial variables. Advancing implementation studies and process evaluations, articulating time series and longitudinal follow-ups, and, when appropriate, employing controlled designs with preregistration tends to increase the precision of inferences. Meaningful progress also depends on disaggregated data by sex/gender, age, and socioeconomic status; on effective integration of sociological dimensions (gender, class, and race/ethnicity) through mixed methods, network analyses between schools and instructors, and comparative ethnographies linked to functional metrics; and on bilingual geographic expansion when feasible. Comparisons between Wushu substyles require prior criteria for dose and technical progression equivalence so that observed differences can be meaningfully interpreted.

Financing

This study did not receive any financial support from funding agencies, institutions, or sponsors. No funder had any role in study design, data collection, analysis, interpretation, or manuscript preparation.

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