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Turkish Journal of Kinesiology

ORIGINAL RESEARCH

Integrating ideological and political education into cheerleading curriculum in Chinese universities: A pedagogical design study

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Received:
August 25, 2025

Accepted:
October 16, 2025

Published:
October 30, 2025

Keywords:
Cheerleading curriculum, ideological and political education, socio-cultural literacy, technical performance, university students.

Abstract

This study designed and evaluated a pedagogical model integrating Ideological and Political Education (IPE) into university cheerleading curricula in China. The aim was to enhance students' physical fitness, technical performance, and socio-cultural literacy. A quasi-experimental pretest-posttest control group design was employed with 250 undergraduate students randomly assigned to an experimental group (n = 125) or a control group (n = 125). The intervention lasted 16 weeks and included four modules: value guidance, skill enhancement, physical and mental development, and evaluation-feedback. Outcome measures included flexibility, endurance, coordination, technical proficiency, and IPE perception scores, complemented by qualitative feedback. The experimental group demonstrated significantly greater improvements than the control group in physical and technical domains ($p < 0.05$), as well as in moral values, civic responsibility, and national identity ($p < 0.01$). Qualitative analysis indicated increased team cohesion, resilience, and cultural pride. This study advances prior work by proposing a replicable four-module instructional model that integrates IPE explicitly into cheerleading through defined objectives, rubrics, and procedures, and by evaluating both technical/physical outcomes and IPE literacy within a quasi-experimental design.

Introduction

Cheerleading, as a comprehensive sport integrating dance, gymnastics, and acrobatics (Bucaro, 1995; Thomas et al., 2004), has developed rapidly in recent decades and has become an important component of physical education and campus culture in many countries (Canty et al., 2024). Originating in the United States, cheerleading has expanded globally, taking on diverse forms that combine physical performance with artistic expression. In China, cheerleading has been widely introduced into universities, not only as a competitive sport but also as a medium for cultivating teamwork, aesthetic appreciation, and physical fitness (CCA, 2020). With its dynamic movements, collaborative stunts, and rhythmic choreography, cheerleading promotes both physical and psychological development in students while enhancing campus vitality (Zhiren et al., 2025).

In China, cheerleading has developed rapidly in both school and community sports, and under the International Cheer Union (ICU) regulations, it is categorized into three main divisions: Performance Cheer, Pom Dance, and Cheer (Turniejowe, 2023). Compared with Pom Dance, Cheer involves more technically demanding elements throughout the routine, combining compulsory components with optional high-scoring skills.

Globally, research on cheerleading education has explored diverse pedagogical frameworks, integrating elements such as skill-based training, safety protocols, and socio-cultural development (Qin & Li, 2025; Riddell et al., 2025). These frameworks often emphasize not only the enhancement of physical performance but also the cultivation of teamwork, leadership, and value-oriented education (Gavanda et al., 2023; Shields & Smith, 2009). While in China, although certain progress has been made in incorporating ideological and political

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Turk J Kinesiol, 11(5), 292-298. doi: 10.31459/turkjkin.1771706

education into higher education (Li, 2025; Yu & Wang, 2025), a systematic instructional model and empirical research framework specifically for cheerleading have yet to be established. In physical education internationally, values-oriented approaches (values-based PE, sport education, service-learning) embed explicit affective objectives, guided reflection, and dual assessment of motor and personal-social outcomes. These practices echo calls for holistic PE and civic competencies. However, cheerleading-specific models that operationalize value integration with reproducible procedures (clear within-lesson activities, fidelity checks, and multi-dimensional outcomes) remain scarce. Existing studies are often descriptive or lack structured rubrics and robust outcome triangulation. We address this gap by developing and testing a four-module IPE-integrated model tailored to university cheerleading, with implementation fidelity and psychometric/technical rigor.

Methods

Study Design

We employed a quasi-experimental pretest-posttest control group design across three phases: (1) model development, (2) 16-week implementation, and (3) outcome evaluation. All procedures complied with institutional ethical guidelines and were approved by the university ethics committee (Approval No: SWU-PE-20230301). Written informed consent was obtained from all participants.

Participants

A total of 250 undergraduate students from a comprehensive university were recruited via course announcements with eligibility criteria (no current injury; basic PE attendance eligibility; ability to participate in cheerleading training). Participants were then allocated at the class level to an experimental group (n = 125) and a control group (n = 125) using School scheduling is random procedures. Baseline equivalence between groups was examined for demographics and all pretest outcomes (flexibility, lower-limb power, endurance, technical proficiency, and IPE literacy); no statistically significant differences were detected (all $p \geq 0.05$).

Instructional Model Development

Building on existing cheerleading pedagogy and value-oriented PE frameworks, we developed a four-module instructional model-value guidance-skill enhancement-physical & mental development-evaluation & feedback-with explicit lesson-level procedures and fidelity checks:

Comprised four core modules

Value Guidance Module (5-8 min per session): A micro-case links the day's technical focus (group stunts, tumbling) to IPE themes (team responsibility, safety as civic responsibility). Students complete a brief Think-Pair-Share (3-5 min) and an exit ticket (1-2 prompts) reflecting how values inform movement execution.

Skill Enhancement Module (60-70 min): Progressive technical drills aligned with International Cheer Union (ICU) rules; role accountability for bases/flyers/spotters; safety brief and peer-feedback checklist to scaffold communication and coordination.

Physical and Mental Development Module (10-15 min): Conditioning for flexibility, core strength, and endurance, integrated with a short guided reflection on responsibility/communication under fatigue to promote holistic development and reduce injury risk.

Evaluation and Feedback Module (5-8 min): Rubric-based self/peer assessment with five-level descriptors (cooperation, safety communication, responsibility, execution stability), plus instructor notes for progress tracking.

Intervention Implementation

The experimental group followed the four-module model in two 90-min lessons per week for 16 weeks, including warm-up, technical drills, choreography/routine practice, and cool-down. The control group received the regular cheerleading curriculum without the structured IPE components. Session-level fidelity checklists (delivered/not delivered for case, interaction, reflection, rubric feedback) were completed by instructors. Attendance averaged 95% (experimental) vs 95% (control), and the completion rate of weekly assignments/exit tickets was 95%, indicating high compliance.

Outcome Measures and Evaluation

Physical Fitness Indicators: Flexibility: Sit-and-Reach following the National Physical Fitness Standards for Chinese College Students (protocol for warm-up, measurement posture, and scoring). Lower-limb power: Standing long jump with two attempts recorded; the better score used. Endurance: (800 m/1000 m) with standardized pacing and termination criteria. All tests were administered by trained PE staff using standard protocols and equipment

Technical Proficiency: Performances were evaluated using an ICU-aligned criterion-referenced rubric (difficulty, stability, synchronization, expression; 1-5 with anchors). Three national-level certified judges underwent a calibration session with anchor videos and scoring exemplars prior to data collection. For 25% randomly sampled routines, two judges independently scored performances to estimate inter-rater reliability, yielding ICC(2,k) = 0.88, 95% CI [0.82, 0.92], indicating good agreement. Discrepancies >1 point were adjudicated by the third judge.

Ideological and Political Literacy: A revised University Students' IPE Literacy Scale assessed moral values, civic responsibility, national identity, and teamwork (5-point Likert). Internal consistency was good (Cronbach' s α = 0.89 overall; subscales: 0.86 / 0.83 / 0.80). Sampling adequacy was supported (KMO = 0.91; Bartlett's χ^2(df = 276) = 1458.3, $p < 0.001$). Confirmatory factor analysis indicated an acceptable-to-good fit (e.g., CFI = 0.956, TLI = 0.949, RMSEA = 0.045, 90% CI [0.038, 0.052]; SRMR = 0.041), consistent with the intended multi-factor structure.

Class Participation and Satisfaction: Post-session questionnaires captured perceived relevance, teaching satisfaction, and perceived learning gains; open-ended items documented qualitative reflections on teamwork, responsibility, and safety communication.

Data Analysis

Data Analysis. We first screened the dataset for entry errors and outliers and then conducted assumption checks: Shapiro–Wilk tests and Q-Q plots for residual normality, and Levene's tests for homogeneity of variance. When assumptions were violated, we used Welch's t for between-group comparisons and Wilcoxon signed-rank tests for within-group changes, reporting Hodges–Lehmann estimates where appropriate. Two-sided α = 0.05 defined statistical significance. We reported Hedges' g with 95% CIs as effect sizes. To control multiplicity, we applied the Benjamini–Hochberg false discovery rate (FDR) within pre-specified families of related outcomes (physical fitness, technical proficiency, and IPE literacy), treating tests within each family as a single comparison set.

Results

Demographic and Baseline Characteristics

A total of 250 university students (experimental group: n = 125; control group: n = 125) participated in the study. The mean age of participants was 20.3 ± 1.1 years, with no significant differences between groups in age, height, weight, or baseline performance scores ($p > 0.05$). Both groups demonstrated comparable prior cheerleading experience and similar pre-test ideological and political education (IPE) awareness scores.

Physical Fitness Outcomes

Table 1 presents the pre- and post-test results for physical fitness measures. The experimental group showed significant improvements in flexibility ($p < 0.01$), endurance ($p < 0.05$), and coordination ($p < 0.01$), while the control group only improved significantly in flexibility ($p < 0.05$). Between-group comparisons indicated that the experimental group's post-test scores were significantly higher than those of the control group in all three dimensions ($p < 0.05$).

Technical Skill Performance

The experimental group showed significant post-intervention improvements in synchronization, difficulty level, and artistic expression ($p < 0.001$). Although the control group also improved, the magnitude of change was smaller. Between-group comparisons at post-test favored the experimental group in all technical domains ($p < 0.01$).

Table 1
Changes in physical fitness performance.

Variables	Groups	Pre-test		Post-test		p-value (groups)	
		Mean	SD	Mean	SD	within	between
Flexibility (cm)	Experimental	18.4	3.2	23.1	2.8	<0.01	<0.05
	Control	18.1	3.0	20.0	3.1	<0.05	
Endurance(s)	Experimental	75.2	8.4	82.7	7.9	<0.05	<0.05
	Control	74.5	8.0	76.3	8.2	0.21	
Coordination (score)	Experimental	7.8	1.1	9.1	1.0	<0.01	<0.05
	Control	7.7	1.2	8.0	1.1	0.18	

Table 2
Changes in IPE perception scores.

Domains	Groups	Pre-test		Post-test		p-value (groups)	
		Mean	SD	Mean	SD	within	between
Moral values	Experimental	3.45	0.42	4.21	0.39	<0.001	<0.01
	Control	3.47	0.44	3.50	0.46	0.62	
Civic responsibility	Experimental	3.33	0.40	3.98	0.37	<0.01	<0.01
	Control	3.35	0.39	3.38	0.41	0.55	
National identity	Experimental	3.51	0.45	4.12	0.41	<0.01	<0.01
	Control	3.52	0.43	3.55	0.44	0.58	

Ideological and Political Education (IPE) Perception

As shown in Table 2, the experimental group demonstrated significant increases in moral values ($p < 0.001$), civic responsibility ($p < 0.01$), and national identity ($p < 0.01$). The control group exhibited no significant changes in any domain. Post-test comparisons revealed significantly higher IPE perception scores in the experimental group compared to the control group ($p < 0.01$).

Qualitative Findings

The qualitative analysis converged with the quantitative improvements reported in Table 2, clarifying how students interpreted and enacted IPE-related values during training and performance. Thematic coding yielded three salient themes that map onto the IPE domains of moral values, civic responsibility, and national identity.

Theme 1: Role Ownership and Moral Accountability (anchored to moral values)

[ID-2023101201]: "*After we discussed role responsibility, our pyramid finally stabilized—everyone owned their part instead of waiting for others to fix mistakes*."

[ID-2023101209]: "*If I messed up the timing, I owned it and adjusted. Keeping to the routine plan felt like keeping a promise to the team*."

Interpretation. Students emphasized self-discipline, honesty, and accountability to collective goals. These narratives illuminate the mechanisms behind the strongest quantitative increases in moral values, showing how value talk translated into concrete, team-oriented behaviors during drills and routines.

Theme 2: Shared Safety Norms and Collective Stewardship (anchored to civic responsibility)

[ID-2023101956]: "*Pursuing higher difficulty now comes with deliberate prep—we talk through risks and agree on safety steps before trying*."

[ID-2023102978]: "*The safety checklist made me speak up when I wasn't ready, because it affects everyone's well-being, not just my score*."

Interpretation. Students linked technical decisions to shared safety norms and procedural accountability checklists, pre-attempt briefings). These practices reflect a shift from individual performance to collective responsibility, consistent with the significant gains in civic responsibility observed in Table 2.

Theme 3: Cultural Representation and Collective Identity (anchored to national identity)

[ID-2023111615]: "*When we performed the theme routine, it felt like telling who we are—I was proud that our moves carried a message*."

[ID-2023111689]: "*The music and formations weren't just for scores; they represented something we belong to*."

Interpretation. Narratives foreground cultural pride, representation, and symbolic meaning embedded in choreography and presentation, echoing the posttest superiority of the experimental group in national identity.

Discussion

This present study demonstrated that the integration of Ideological and Political Education (IPE) into cheerleading courses can simultaneously enhance university students' physical fitness, technical performance, and socio-cultural competencies. These results reaffirm the unique role of physical education (PE) in promoting both physical development and value-oriented education, echoing previous findings emphasizing the synergy between sports and moral cultivation (Boke et al., 2025; Sadeghi & Zoofaghari, 2025).

Synergistic Effects on Physical and Technical Development

The experimental group exhibited significant improvements in flexibility, endurance, and coordina-

tion, which align with prior studies indicating that cheerleading and dance-related physical activities facilitate neuromuscular adaptation and motor control (Bukowska et al., 2025; Yang et al., 2025). Our course design balanced technical difficulty with artistic performance, incorporating synchronized routines and complex formations to strengthen spatial awareness and reaction speed. Compared to the control group, the experimental group achieved higher scores in movement synchronization, difficulty execution, and artistic presentation, suggesting that technical training and value guidance are not mutually exclusive. On the contrary, they can reinforce each other, resulting in a "dual-helix" advancement of both athletic skills and cultural literacy.

Impact of IPE Integration

The increased IPE perception scores indicate that embedding cultural and moral narratives into sports activities can deepen students' emotional engagement and sense of meaning in the course (Chengrui et al.; Everard et al., 2025). This finding is consistent with initiatives in countries such as South Korea and Spain, where national identity education has been embedded in team sports to enhance social cohesion (Biel et al., 2025; Choi et al., 2024). The dual nature of cheerleading, as both a competitive and performative sport, provides an ideal medium for delivering cultural messages and reinforcing value-oriented education.

International Relevance and Transferability

Although the IPE content in this study is rooted in the Chinese socio-cultural context, the structural features of the pedagogy (four modules with explicit procedures, rubrics, and fidelity checks) may be portable. That said, value content is culturally situated, and any transfer should be treated as a hypothesis requiring contextual adaptation and formal validation rather than assumed generalizability. While the approach aligns with UNESCO's advocacy for integrating PE with value-based education (Dudley et al., 2017; Dudley et al., 2022; Dudley, 2025), cross-setting use should proceed via: (1) co-design with local educators to localize cases, prompts, and assessment language; (2) small-scale pilots to refine procedures and check feasibility; and (3) measurement-invariance testing (and instructor calibration/fidelity monitoring) to ensure conceptual and metric comparability. Multi-site comparative trials in diverse systems are needed to establish if, when, and for whom the model is effective, and to assess long-term sustainability of outcomes.

Practical Implications for Educators

To support adoption in routine teaching, we outline an actionable weekly cadence:

Micro-case (5-8 min) tied to the week's technical focus (e.g., group-stunt stability → role accountability). Guided interaction (3-5 min) using Think-Pair-Share to connect the case to execution cues. Skill block (60-70 min) with role-anchored drills, safety brief, and a peer-feedback checklist (timing, communication, readiness). Reflection & feedback (5-8 min) use a rubric for cooperation, safety communication, and responsibility; brief instructor notes for progress tracking. Every 4 weeks: a scenario-based decision discussion (risk escalation, spotting protocols), plus calibrated peer-assessment to align expectations. For program leaders, two levers are critical: (a) instructor calibration with anchor videos/rubrics to improve inter-rater alignment; (b) fidelity monitoring (delivered/not delivered on case-interaction-reflection-feedback) to sustain implementation quality.

Limitations

This study has several limitations. First, outcomes for IPE literacy relied primarily on self-report, which is vulnerable to social desirability and shared-method variance. Future evaluations should triangulate with behavioral indicators during practice (communication and safety-checklist adherence), peer/teacher ratings, and, where feasible, observer-coded video analyses to corroborate self-reports. Second, a teacher effect cannot be ruled out because the same instructors delivered both technical and IPE components. More rigorous designs—such as cluster randomization, instructor rotation, and independent fidelity audits—would help isolate the pedagogical model's unique contribution. Third, the 16-week duration limits inferences about maintenance; follow-up assessments and multiple post-time points are needed to test durability and decay of effects. Fourth, the single-institution context constrains generalizability; multi-site and cross-cultural replications are warranted. Lastly, while we controlled for statistical assumptions and reported effect sizes, the study may still be underpowered to detect small yet educationally meaningful differences on some secondary outcomes.

Conclusion

This study demonstrates that a replicable four-module instructional model can jointly enhance technical performance, physical fitness, and IPE-related literacy in university cheerleading. Quantitative improvements—particularly in moral values, civic

responsibility, and national identity—were convergent with qualitative evidence of role ownership, shared safety norms, and cultural representation. While effects must be verified across settings and sustained over time, the findings suggest that explicitly structured value integration can be embedded into performance-oriented training without diluting technical rigor, offering a practical pathway for educators to align skills, safety, and civic/identity outcomes.

Future Directions

Future research should: Track long-term outcomes such as sustained sport participation, team civic behaviors (speaking up on safety), and risk-communication competence; Test mediational pathways linking value guidance - role ownership safety norms - technical stability; Examine dose-response (frequency/length of value activities) and who benefits most (moderation by baseline literacy, prior team experience); Evaluate alternative delivery models (student-led reflection, peer captains) and technology-assisted feedback; Conduct multi-site cross-cultural trials with invariance-tested instruments, supported by pre-registered analysis plans.

Ethical Approval

This study was approved by the Ethics Review Committee of the College of Physical Education at Southwest University (Approval No: SWU-PE-20230301) and it was carried out in accordance with the Code of Ethics of the World Medical Association also known as a declaration of Helsinki.

Authors Contribution

Study Design: SJJ; Data Collection: JHH; Statistical Analysis: SJJ, JHH; Manuscript Preparation: SJJ, JHH; Funds Collection: SJJ.

Funding

Chongqing University of Posts and Telecommunications, University-level Ideological and Political Curriculum Project (XKCSZ2347).

Conflict of Interest

The authors hereby declare that there was no conflict of interest in conducting this research.

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