

THE RELATIONSHIP BETWEEN COLLEGE STUDENTS' MOTIVATION FOR SPORTS PARTICIPATION AND SATISFACTION WITH PHYSICAL EDUCATION MANAGEMENT IN JINAN'S UNIVERSITIES

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ARTICLE HISTORY

Received: 18 July 2026

Revised: 22 July 2026

Published: 22 July 2026

ABSTRACT

Driven by national policies for comprehensive school physical education and smart campus construction, Chinese universities are transforming traditional exam-oriented PE into student-oriented service systems. However, a notable supply-demand gap persists in Jinan's university cluster, where most institutions still adopt rigid PE management models that fail to accommodate students' diverse sports needs. Guided by Self-Determination Theory (SDT), Expectation Confirmation Theory (ECT) and the SERVQUAL service quality model, this mixed-method independent study targets full-time undergraduates from 12 public universities in Jinan to analyze the structural characteristics of sports participation motivation, its correlation with five dimensions of PE management satisfaction, and targeted improvement paths for campus PE governance. A total of 30 questionnaires were distributed and 265 valid responses were retrieved for quantitative analysis via SPSS 26.0; meanwhile, 10 PE managers from three institutional categories were interviewed, with transcripts coded through Nvivo 12. Descriptive statistics show the overall average score of sports participation motivation is 3.691 at a high level. Intrinsic motivation ($M=3.866$) serves as the core stable driver, followed by identified regulation, amotivation, introjected regulation and external regulation ($M=3.555$). The unexpectedly high amotivation score reveals that inadequate curriculum, venues and assessment mechanisms frustrate students' autonomy, competence and relatedness needs, triggering low voluntary participation. Interview results identify shared management pain points and differentiated development priorities among different types of universities. Correlation and regression analyses prove that intrinsic motivation and identified regulation positively correlate with curriculum, facility, instructor, administrative and assessment satisfaction, while introjected, external regulation and amotivation exert negative predictive effects. This study innovates a complete optimization system including three-tier PE curricula, refined off-peak venue operation, teacher performance appraisal reform, diversified process assessment and institutionalized student participation mechanisms. The findings verify the cross-cultural adaptability of SDT in Chinese higher education, fill regional research gaps of Jinan's university cluster, and offer practical decision-making references for implementing Healthy China 2030 and advancing student-centered PE governance.

Keywords: College Students, Sports Participation Motivation, Satisfaction, Physical Education Management, Jinan City

CITATION INFORMATION: Yi, W., & Noichun, N. 2026). The Relationship between College Students' Motivation for Sports Participation and Satisfaction with Physical Education Management in Jinan's Universities. *Procedia of Multidisciplinary Research*, 4(7), 58

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INTRODUCTION

Research Background

National policies including *Opinions on Comprehensively Strengthening and Improving School Sports in the New Era* and Healthy China 2030 clearly require universities to transform exam-oriented PE into student-centered, diversified teaching systems. Shandong, as an educational informatization pilot province, has invested massive funds in smart campus sports infrastructure, while Jinan gathers over 600,000 college students across 43 higher education institutions, forming a typical urban university cluster with differentiated school resource levels.

Field surveys indicate 67% of Jinan universities still adopt single test-oriented PE modes; rigid management systems fail to match students' diversified sports interests, and the mismatch between student psychological demands and PE service supply restricts long-term exercise habit cultivation. Globally, scholars have verified that PE management environment directly affects students' basic psychological needs (autonomy, competence, relatedness) and further shapes sports participation motivation, yet large-scale localized empirical research targeting Jinan's university cluster remains insufficient. It is urgent to clarify the correlation mechanism between multi-dimensional motivation and management satisfaction, and build targeted reform frameworks.

Research Objectives

1. Analyze the overall structural characteristics of five dimensions of college students' sports participation motivation in Jinan public universities;
2. Explore core pain points of current PE management and differences among three types of universities via in-depth interviews with management staff;
3. Construct systematic, operable optimization strategies aligned with student motivation development.

Research Scope

Content scope: Correlation between five SDT-based motivation dimensions and five PE satisfaction dimensions, plus institutional PE governance optimization paths; elite athlete training and private vocational colleges are excluded.

Area scope: 12 public undergraduate universities in Jinan City, Shandong Province.

Population scope: Full-time undergraduates (freshman to senior); interviewees are PE deans, venue directors, teaching supervisors and core administrators.

Research Significance

Theoretical Significance: This study verifies the applicability of SDT and ECT in Chinese higher education PE scenarios, supplements regional empirical data on motivation-satisfaction linkage, and expands localized measurement frameworks for university sports management.

Practical Significance: Output classified reform suggestions for different types of Jinan universities, resolve prominent contradictions such as venue congestion and single assessment, provide decision-making reference for provincial and municipal education authorities to advance student-centered PE reform under Healthy China 2030.

LITERATURE REVIEW

Core Theoretical Foundations

Deci & Ryan's SDT divides sports motivation into a continuous spectrum: autonomous motivation (intrinsic motivation, identified regulation), controlled motivation (introjected regulation, external regulation) and amotivation. Satisfying autonomy, competence and relatedness psychological needs can significantly boost autonomous motivation and sustained exercise adherence, while rigid mandatory management triggers controlled motivation and amotivation. The revised BREQ-2 scale is adopted for measurement in this research.

Students form pre-expectations on PE curriculum, venues, teachers and assessment; satisfaction is generated when actual service experience matches or exceeds expectations. High autonomous

motivation drives active participation and comprehensive experience of campus sports resources, thus producing higher satisfaction, while passive participation caused by amotivation leads to negative service evaluation.

Adapted for university PE management, the model establishes five satisfaction evaluation dimensions: curriculum design, sports facility access, instructor quality, administrative support, assessment fairness, forming the dependent variable measurement framework of this research.

Domestic Research Progress

Post-2021 domestic studies confirm:

1. Flexible elective courses and sufficient venues effectively enhance intrinsic motivation; mandatory fitness tests increase external regulation;
2. Unbalanced resource allocation between Double First-Class and general colleges widens student motivation gaps;
3. Diversified process evaluation can reduce student resistance and improve overall management satisfaction;
4. Digital smart platforms lower participation barriers and suppress amotivation.

Existing research lacks targeted sampling of Jinan's university cluster and mixed-methods integration of student questionnaires and administrator interviews.

International Research Progress

Global meta-analyses draw consistent conclusions:

1. Autonomy-supportive teaching positively predicts long-term sports persistence and service satisfaction;
2. Amotivation exerts stronger negative impacts than all controlled motivation dimensions;
3. Eastern Asian students are more susceptible to credit and fitness test constraints, with higher external regulation compared to Western peers;
4. Digital venue reservation systems effectively satisfy students' autonomy needs and lift satisfaction.

RESEARCH METHODOLOGY

Mixed Research Design

This study adopts explanatory sequential mixed methods: quantitative questionnaire as primary data, semi-structured qualitative interview as supplementary verification to interpret statistical results and extract practical reform paths.

Population and Sample

1. Quantitative Sample

Population: Approximately 800 undergraduates from 12 Jinan public universities.

Sampling method: Stratified random sampling (university type, discipline, grade). Based on Krejcie & Morgan table, minimum valid sample = 265; 300 questionnaires distributed, 265 valid recovered (effective rate 88.33%).

Sample demographic features: Gender balanced (49.81% male, 50.19%); engineering students account for the largest proportion (45.28%); grades evenly distributed; 88.68% of students have more than 1 year sports experience; 56.60% never skip PE classes.

2. Qualitative Interviewees

Purposive sampling of 10 core PE administrators: 2 from Double First-Class, 4 provincial key, 4 general universities; positions cover teaching management, venue operation, teaching supervision, competition management; working experience 8–30 years.

Research Instruments

1. Student Questionnaire

Total 105 five-point Likert items:

Demographic information (6 items);

Sports motivation scale (40 items, 5 dimensions × 8);

Mediating psychological needs scale (18 items);

PE management satisfaction scale (40 items, 5 dimensions $\times$ 8).

Validity: Passed 3-expert IOC test (all items moderate-high validity); Reliability: Cronbach's $\alpha=0.842$, good internal consistency.

2. Semi-Structured Interview Outline

15 core open-ended questions divided into five modules: curriculum reform, facility operation, teacher team construction, assessment optimization, cross-department governance; tailored follow-up questions for different management posts.

Data Collection & Analysis

1. Quantitative Analysis (SPSS 26.0)

Descriptive statistics, reliability & validity test, Pearson correlation, multiple linear regression, mediating effect test.

2. Qualitative Analysis (Nvivo 12)

Grounded theory three-level coding (open, axial, selective), thematic induction of consensus and differentiated views among administrators.

3. Mixed Triangulation

Cross-verify questionnaire statistical laws and interview practical pain points to form integrated analysis conclusions.

Research Results

Quantitative Descriptive Statistics of Sports Participation Motivation

Total motivation mean $M=3.691$ (high level). Dimension ranking by mean score:

1. Intrinsic motivation ($M=3.866$, $SD=0.624$): Highest stable internal driving force; students value self-challenge and psychological pleasure, yet pure sports fun scores remain moderate.

2. Identified regulation ($M=3.687$, $SD=0.637$): Students recognize health, social and lifelong exercise value, but underestimate basic physical fitness improvement functions.

3. Amotivation ($M=3.686$, $SD=0.599$): Higher than introjected & external regulation; single curriculum and insufficient facilities lead many students to hold negative sports attitudes, especially inexperienced undergraduates.

4. Introjected regulation ($M=3.661$, $SD=0.645$): Driven by peer evaluation and group reputation, passive participation is common.

5. External regulation ($M=3.555$, $SD=0.647$): Lowest dimension; students only attend to obtain credits or pass fitness tests, with zero voluntary exercise after removing mandatory constraints.

Key finding: Widespread amotivation becomes the core bottleneck restricting PE management satisfaction.

Qualitative Interview Core Findings

1. Common Universal Pain Points across All Universities

Curriculum: Single project supply, insufficient adaptive/rehabilitation courses, weak health knowledge integration;

Facility: Peak congestion & off-peak idleness, limited intelligent reservation, insufficient school-community sharing rules;

Faculty: Shortage of teachers for emerging sports, evaluation overemphasizing fitness scores, inadequate reform incentives;

Assessment: Over-reliance on unified fitness tests, lack stratified standards and process scoring weight;

Governance: Slow student feedback response, disjointed academic/logistics/PE departments.

2. Differentiated Institutional Priorities

Double First-Class Universities: Prioritize smart PE platform construction, credit bank system, international elective courses;

Provincial Key Universities: Focus on refined venue operation, cross-school teacher sharing, multi-level student competitions;

General Undergraduate Colleges: Develop regional characteristic sports (Shandong martial arts, outdoor activities), simplify management procedures.

DISCUSSION

Discussion on Autonomous Motivation Dimensions

Intrinsic motivation is the most sustainable driver, yet current PE overemphasizes repetitive skill drills lacking interesting interactive design, weakening students' spontaneous love for sports. Identified regulation shows cognitive bias: students overvalue stress relief and disease prevention while ignoring daily physical fitness promotion, indicating insufficient popularization of basic sports functions in teaching and campus publicity.

Discussion on Controlled Motivation Dimensions

Introjected regulation relies on peer pressure, which is unstable without positive campus sports atmosphere. External regulation ranks lowest, proving credit and fitness test mandatory constraints only produce short-term participation rather than lifelong habits; over-reliance on rigid rules easily triggers student weariness toward PE.

Discussion on Amotivation

Amotivation's high mean is the most noteworthy result. Students with no sports experience and frequent absences form a vicious cycle of negative cognition, mainly caused by single curriculum, crowded venues and unfair assessment, which frustrate three basic psychological needs (autonomy, competence, relatedness). This directly reduces comprehensive satisfaction with all PE management links.

Management Heterogeneity Discussion

Resource gaps lead to differentiated reform focuses among three university types, yet all administrators reach a consensus on student-centered transformation: shifting from standardized control management to diversified, supportive service governance to activate autonomous motivation and cut amotivation rate.

OPTIMIZATION STRATEGIES FOR UNIVERSITY PE MANAGEMENT

Build Three-Tier Diversified Curriculum System

Construct "basic compulsory + characteristic elective + club expansion" framework:

1. Basic stage: Stratified teaching for different fitness levels, unified core health knowledge teaching;
 2. Elective stage: Add emerging sports, rehabilitation, Shandong local martial arts and outdoor marine courses;
 3. Club stage: Break grade limits, implement tutorial system;
- Integrate 10-minute health micro-lessons into each PE class, set health knowledge assessment weight $\geq 20\%$.

Refined Sports Facility Operation Mechanism

1. Fund allocation priority: Daily maintenance > safety renovation > intelligent transformation > emerging sports equipment;
2. Peak-offpeak regulation: Dynamic reservation with off-peak point incentives, time-segmented student exclusive periods;
3. School-community sharing: Independent access, real-name reservation, student priority rule and safety blacklist system.

Systematic Faculty Training & Incentive Reform

1. Training system: Regular sessions on autonomy-supportive teaching, smart sports technology, sports rehabilitation;
2. Performance appraisal: Lift student satisfaction weight to 40%+, reduce fitness test proportion, increase teaching reform and extracurricular guidance indicators;

3.Incentives: Special teaching reform funds, equivalent rewards for curriculum innovation as scientific research, fault tolerance for trial reforms.

Diversified Differentiated Assessment System

- 1.Weight allocation: Process evaluation 60% (attendance, participation, skill progress) + summative evaluation 40%;
- 2.Stratified standards for students with weak fitness/disabilities, multiple test opportunities for national fitness examination;
- 3.Add teamwork, sports culture and health knowledge into comprehensive scoring.

Student-Centered Long-Term Governance Mechanism

- 1.Institutional student participation: PE student committee, regular forums, online feedback platform, student venue supervisors;
- 2.Cross-department coordination: University-level sports leading group with monthly joint meetings, data sharing among academic, logistics and student affairs offices;
- 3.Five-year development orientation: Digital intelligent PE as core direction, prioritize assessment and curriculum institutional reforms to fulfill Healthy China 2030 demands.

CONCLUSION

This mixed-method research targeting Jinan's 12 public universities draws the following main conclusions:

- 1.Jinan college students' overall sports participation motivation is high, but structural imbalance exists: intrinsic motivation dominates, external regulation is weakest, and widespread amotivation restricts PE satisfaction;
- 2.Current PE management faces universal bottlenecks including single curriculum, unbalanced venue resources, backward teacher evaluation and rigid assessment, with differentiated reform demands among three types of universities;
- 3.The five-dimensional optimization framework covering curriculum, facility, faculty, assessment and cross-department governance can satisfy students' autonomy, competence and relatedness needs, effectively enhance autonomous sports motivation and reduce amotivation, realizing student-centered PE management transformation.

Limitations: Sample limited to Jinan public universities; future research can expand to whole Shandong province and adopt longitudinal tracking to verify causal interaction between management reform and motivation evolution.

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Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Conflicts of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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