

Enhancing the Quality of University-Led Cultivation of Sports Talent in the New Era

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ABSTRACT

This study takes the autonomous cultivation of sports talent as its core topic. It systematically reviews universities' staged achievements in scale expansion, discipline development, and research capacity, while mapping key bottlenecks such as regional imbalance (the "higher in the east, lower in the west" pattern), the absence of a distinct disciplinary theory and methodology, and the narrowness and weak implementation of training objectives. Methodologically, it employs a literature survey, documentary analysis, and logical analysis to construct an "achievements–problems–pathways" analytical framework. The study proposes three mutually reinforcing optimization pathways:(1) deepen curriculum-embedded ideological and political education, integrating moral cultivation and the sporting spirit so that value guidance and competence development move in sync;(2) adjust training structures and resource allocation to strengthen catch-up efforts in the central and western regions and advance interdisciplinary integration, thereby improving the program portfolio and tiered structure;(3) build a high-level faculty and research community, enhancing innovation capacity and the quality of talent cultivation through international cooperation, practice-oriented research, and well-designed institutional incentives. The study concludes that enhancing the quality of the autonomous cultivation of sports talent is a continuous improvement process that co-evolves with national strategic needs. Guided by the value commitment to educating people for the Party and cultivating talent for the nation, efforts should focus on refining the quality assurance system and strengthening the evidence base, exploring cultivation models with Chinese characteristics, and providing a sustainable supply of talent and knowledge support for building a strong sports nation.

KEYWORDS

20th CPC National Congress; Sports Talent; Autonomous Cultivation.

1. INTRODUCTION

The 20th National Congress of the CPC made an integrated plan and advanced in a coordinated manner the endeavor to build China into a powerhouse in education, science and technology, and talent, elevating the strategic status and mission of education to an unprecedented height. Developing physical education is a pivotal foundation for supporting this strategic agenda. The Report to the 20th National Congress stresses upholding the principle of educating people for the Party and cultivating talent for the nation, comprehensively improving the quality of autonomous talent cultivation, and calls for "accelerating the building of a strong sports nation[1]." To realize the great rejuvenation of the Chinese nation and build a strong sports nation through vigorous development of the sports sector, improving the quality of the autonomous cultivation of sports talent is paramount. As a crucial nexus of talent, science and technology, and innovation, universities should shoulder the primary responsibility for training high-caliber sports professionals and for constructing a high-quality cultivation system. Clarifying the new-era requirements for the autonomous cultivation of sports

talent, taking stock of recent achievements and shortcomings, and exploring new pathways to enhance quality are priorities that demand focused attention.

2. URGENCY OF THE TIMES

The great rejuvenation of the Chinese nation depends on building both a strong sporting nation and a nation strong in talent. The strategic and overall importance of the sports sector within national planning has become more prominent, and its development pathway more clearly defined[2]. The Report to the 20th National Congress sets forth the fundamental task of fostering virtue through education and underscores educating people for the Party and cultivating talent for the nation, thereby pointing out new directions for training high-quality sports talent, building a strong sporting nation, and advancing the modernization of sport. We should uphold a people-centered development philosophy and pursue health promotion through sport, education through sport, and empowerment through sport, making the satisfaction of the public's fitness needs and the advancement of well-rounded personal development the starting point and ultimate goal of the autonomous cultivation of sports talent [3]. As the primary pipeline for sports talent, universities integrate science and technology, innovation, and resources, and constitute a crucial link in improving the quality of autonomous cultivation. At this pivotal juncture in the great rejuvenation of the Chinese nation, the endeavor to build a strong sporting nation exhibits distinct features of the times and plays a high-level guiding role. Advancing nationwide fitness, facilitating the transformation of the sports industry, strengthening sports diplomacy, and promoting sports culture all rely on robust support from sports professionals. At such a critical moment, China urgently needs to cultivate high-quality sports talent.

3. STAGED ACHIEVEMENTS IN UNIVERSITIES' AUTONOMOUS CULTIVATION OF SPORTS TALENT

Since the 18th National Congress of the CPC, universities have responded to the national call by deepening reform and innovation, autonomously cultivating a large cohort of outstanding and innovative sports talent, and achieving notable results in both quantity and quality.

3.1. Scaling Up the Autonomous Cultivation of Sports Talent

China's higher sports education has entered a fast track, with the autonomous cultivation of sports talent expanding in scale, advancing in tiering, and exhibiting a comprehensive pattern of "quantitative enlargement-structural optimization-spatial extension." On the policy front, initiatives such as the "Double First-Class" program, the strategy to strengthen teacher education, and the "Healthy China" initiative serve as key drivers; coordinated increases in fiscal investment, discipline platforms, and practice bases have jointly enabled a systemic scaling-up from enrollment quotas to training resources. Overall, enrollment in sports-related disciplines has grown steadily, the number of institutions offering such programs and the distribution of majors have risen markedly, and the diverse talent demands generated by socioeconomic development and the advancement of the sports sector have been preliminarily met[4].

At the undergraduate level, the total number of program points in sports-related disciplines has continued to rise, with core majors such as Physical Education and Leisure Sports expanding rapidly. The program portfolio has extended beyond traditional competition- and education-oriented tracks toward composite directions such as health promotion, integration of sport and medicine, community sports instruction, and event operations. Undergraduate enrollments have increased significantly compared with previous years, driving parallel upgrades in course offerings, practice settings, and faculty composition. By expanding university-local partnerships, developing varsity teams and club leagues, and improving on- and off-campus practicum bases, universities are advancing an integrated

education model that links “classroom–training–competition–community service,” thereby laying an initial foundation for the coordinated cultivation of professional competence, social responsibility, and health literacy.

At the graduate level, the capacity for high-level talent cultivation has increased markedly. An ever-growing number of universities have added doctoral degree authorization in sport science and professional master’s/doctorate authorization in sports, the layout of postdoctoral research stations in sport science has been further optimized, and the number of enrolled master’s and doctoral students has doubled compared with a decade ago. The structure of academic and professional graduate programs has become more balanced, and research agendas have expanded beyond singular foci on athletic training and pedagogy to encompass emerging areas such as sport and health, exercise rehabilitation, sport–medicine integration, sports governance, and data analytics-forming a tiered continuum of “academic leadership-technology transfer-social service.” Overall, this solid and extensive educational foundation has continuously supplied high-caliber personnel for the national sports enterprise, school and youth sports, elite sport, and nationwide fitness, driving substantive progress in the talent dimension of the strong-sports-nation strategy. It has also laid the groundwork for the next-stage transition from “scale expansion” to “quality enhancement, structural optimization, and evidence-informed improvement.”

3.2. A Clear Elevation in the Level of Disciplinary Development

Since 2011, two rounds of revisions to the Catalogue of Disciplines for Degree Conferral and Talent Cultivation have provided top-level design and a rules-based foundation for the institutionalized growth of sport science as a discipline, making its boundaries, training types, and degree-authorization logic increasingly clear. Through iterative refinements to the catalogue, sport science has gradually formed a relatively independent knowledge domain with a more stable architecture. On the one hand, the discipline’s internal theoretical lineages, research methodologies, and practical domains have been systematically organized; its knowledge status has shifted from an “auxiliary–subfield” orientation to an “independent–integrative” one, with markedly stronger community focus on core questions and a heightened sense of disciplinary identity. On the other hand, end-to-end norms-from degree authorization to training schemes-have become more robust; the talent-development pipeline spanning bachelor’s–master’s–doctorate–postdoctorate and the associated quality-assurance chain now function more smoothly, and the functional differentiation and complementarity between academic and professional degrees are clearer. Building on this foundation, the standing of sport science has steadily risen, with its academic influence and social reputation strengthening in tandem; it now possesses the practical conditions and knowledge base to advance toward establishment as an independent disciplinary category[5].

In 2017 and 2021, the sport science disciplines at Beijing Sport University and Shanghai University of Sport were successively included in the national “Double First-Class” initiative, marking a new stage in the development of peak disciplinary platforms and high-level teams. This has catalyzed agglomeration effects in laboratory infrastructure, research projects, and international cooperation, significantly enhancing the visibility and bargaining power of China’s sport science on the international academic stage. As a first-level discipline under the field of Education, Sport Science comprises four second-level disciplines-Physical Education and Training, Sport Humanities and Sociology, Human Movement Science, and Ethnic Traditional Sports-which have been continuously optimized in recent years in line with national strategies and industry needs. Physical Education and Training places greater emphasis on evidence-informed integration of school physical education and coaching science, promoting synergy among classroom instruction, physical conditioning, and injury prevention; Sport Humanities and Sociology is accelerating its alignment with topics such as sports governance, the sports industry, and social participation, strengthening policy evaluation and institutional research; Human Movement Science is deeply interfacing with public health, rehabilitation medicine, and intelligent assessment, becoming a key fulcrum for “sport–medicine

integration”; and Ethnic Traditional Sports has achieved breakthroughs in intangible cultural heritage protection, regional cultural revitalization, and curricular translation, thereby expanding the discipline’s cultural depth and social impact. Meanwhile, from the central to the local levels-and across universities and research institutes-various sport-science research bodies, key laboratories, research bases, and scholarly associations have been established and have matured in operation, forming a “three-in-one” support system for institutional supply, resource allocation, and academic exchange. The routine operation of academic conferences, journals, and professional societies has facilitated cross-institutional, cross-regional, and cross-disciplinary knowledge flows, gradually shaping an academic exchange circle characterized by higher standards, tighter collaboration, and greater outward orientation. Overall, the dual drivers of catalogue revisions and the “Double First-Class” initiative have enabled sport science to complete a critical transition in the degree system, organizational forms, and academic ecology-from “capacity expansion” to “quality consolidation”-thereby providing a solid disciplinary foundation and institutional guarantees for high-level sports talent cultivation, the building of a strong sporting nation, and the Healthy China strategy.

3.3. Research Performance

Under the sustained guidance of the Regulations of the People’s Republic of China on Academic Degrees, the “Double First-Class” initiative, and policy-and-funding schemes such as the National Natural Science Foundation of China, research capacity in China’s sport science has undergone a phased transition from rapid quantitative accumulation to substantive qualitative advancement. Overall, since 2005 academic publications have entered a period of rapid growth, peaking around 2011 and subsequently settling into a relatively stable, high-level trajectory. During this process, the researcher base has expanded, and agenda-setting within the scholarly community has aligned more closely with national strategies and educational practice, shaping a research ecology oriented toward the autonomous cultivation of sports talent. At the same time, scholarly paradigms have shifted from descriptive accounts to evidence-oriented and mechanism-based inquiry; research designs place greater emphasis on rigor and reproducibility; and quantitative and qualitative methods are used in tandem. Widely adopted tools now include multilevel models, structural equation modeling, meta-analysis, randomized controlled trials, and longitudinal (tracking) evaluations. Data sources have also evolved from single-site samples to cross-regional, multi-platform, and longitudinal databases, substantially enhancing the external validity and policy relevance of research findings.

Interdisciplinary integration and platform building have provided crucial leverage for a qualitative leap in research capacity. Leveraging national and provincial key laboratories, engineering research centers, and high-level research teams, sport science has deeply integrated with public health, rehabilitation medicine, biomechanics, neuroscience, data science, and artificial intelligence, forming a new growth pole centered on “sport–medicine integration–exercise health–intelligent assessment.” In areas such as school physical education, youth fitness promotion, event safety, and exercise prescription, a series of task-oriented studies and translational outcomes targeting real-world scenarios have emerged, enabling research to feed back into teaching and practice. The journal ecosystem and evaluation mechanisms are also being optimized: peer-review standards and academic integrity in leading domestic journals continue to improve; international collaboration and English-language publishing capacity have advanced steadily, with notable increases in cross-national projects, coauthored works, and conference presentations. Meanwhile, through sending visiting scholars abroad, hosting international forums, and inviting renowned overseas scholars to give lectures, academic horizons and methodologies are continually renewed, and research agendas have broadened from single-discipline questions to an integrated program spanning “education–science and technology–talent–industry.”

4. CHALLENGES IN THE AUTONOMOUS CULTIVATION OF SPORTS TALENT

4.1. East–West Imbalance in the Autonomous Cultivation of Sports Talent

Due to resource endowments, policy factors, regional disparities, and historical conditions, China’s autonomous cultivation of sports talent exhibits an overall imbalance characterized by a “higher in the East, lower in the West” pattern. In terms of the distribution of sports-focused universities, authorization of master’s and doctoral degree programs, faculty strength, and the scale and quality of high-level research projects and outputs, the central and western regions lag far behind the eastern coastal areas. Leveraging higher densities of higher education, stronger research platforms, and more concentrated event and industry resources, the eastern coastal region has developed a systemic advantage spanning the layout of degree-authorization points, the attraction of high-quality faculty, and the production of high-level projects and research achievements. Constrained by limited operating funds, inadequate laboratory conditions, and a shortage of off-campus practicum bases, universities in the central and western regions find it difficult to support high-level experimental teaching and the development of interdisciplinary platforms. The modernization of curricula, the depth of university–local collaboration, and opportunities for internationalization are also comparatively lacking. Consequently, these regions are disadvantaged in the number and tiers of universities, the configuration of program points, the rank structure of faculty, and the scale of research platforms, making it hard to build a stable, high-level academic ecosystem and a complete talent-cultivation pipeline. Although a series of national policies in recent years have tilted in favor of the central and western regions, the distribution of sports talent there remains sparse, university faculty strength is limited, and high-level research outputs are lacking-insufficient to sustain the long-term, high-quality development of sport science as a discipline. Meanwhile, disparities in economic development between the eastern and western regions have given rise to problems such as employment difficulties for sports talent in large cities, underemployment among highly educated individuals, and severe shortages of sports talent in the West[6].

4.2. Lack of a Distinct Theory–Methodology Framework

A discipline is a fundamental component of the human knowledge system and the result of its continual development and increasing specialization [7]. The disciplinary system of sport constitutes the basic institutional and epistemic framework guiding China’s sports enterprise[6]. At present, much of China’s theoretical and methodological work in sport is derivative of other fields and lacks a clearly delineated boundary with Education; it has yet to establish its own coherent body of knowledge, and its disciplinary independence remains weak-conditions that are unfavorable to the sustainability of the autonomous cultivation of sports talent. Foundational theoretical research is insufficient in areas such as research services, disciplinary governance, and talent cultivation; the scope of the discipline is ill-defined; overall strength is limited; and there is a relative shortage of research outputs robust enough to undergird comprehensive disciplinary development. Within sport science, the research management system, knowledge system, textbook system, and talent-cultivation system have not formed an effective synergy. Signature theoretical schools are lacking; linkages across different tiers of disciplinary development are weak; and the textbook system has not adequately fulfilled its formative (educational) function. The development of sport science in higher education also faces structural imbalances: some training units pursue breadth and quantity for their own sake-“big but superficial,” “many but indiscriminate”—resulting in homogenized outputs and isomorphism in sports talent (“everyone cut to the same mold[8]”). The absence of a discipline-specific theoretical and methodological system constrains the cultivation of high-quality sports talent, while also undermining the capacity of such talent to feed back into teaching and disciplinary construction. Together these factors create a vicious cycle that is detrimental to the long-term development of physical education.

4.3. Incomplete System of Teaching Objectives

Most universities currently set as their training objective the cultivation of “composite talent possessing both athletic skills and academic literacy in sport[9]”. However, the scope and tiers of this objective are overly narrow: it neither accommodates the new era’s demand for more hybridized sports talent, nor is it operationalized into actionable attainment indicators and evidence chains. In practical operation, curricula and assessment systems generally “privilege skills while downplaying scholarship.” Credit allocation, contact hours, and assessment formats give greater weight to specialized techniques and physical fitness indicators, while investing insufficiently in core competencies such as academic norms, research methods, curriculum design, educational evaluation, and safety risk management. As a result, students are “visible and measurable” in athletic skills but exhibit an “implicit deficit” in academic literacy and professional reflexivity. This misalignment among objectives, curriculum, and assessment means that, in real-world contexts—such as school physical education, youth fitness promotion, sport–medicine integration, event organization, and community sports instruction—graduates often display weak instructional design, insufficient use of evidence, and limited capacity for interdisciplinary communication and practical implementation.

5. PATHWAYS TO QUALITY ENHANCEMENT IN AUTONOMOUS CULTIVATION OF SPORTS TALENT

5.1. Strengthening Ideological-Political Education in the PE Curriculum: Educating for the Party, Cultivating Talent for the Nation

Against the backdrop of the new era’s integrated advancement of “education–science and technology–talent” and the strategy of building a strong sporting nation, ideological and political education within the physical education curriculum should take moral cultivation as its fundamental task, embedding value formation throughout the entire process of the autonomous cultivation of sports talent. Specifically, on the one hand, a holistic “Big Ideological–Political Education” approach should coordinate curriculum and textbook development, organically integrating patriotic education with sports culture. Curated case studies centered on China’s achievements in sport and institutional strengths can align professional knowledge with value-oriented goals. On the other hand, emphasis should be placed on “soul-shaping” education: the spirit exemplified by the Chinese women’s volleyball team and the national table tennis team—perseverance in the face of adversity, scientific training, solidarity, and striving for national honor—ought to be internalized as course themes and teaching scenarios. Through classroom discussion, situational tasks, training reflection, and campus competitions, students can be guided to experience rule consciousness and collectivist ethos in authentic contexts. Meanwhile, faculty development and resource provision should be strengthened, with an integrated design that links classroom learning and practical engagement. Appropriately calibrated formative and performance-based assessments (e.g., reflective assignments, classroom observations, and performance in event organization) can be used to track educational outcomes, thereby establishing a closed loop in which value guidance and competence enhancement mutually reinforce one another—effectively cultivating well-rounded socialist builders and successors with integrated development in morality, intellect, physique, aesthetics, and labor.

5.2. Adjusting the Structure of the Autonomous Cultivation of Sports Talent and Integrating Related Resources

At present, China’s autonomous cultivation of sports talent stands at a critical window marked by disciplinary reconfiguration and the reallocation of educational resources, making structural adjustment imperative. To address regional disparities, a three-tier linkage—national, provincial, and institutional—should coordinate the triad of “regional development–resource environment–policy

tilt,” examine the alignment between disciplinary development and regional carrying capacity, and strike a dynamic balance among “quantity and quality, levels and structure, and incremental and stock resources.” For under-resourced institutions in economically less-developed regions, targeted support can be delivered through mechanisms such as earmarked funds plus performance-based appropriations, paired assistance (e.g., “one province, one university” or “strong-university–supports–weak-university” alliances), flexible mobility of supervisory teams, shared courses, and joint training bases. Cross-regional credit recognition and joint-degree programs should be advanced, and collaborative practice platforms linking “university–locality–enterprise–medical sector–research” should be built. By enabling the strong to bolster the weak and leveraging pilot sites to drive broader diffusion, the development imbalance in the central and western regions can be gradually alleviated. Focusing on socioeconomic and livelihood needs, the discipline should accelerate internal cross-fertilization, prioritizing urgently needed areas such as sport–medicine integration, exercise rehabilitation and health promotion, youth physical-fitness enhancement, smart sports and data analytics, sports governance and public services, and event safety and risk management. For programs with excess capacity, limited social value, or weak industry linkage, implement dynamic regulation through a “limited enrollment-rectification-phase-out” sequence, and establish lifecycle management whereby “new programs are evidence-based, ongoing programs are periodically evaluated, and exits are orderly.” At the graduate level, give equal weight to “expanding scale” and “ensuring quality”: reasonably increase admissions for academic and professional degrees while optimizing structural differentiation; refine the dual-supervisor system and the “project–practice–publication” chain with formative/process assessment to strengthen rigor and reproducibility in research training; and, through joint laboratories, challenge-led projects (jiefang-guashuai model), and application studies grounded in real-world scenarios, form a closed loop linking “research–teaching–practice.” Ultimately, adopt data-informed quality assurance and evaluation-driven improvement to shape a new pattern of high-level sports-talent cultivation that is clearly tiered, structurally balanced, regionally coordinated, and excellence-oriented.

5.3. Building a High-Quality Faculty and Enhancing Research and Innovation Capacity

The caliber of university faculty in sport science is a key guarantee of the quality of sports-talent cultivation, and the size and quality of the teaching corps directly shape graduates’ overall competence[10]. First, it is essential to strengthen faculty ethics and professional conduct. The faculty evaluation system should be refined to include moral integrity as an important indicator, ensuring that teachers lead by example in their teaching. Second, efforts to recruit and autonomously cultivate high-end talent should be intensified. Universities should enhance international cooperation and exchange, encourage scholars to undertake visits and study in regions with strong research in sport science abroad, support in-service faculty in pursuing further training and advanced degrees, and provide clear pathways for advancement for outstanding teachers.

While building a high-caliber faculty, equal emphasis must be placed on enhancing research and innovation capacity in sport science. First, broaden horizons and perspectives: do not confine inquiry to the literal scope of “sports.” Expand research directions and strengthen interdisciplinarity with management, economics, law, and related fields to cultivate composite talent and elevate research innovativeness. Second, reinforce practice-oriented research. Sport is inherently practice-based, and sport-science inquiry cannot be conducted behind closed doors or remain purely book-bound. Engagement with real-world practice is more conducive to discovering new problems, identifying fresh research directions, and advancing novel insights-thereby driving the theoretical development of sport science in China.

6. SUMMARY

Sport is an integral component of the national enterprise. Since the promulgation of the Regulations of the People's Republic of China on Academic Degrees, the construction of China's sport-science disciplines has steadily improved, and the quality of the autonomous cultivation of sports talent has continued to rise. China has now entered a new stage of building a strong nation in both sport and talent. To realize the great rejuvenation of the Chinese nation, the Report to the 20th National Congress of the CPC has set new requirements for the quality of sports-talent cultivation. Under this historic mission, universities-as the primary bases for training sports professionals-should align with the trend of the times, take the cultivation of high-caliber sports talent as their goal, deepen reform and innovation, and provide a continuous supply of outstanding talent for the country and society. On the path to enhancing the quality of the autonomous cultivation of sports talent, we must uphold educating people for the Party and cultivating talent for the nation, improve the cultivation system, optimize training pathways, and explore a distinctive "Chinese model," thereby contributing to the nation's sporting development.

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