

Research on Legal Prevention and Safety Management of Campus Sports Injury Risks

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Abstract: The continuous implementation of the national fitness initiative has greatly popularized physical education on campus, enabling students to participate in diverse sports activities more frequently. Nevertheless, the growing number of sports-related injuries on campus has severely hindered the sustainable and high-quality development of school physical education. In current campus sports management across China, prominent drawbacks including ambiguous legal provisions, incomplete risk prevention frameworks, defective safety management systems and inefficient dispute settlement procedures remain unsolved. Such problems not only endanger students' physical health, but also trigger frequent conflicts between schools and students' families, disrupting the regular operation of campus management. Adopting documentary research, case comparison and logical reasoning methods, this paper sorts out common injury types and major inducing factors based on real domestic campus sports accident cases. It further explores practical obstacles in legal risk control and daily safety supervision concerning campus sports injuries. This research clarifies the legal accountability of schools, student groups and administrative supervisory departments. From four research dimensions covering legal system optimization, institutional framework improvement, managerial mode adjustment and emergency guarantee construction, this study establishes a comprehensive risk prevention system. This empirical research aims to remedy the current shortcomings in campus sports safety supervision. This study regulates the organizational procedures of various campus sports activities and safeguards the legitimate rights of teaching staff and students. Apart from its research conclusions, this paper provides tangible references for college sports management. It contributes to improving campus safety systems and strengthening legal risk control measures, so as to promote the standardized and steady development of school sports industries.

Keywords: Campus sports; injury risk; legal prevention; safety administration; liability confirmation

1. Relevant Concepts and Basic Theories of Campus Sports Injury Risks

1.1. Definition of Core Concepts of Campus Sports Injury Risks

From the perspective of university athletic management, latent sports hazards refer to potential risks that may cause physical injury, financial loss and legal disputes to enrolled students. Campus sports settings harbour a variety of latent safety risks that often surface during required physical education coursework, after-school athletic training sessions, intramural sports tournaments, and independent fitness activities conducted within institutional sports facilities. These athletic safety incidents stem from a wide array of triggering causes, such as non-standard operational behaviours by participants, faulty sports equipment, incomplete campus regulatory

systems, and unexpected emergent scenarios. Clinically, sports-induced traumas can be divided into three tiers according to their degree of harm. Minor injuries mainly include epidermal scratches and soft tissue strain injuries; moderate damage typically covers bony fractures and ligament tears; the most critical traumatic conditions involve organic tissue damage, permanent physical impairment, and worst-case scenarios of student mortality. This research focuses on all mainstream sports activity scenarios in university campuses, covering compulsory PE courses, systematic training programmes, official campus sporting events, and individual physical exercise undertaken at public sports venues on campus. Sports accidents occurring within university campuses differ substantially from those in public social sports spaces. Collegiate sports incidents are characterised by stable participant groups, relatively closed activity venues, concentrated risk exposure periods, and clear legal accountability boundaries. Given these unique contextual features, the formulation of risk governance schemes for university sports needs to integrate the educational attributes of higher physical education, normative legal doctrines, and standardised institutional management rules for campus sports administration [1].

1.2. Basic Theoretical Support for Campus Sports Injury Risks

In legal jurisprudence, the principle of fault liability acts as the core judicial basis for judging responsibility attribution for unintentional sports injury accidents in university campus environments. In accordance with tort law provisions, relevant parties ought to assume tort liability if their intentional or negligent behaviors cause infringement on the civil rights of other individuals. This theoretical tenet is widely applied to define the accountability scope among higher education institutions, instructors and student athletes. Meanwhile, the voluntary risk-taking principle fits well with the inherent nature of competitive sports. Those who actively engage in athletic activities should acknowledge the inherent uncertainty embedded in sports participation. Athletes need to undertake partial risk liabilities for accidental injuries incurred without any subjective human faults. Such principle is commonly applied to settle conflicts triggered by campus sports contests. Furthermore, safety governance theory highlights full-cycle regulatory management. It consolidates resources from government departments, educational administrations, families and social institutions to construct a closed-loop management system covering pre-risk prevention, on-site supervision and post-incident handling, thereby establishing a complete governance system for campus sports safety. Fourthly, the legal guarantee theory restricts sports behaviors through existing laws and regulations. It clarifies the rights and obligations of all stakeholders, standardizes the operation procedures of campus sports events, and eliminates man-made risks to ensure compliant sports development [2].

1.3. Main Classification Criteria of Campus Sports Injury Risks

Based on different inducing factors, campus sports injury risks can be divided into four categories. The first type relates to venue and equipment defects. Aging sports fields, damaged exercise facilities, slippery ground and untimely venue closure under extreme weather conditions are likely to cause physical trauma to exercisers. The second type derives from improper human operation, including non-standard movement postures, excessive physical confrontation, insufficient instructor guidance and inadequate pre-exercise warm-up. The third type belongs to institutional management risks. Imperfect daily management systems, irregular hazard inspections and inadequate personnel supervision create administrative loopholes that trigger sports injuries. The fourth type refers to unforeseen accidental risks, such as students' underlying chronic diseases, sudden extreme weather and unintended physical collision, which are uncontrollable objective risks. Systematic categorization of latent hazards delivers definite optimization guidance for the drafting of legal regulatory clauses and routine safety supervision practices.

2. Analysis of Typical Cases and Causes of Campus Sports Injuries

2.1. Typical Injury Cases Caused by Facility Defects

A public provincial higher education institution suffered a sports facility accident in 2024. A student was

injured while conducting self-practicing basketball training on campus at night. The sudden collapse of an ageing and poorly secured metal guardrail around the basketball court caused a direct impact on the student's lower leg, leading to a tibial fracture, with overall medical costs totaling 42,000 RMB. Official investigations conducted after the accident identified notable defects in the university's daily facility management work. The school lacked complete archival records for sports facility maintenance and failed to carry out routine safety inspections on basketball equipment and supporting protective facilities for nearly a year, which meant long-standing ageing risks of campus sports venues were never rectified. Since the university failed to perform its statutory safety guarantee obligations for public sports facilities open to students, the judicial verdict confirmed that the institution should assume 70 percent of the tort compensation liability. This typical accident mirrors common operational defects prevailing in many domestic university sports management systems, including delayed facility maintenance work, cursory safety inspection mechanisms, and insufficient financial investment in the renewal and management of sports infrastructure [3]. Defective sports facilities have become a predominant cause of campus sports injury accidents, and universities usually bear primary legal accountability for safety incidents arising from substandard facility management.

2.2. Typical Injury Cases Caused by Teaching Negligence

A middle school sports injury accident occurred in 2023 as a result of inappropriate physical education instructional operations. The PE teacher in charge organized an 800-m endurance running test for student groups yet skipped all requisite pre-training warm-up drills. While participating in the endurance test, an eighth-grade student collapsed suddenly owing to acute myocardial ischemia, and professional medical diagnosis afterward identified exercise-triggered cardiac damage. Relevant forensic testing indicated the student was born with a mild cardiac abnormality. The accident arose from multiple negligent behaviors on the teacher's part: failing to conduct pre-class physical fitness screening for students, neglecting standardized warm-up arrangements, and assigning exercise intensity that failed to match student physical tolerance. Judicial judgment affirmed teaching negligence by the participating instructor, ordering the school to undertake 65% of the total compensation liability, while the involved teaching personnel received internal institutional disciplinary sanctions. This real-world case exposes typical deficiencies in contemporary campus physical education management, such as non-standard teaching execution, weak safety awareness among frontline PE instructors, and imperfect student physical screening systems. When analyzing controllable hazards leading to on-campus sports injuries, human negligence and operational mistakes in actual teaching practices stand out as the most prevalent trigger for such safety incidents.

2.3. Typical Injury Cases Caused by Competition Confrontation

In 2024, a violent on-field collision took place during an on-campus university football fixture as two competing students contested possession aggressively. One of the players suffered a full ankle ligament rupture, giving rise to a civil compensation dispute between the two parties' guardians. The event's organizing team was found to have overlooked critical safety management protocols: no pre-competition physical screening was conducted for registered players, and the competition site lacked professional medical personnel and full-spectrum first-aid resources. In accordance with the risk assumption doctrine and standardized campus sports management rules, the student responsible for the collision assumed 15 percent of the total compensation liability, as the competitive contact involved no deliberate wrongdoing. Meanwhile, the university undertook 50 percent of tort liability for its flawed event planning and insufficient on-site safety oversight, with the injured student covering all residual economic losses. This real-life judicial case illustrates that high-intensity collegiate team sports inherently carry unavoidable physical confrontation risks, a core feature of competitive campus athletic events. Flawed competition arrangements, inadequate emergency support and vague liability allocation commonly result in legal disputes between universities and students' guardians [4].

2.4. *Comprehensive Summary of Injury Risk Causes*

Based on the empirical analysis of three verified cases, this paper summarizes four major risk-induced factors behind college sports injuries. From a legal perspective, China still lacks targeted legislative provisions to regulate on-campus sports activities. Current normative documents including the Civil Code and national college physical education regulations only contain generalized clauses, without clear judgment criteria for sports injury dispute adjudication. The vague boundary between fault liability and risk assumption doctrine further leads to inconsistent judgment outcomes for similar accident cases. In addition, existing legal norms fail to clearly define the liability scope of universities, teachers, students and their guardians. Without quantitative liability allocation standards for diverse accident triggers, relevant stakeholders tend to evade legal obligations passively, prolonging the dispute settlement cycle. Complicated judicial procedures also bring substantial time and economic burdens to claimants seeking legal compensation.

Institutional construction flaws are widespread across university sports safety management systems. Most tertiary institutions lack a complete, closed-loop governance framework to standardize the daily operation of on-campus sports activities. There is a general absence of unified standard guidelines covering the full lifecycle management of sports facilities, including equipment procurement, routine safety screening, daily maintenance and asset disposal. In practical campus governance, regular facility inspection work has devolved into perfunctory formal procedures that deliver no real supervisory efficacy. Vague role delineation among physical education instructors, venue administrators and security personnel leads to lax on-site safety oversight during venue operating hours. Moreover, cursory physical assessments for newly admitted students and disorganized personal health records make it difficult for schools to identify students with underlying chronic conditions, making tailored sports participation arrangements impossible. The lack of a rigorous performance evaluation system also diminishes the initiative of managerial staff, ultimately lowering the enforcement quality of campus sports safety regulations.

Campus sports risk control strategies remain predominantly passive in current university management practice, prioritizing post-accident remedy rather than proactive risk mitigation. Few universities establish long-term, recurring hazard inspection mechanisms to eliminate potential safety threats in advance, with corrective measures only implemented after sports injuries or safety incidents occur. This reactive management paradigm greatly weakens institutional capacity to identify latent risks originating from venue environments, defective equipment and human operational errors. Additionally, universities provide inadequate systematic training on sports self-protection techniques and emergency first-aid protocols. Physical education curricula focus heavily on cultivating students' athletic competencies while neglecting the cultivation of safety precaution awareness. Imperfect emergency contingency plans for extreme weather emergencies, large-scale sporting events and sudden physical discomfort, paired with infrequent emergency simulation drills, significantly restrict on-site emergency response capacity. Meanwhile, the shortage of professional medical staff and comprehensive first-aid resources at campus public sports venues often results in missed optimal treatment opportunities for injured students [5].

Safe and sustainable campus sports operation relies on multi-stakeholder collaborative participation, yet existing university management mechanisms fail to build effective joint governance systems. Higher education and sports administrative authorities lack targeted regulatory guidance, stable financial funding and standardized compliance inspections for campus sports management affairs. Internal university operational systems also suffer from poor information sharing and opaque data transmission. Fragmented coordination between PE departments, logistics teams, security offices and campus medical centers hinders efficient emergency disposal when sports accidents take place. From a familial perspective, the majority of parents overly prioritize their children's academic achievements while disregarding physical fitness development and sports safety awareness. Unreasonable compensation demands raised by guardians following injury incidents frequently intensify home-school frictions. In terms of social supporting resources, professional sports evaluation bodies and insurance enterprises seldom participate in campus sports governance, which leads to imperfect risk transfer mechanisms and insufficient external safety guarantees for university sports activities. This situation contributes to defective risk transfer mechanisms and insufficient external protection for college sports activities.

3. Existing Problems in Legal Prevention and Safety Management

3.1. Imperfect Legal System and Vague Liability Confirmation

Specialized legal provisions for campus sports management are inadequate in China. Most existing legal clauses are principled and universal, without refined judgment standards for diverse sports injury accidents. The ambiguous application scope of core legal theories and inconsistent scenario-based judgment norms lead to uneven judicial results in similar cases. Besides, unclear right and obligation division among stakeholders and the absence of quantitative liability allocation standards easily trigger mutual responsibility evasion. Cumbersome judicial procedures also raise the overall cost of rights protection for injured parties.

3.2. Defective Management System and Inadequate Supervision Execution

Complete full-chain safety management systems have not been constructed in most universities. Obvious deficiencies exist in facility maintenance, personnel arrangement, physical screening and performance appraisal. Various institutional regulations cannot be effectively implemented in daily operation, leaving numerous potential safety hazards in campus sports activities.

3.3. Weak Pre-control Awareness and Imperfect Prevention System

Campus sports management currently prioritizes post-event handling over preliminary prevention. Irregular hidden danger investigation, insufficient safety education, incomplete emergency plans and inadequate first-aid supplies jointly weaken the overall risk early warning and disposal capability of educational institutions.

3.4. Incomplete Collaborative Mechanism and Insufficient Joint Supervision

The collaborative governance framework involving administrative departments, educational institutions, families and social organizations is still underdeveloped. Multiple adverse factors jointly impede the optimization of campus sports safety management performance, including inadequate governmental oversight and fiscal funding, weak inter-departmental coordination within universities, low family engagement, and limited input from social resources.

4. Optimization Paths for Legal Prevention and Safety Management

4.1. Improve Legal Provisions and Refine Liability Allocation Standards

Campus sports governance has long been hampered by systemic regulatory gaps, which can be addressed through targeted supplementation of statutory provisions within the current legal regime. Administrative regulators ought to refine judicial adjudication criteria for liability attribution and create quantifiable fault allocation benchmarks applicable to different campus sports scenarios. These tailored standards explicitly define the accountability boundaries for higher education institutions, instructional staff, student participants and their guardians. Defining clear application limits for the risk assumption principle enables legal practitioners to properly separate deliberate wrongful conduct from unplanned physical injuries sustained in athletic activities. Simplifying tedious dispute settlement procedures also substantially improves the operational efficiency of resolving campus sports injury disputes. To build a comprehensive and practical dispute resolution system, academic researchers and policy formulators can design a three-level mediation mechanism that combines campus-level private negotiations, administrative mediation and judicial arbitration, offering systematic procedural support for handling various campus sports-related injury controversies. Such a mechanism shortens the cycle of rights protection and effectively alleviates frictions between schools and student families. Administrative departments need to strengthen regular compliance inspections, issue rectification notifications for unqualified institutions, and impose legal sanctions on derelict management personnel. In addition, sports legal knowledge should be incorporated into compulsory campus courses to strengthen legal awareness among teachers and students, standardize daily sports behaviors and clarify the legal rights and obligations of all participants [6].

4.2. Optimize Institutional Norms and Strengthen Daily Safety Supervision

Universities need to formulate standardized unified management systems to ensure the effective implementation of safety supervision. The facility maintenance mechanism should be optimized with electronic archives established for all sports venues and equipment. A regular maintenance mode including weekly inspection, monthly overhaul and annual comprehensive renovation needs to be implemented. Aging and damaged facilities shall be replaced in a timely manner, and outdoor venues need to be temporarily closed under severe weather conditions. Educational institutions ought to clarify the job responsibilities of teachers, venue administrators and security staff. On-site personnel must be arranged during venue opening hours to standardize students' exercise behaviors and prohibit dangerous competitive movements. All freshmen need to receive comprehensive physical examinations to establish dynamic health files. Students with cardiac diseases and chronic bone injuries shall receive hierarchical exercise management and be prohibited from participating in high-intensity competitive events. Meanwhile, a scientific assessment and accountability mechanism should be introduced. Sports safety management indicators need to be included in staff performance appraisal, and personnel with dereliction of duty shall be held accountable to enhance overall responsibility awareness [7].

4.3. Construct Precaution System and Upgrade Risk Disposal Capacity

Educational institutions shall transform traditional management concepts and build a closed-loop risk prevention system covering pre-warning, in-process supervision and post-event summary. Regular hazard investigation activities should be carried out combining seasonal changes, event characteristics and venue conditions, focusing on rectifying potential risks of facilities and teaching links. Universities are suggested to set compulsory safety courses involving sports protection, trauma first aid and risk avoidance knowledge. Regular emergency drills can effectively improve the on-site disposal ability of teachers and students. All athletic venues should be fully outfitted with emergency medical packages, hemostatic materials and protective apparatus, alongside resident medical personnel on duty throughout activity periods. Colleges ought to strictly implement formal management protocols, including injury record-keeping, on-site emergency disposal and medical transfer arrangements. Every sports activity must be equipped with sufficient warm-up and stretching preparations. During training and competitions, instructors need to provide continuous on-site supervision to adjust exercise loads and eliminate dangerous physical behaviors from the initial stage.

4.4. Build Collaborative Platform and Gather Multi-party Supervision Forces

Effective consolidation of heterogeneous social resources facilitates the formulation of a multi-layered governance system. This multi-dimensional governance system takes government supervision as the primary guiding principle. Institutional management constitutes the core operational support of campus sports safety governance. Family involvement offers auxiliary guarantees for risk prevention, and external social resources can further sustain the long-term stable development of campus sports systems. Government departments need to increase capital investment in campus sports infrastructure, optimize industrial supervision standards and organize regular safety spot checks to standardize school sports operation. Universities should break internal information barriers to realize data sharing between physical education departments, logistics departments, infirmaries and security offices, optimizing work connection procedures to improve supervision efficiency. Schools also need to build long-term home-school communication platforms, popularize sports safety knowledge regularly, and guide parents to treat accidental injuries rationally. From the social perspective, professional sports evaluation institutions can conduct regular compliance assessment on venues and teaching behaviors. The promotion of campus sports accident insurance helps transfer potential economic risks and reduce accident losses, forming a solid multi-level safety defense line for campus sports.

5. Conclusions

Campus physical education serves as an indispensable component of quality-oriented education, and safe sports activity arrangement acts as the basic premise for the high-quality development of school sports. Starting

with basic academic theories, this paper analyzes three typical sports injury cases induced by facility defects, teaching negligence and competitive confrontation. It summarizes four major existing drawbacks including imperfect legal systems, defective management mechanisms, insufficient precaution awareness and disconnected collaborative governance. To optimize campus safety supervision modes, this research proposes multi-dimensional improvement measures. From the legal perspective, it is essential to optimize legal clauses and refine liability allocation standards. From the managerial perspective, institutions need to improve regulations and strengthen daily inspection. From the preventive perspective, schools should prioritize preliminary risk investigation and upgrade emergency guarantee conditions. From the governance perspective, multi-party resources need integration to build a coordinated supervision platform. The comprehensive optimization of the above measures can effectively make up for governance deficiencies, reduce sports injury frequency and protect students' legitimate personal rights, creating a safe and standardized sports environment on campus. In view of the future development trend of school sports, relevant legal prevention mechanisms and safety management modes require continuous optimization and upgrading. It is expected to realize the long-term standardized and legalized high-quality development of campus sports undertakings.

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