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## **A Study on the Causes, Mechanisms and Coping Strategies for Psychological Problems Among Undergraduate Sports Students**

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### **Abstract**

As a distinct cohort within higher education bearing dual pressures of academic study and specialised training, the mental health status of undergraduate sports students directly impacts both talent cultivation quality and the sustainable development of the sports sector. In recent years, psychological issues among sports students have become increasingly prevalent, emerging as a significant societal concern. This study systematically examines the manifestations, incidence rates, and demographic characteristics of psychological problems

among undergraduate sports students. It delves into the underlying causes and operational mechanisms of these issues, constructing a four-dimensional causal framework encompassing "individual-environment-society-family" and a transmission mechanism involving "stressors - mediating variables - psychological outcomes". Targeted solutions are subsequently proposed. Findings indicate that psychological issues among undergraduate sports students occur at a higher rate than among general undergraduates, primarily manifesting as anxiety, depression, sleep disturbances, and career anxiety. These issues are closely linked to training pressures, competitive setbacks, academic conflicts, and societal stereotypes, and are transmitted through mediating variables such as coping strategies, psychological resilience, and sleep quality. This research aims to provide theoretical underpinnings and practical guidance for mental health initiatives in university physical education programs, thereby supporting the holistic physical and psychological development of undergraduate sports students.

**Keywords:** Undergraduate sports students; Psychological issues; Generation mechanisms; Coping strategies; Mental health education

## 1 Introduction

With the deep integration of the "Healthy China 2030" strategy and the requirements for high-quality development in higher education, university students' mental health has become a core issue in talent cultivation. As a specialised professional group, undergraduate sports students must complete the academic coursework expected of regular undergraduates while enduring the pressures of high-intensity, high-risk professional training and competitive events. They face multiple challenges, including sports injuries, competitive setbacks, conflicts between academic studies and training, and career transitions. Compared to general undergraduates, sports undergraduates exhibit distinct and complex psychological issues, such as psychological trauma following sports injuries, anxiety and depression triggered by competitive pressures, and confusion stemming from career uncertainty. However, current academic research on the mental health of sports undergraduates predominantly focuses on the promotional effects of physical exercise on psychological well-being. Systematic investigations into the underlying causes and transmission mechanisms of their psychological issues remain insufficient, and targeted coping strategies are yet to be fully developed. Therefore,

systematically analysing the generative logic and coping pathways of psychological problems among sports undergraduates based on existing literature holds significant theoretical value and practical implications.

## **2 Analysis of the Current State of Psychological Issues Among Undergraduate Sports Students**

### Core Manifestations of Psychological Issues

Drawing upon literature review and the professional context of sports undergraduates, their psychological issues primarily manifest in the following six categories, exhibiting significant differences from those of general undergraduates:

**Competition-Related Anxiety:** This constitutes the most prominent psychological challenge for sports undergraduates, manifesting as excessive pre-competition tension, suboptimal performance during events, and intense post-competition frustration. Given that athletic achievements are directly linked to professional evaluations, further education, and employment prospects, these students endure prolonged exposure to a "winner-takes-all" competitive environment, fostering a fear of failure far exceeding that of general students. When athletic performance becomes the core—or sole—measure of self-worth, an individual's sense of wholeness becomes fragmented. Victory brings fleeting euphoria, while defeat, injury, or declining form may trigger comprehensive self-doubt and existential anxiety: "Who am I? If I am not a successful athlete, what value do I hold?" Athletes' intense competitive pressures and fierce drive to win, coupled with excessive result-focus, can disrupt prefrontal cortex regulation, triggering anxiety and self-doubt. In the social media era, such comparisons and evaluations are amplified infinitely, further exacerbating identity crises. This cognitive pattern of over-identifying the "athletic self" with the "whole self" constitutes a significant root of psychological vulnerability.

**Psychological trauma from sports injuries:** Undergraduate sports programmes involve intense, high-contact training, resulting in extremely high injury rates. Data shows university sports students suffer frequent injuries, with over half experiencing severe trauma. Injuries cause not only physical pain but also psychological issues like self-doubt, fear of training, and depression. Some students exhibit social withdrawal and loss of self-worth after injury-enforced training breaks. Following an injury, a protracted period is required to restore physical function and rebuild confidence, enabling both body and mind to return to their pre-injury optimal state.

**The dual pressures of academic and training conflicts:** Sports undergraduates must simultaneously balance academic coursework with specialised training, facing significant time conflicts and energy allocation dilemmas. Achieving competitive success demands relentless effort on the training ground, inevitably encroaching upon study time. Yet university curricula predominantly prioritise theoretical knowledge acquisition. The difficulty in reconciling studies and training is a common reality for most sports undergraduates. Fatigue from high-intensity training severely impacts classroom learning efficiency, leading to subsequent inattention, low

learning effectiveness, and compromised academic performance. Poor grades can foster feelings of inferiority. This dual pressure leaves sports undergraduates in a state of prolonged physical and mental exhaustion, making them susceptible to negative emotions such as anxiety and irritability.

**Career development anxieties:** Employment prospects for sports undergraduates remain relatively narrow, primarily concentrated in fields such as coaching, athletics, and physical education teaching, where competition within the job market is intense. Students feel uncertain about their future career paths, worrying that their "specialised skills are too narrow to meet societal demands." This anxiety is particularly pronounced among those not at the elite competitive level. Furthermore, some students, having dedicated prolonged periods to training, lack other vocational skills, making it difficult to meet job market requirements. Consequently, they face severe employment anxiety before graduation, a period coinciding with the peak occurrence of psychological issues.

**Sleep and Emotional Regulation Issues:** Physical fatigue from high-intensity training and psychological tension stemming from competitive pressures lead to pronounced sleep disturbances among sports undergraduates. These primarily manifest as difficulty falling asleep, shallow sleep, and early morning awakenings. Concurrently, many sports undergraduates are in late adolescence, experiencing intense emotional fluctuations. Having been long exposed to a "culture of strength," they are often ill-equipped to express negative emotions, making them prone to emotional suppression and outbursts.

**Interpersonal relationships and Social Identity Dilemmas:** On one hand, extended training schedules limit interaction with students from other disciplines, resulting in narrow social circles and interpersonal isolation for some due to inadequate social skills. On the other hand, societal stereotypes portraying sports students as "physically strong but intellectually weak" foster feelings of inferiority in some, leading to deliberate avoidance of cross-disciplinary engagement. Chronic anxiety and depression severely impact students with physical and mental health conditions, leading to declining academic performance, reduced quality of life, strained interpersonal relationships, and other complications. ( dos Santos et al., 2016 ; World Health Organisation, 2021 ; Mohammed et al., 2024 )

### **3 Analysis of Causes Underlying Psychological Issues Among Undergraduate Sports Students**

Based on a review of the literature, the emergence of psychological issues among undergraduate sports students results from the combined influence of individual, environmental, social, and familial factors, forming a multidimensional and multi-layered causal system.

#### **3.1 Individual Factors: Intrinsic Constraints of Psychological Traits and Coping Abilities**

**Differences in Personality Traits:** Sports undergraduates often exhibit extroverted, impulsive, and competitive personality traits. Some students display pronounced neuroticism, poor emotional stability, and low tolerance for pressure and setbacks. Research indicates that sports undergraduates with neurotic personalities exhibit significantly higher rates of psychological issues compared to other personality types (Yang Sha, 2024). Furthermore, prolonged competitive training has led some students to develop a "win-lose" mindset, making it difficult for them to accept failure and prone to psychological imbalance triggered by minor setbacks.

**Inappropriate coping mechanisms:** When confronting negative life events such as training pressures or competitive losses, sports undergraduates predominantly employ passive coping strategies, including avoidance, suppression, and rationalisation. Data indicates that 63.8% of sports undergraduates choose to "bear it alone" when encountering setbacks, while only 17.3% actively seek psychological support (Wang Haiping, 2015). Such negative coping mechanisms fail to effectively alleviate stress, instead leading to the accumulation of negative emotions and subsequently triggering issues such as anxiety and depression (Li Yonghui, 2021).

**Insufficient psychological resilience:** Psychological resilience serves as a core psychological resource for individuals navigating adversity. The level of psychological resilience among undergraduate sports students is significantly correlated with their mental health status (Tang Fangwu, 2024). Some undergraduate sports students, having long relied on physical prowess while neglecting the cultivation of psychological resilience, are prone to psychological crises when confronted with adversities such as sports injuries or competitive slumps.

**Self-perception biases:** On one hand, some sports undergraduates develop arrogance due to outstanding competitive achievements, making them resistant to criticism and failure. On the other hand, others experience inferiority complexes stemming from poor academic performance or mediocre athletic results, leading to unclear self-worth perceptions (Zhang Hui, 2023). Furthermore, the prolonged expectation of maintaining a "stronger role" leads some students to develop a mindset of "never showing weakness," deliberately concealing psychological distress and exacerbating the severity of the issue.

### 3.2 Environmental Factors: External Pressures from Professional Contexts and Campus Ecosystems

**Training and Competition Pressure:** High-intensity, high-frequency specialised training constitutes the primary stressor for undergraduate sports students. Research indicates daily training durations average 4.2 hours, occurring 6-7 days weekly, with over 60% reporting "excessive training pressure". Prolonged overloading induces physical fatigue and psychological exhaustion, while the unpredictability of competitive events—such as performance under pressure, refereeing decisions, and opponent strength—further amplifies anxiety. Additionally, the high incidence of sports injuries leaves students perpetually in a state of "injury fear," creating chronic stress.

Academic-training conflict: Sports undergraduates must simultaneously meet the dual demands of academic coursework and specialised training, facing pronounced scheduling clashes and content disconnects. Over half of sports undergraduates miss classes due to training commitments, while academic pressures prevent them from fulfilling training obligations. This conflict traps students in a perpetual "dilemma," fostering guilt and anxiety. Furthermore, some academic courses lack relevance to their sporting discipline, diminishing students' interest and leading to poor academic performance, which further exacerbates psychological strain.

Inadequate campus support systems: University mental health services predominantly target general undergraduates, lacking specialised provision for sports undergraduates. Only a handful of university sports faculties have established dedicated counseling rooms staffed by professional sports psychologists. Existing counselling services predominantly employ traditional talk therapy approaches, which fail to align with the "practice-oriented, theory-light" cognitive characteristics of sports undergraduates, resulting in low willingness to seek help. Furthermore, counselors and coaches often lack sufficient knowledge of mental health, hindering timely identification of students' psychological issues.

Monolithic social environment: Sports undergraduates' training schedules are highly concentrated, limiting social interactions primarily to peers within the same discipline or specialisation, resulting in narrow social circles. Prolonged collective training and competitive pressures foster a "competition over cooperation" mindset in some students, diminishing interpersonal trust. Furthermore, factors such as intense training regimens and introverted personalities leave certain students lacking social skills, hindering the formation of healthy relationships and predisposing them to feelings of loneliness and alienation.

### 3.3 Societal Factors: Macro-level Influences of Value Orientations and Resource Allocation

Social Stereotypes and Identity Pressure: Society often holds the stereotype that sports students are "simple-minded and physically developed," overlooking their academic capabilities and overall competence. This prejudice causes some sports undergraduates to develop feelings of inferiority, deliberately avoiding cross-disciplinary interactions, and even questioning their chosen field. Furthermore, the media's excessive focus on sports celebrities concentrates public expectations on athletic performance, further intensifying psychological pressure on students.

Structural Imbalances in the Employment Market: Sports graduates face relatively narrow career pathways, with pronounced mismatches between labour supply and demand. While demand for sports graduates remains high, only 42.3% secure roles directly related to their specialisation, with most pursuing unrelated careers. The job market's narrow focus on specific athletic skills and insufficient recognition of broader competencies leaves many graduates anxious about employment due to lacking alternative vocational qualifications. Furthermore, significant regional and sectoral wage disparities further exacerbate career uncertainty among students.

**Uneven Resource Allocation:** China's sports education resources exhibit pronounced regional and inter-institutional disparities. Some universities' sports faculties suffer from inadequate funding, outdated training facilities, and limited coaching expertise, adversely affecting students' training outcomes and professional development. Resource scarcity hinders access to quality coaching guidance and academic support, fostering feelings of frustration and helplessness. Moreover, resources such as scholarships and postgraduate admission quotas for undergraduate sports students are often tied to competitive performance, creating intense competition that further heightens psychological pressure.

**Negative influences of the online environment:** The widespread availability of the internet exposes sports undergraduates to increased digital distractions, such as online gaming and short-form video platforms. Some students become engrossed in these activities, which impede their training and studies, leading to feelings of self-reproach and anxiety. Furthermore, negative news concerning sports personalities and malicious commentary on competitive events circulating online can adversely affect students' values and psychological states, exacerbating emotional volatility.

### 3.4 Family Factors: The Deep-Seated Influence of Parenting Styles and Support Systems

**Inappropriate Family Parenting Styles:** Some families of sports undergraduates adopt a "utilitarian" parenting approach, excessively focusing on academic performance and career prospects while neglecting psychological needs. Research indicates that children raised in households employing harsh punishment or unrealistically high expectations exhibit significantly higher rates of psychological issues compared to their peers. Furthermore, prolonged training away from home can lead to communication gaps and strained parent-child relationships, leaving students without familial support when facing psychological distress.

**Financial strain within families:** Sports undergraduate programs entail additional expenditures on specialised training, including equipment purchases, injury treatment, and travel for competitions, imposing economic burdens on some households. Students from rural or low-income backgrounds face greater constraints in training and daily life due to financial pressures, fostering feelings of inferiority. Furthermore, some students cannot participate in extracurricular training or exchange programs due to costs, hindering their professional development and exacerbating psychological stress.

**Conflict between family expectations and personal aspirations:** Most families of sports undergraduates expect their children to become professional athletes or physical education teachers. However, some students harbour different career plans, creating psychological conflict due to this disparity in expectations. Furthermore, some families, lacking sufficient understanding of sports disciplines, fail to comprehend or support their children's training injuries or competitive setbacks. In some cases, they even blame the students, thereby intensifying their psychological burden.

## **4 Mechanisms Underlying Psychological Issues Among Undergraduate Sports Students**

The emergence of psychological issues among undergraduate sports students is not the direct result of a single factor, but rather a complex process formed through a chain of transmission involving "stressor – mediating variable – psychological outcome". Drawing upon literature reviews, the core mechanisms can be summarised into the following three categories:

### **4.1 Direct Triggering Mechanism of Stressors**

Pressure sources such as training demands, competitive setbacks, academic conflicts, and employment anxieties exert direct effects on the psychological systems of undergraduate sports students, triggering a series of psychological responses. Physiologically, high-intensity training induces physical fatigue and hormonal imbalances, subsequently impairing emotional regulation capabilities and precipitating emotional issues like anxiety and depression (Fu Shang, 2023). Psychologically, negative life events like competitive defeat or sports injuries directly undermine students' sense of self-worth, triggering experiences of self-denial, fear, and helplessness (Wang Hui, 2023). Behaviourally, stressors lead to avoidance of training, academic procrastination, and social withdrawal, further exacerbating psychological issues.

For instance, sports injuries as a typical stressor follow a direct psychological trigger pathway: injury occurrence → physical pain and functional limitations → training interruption and career concerns → loss of self-worth → anxiety/depression → social withdrawal, forming a vicious cycle of "physiological-psychological-behavioural" dynamics (Shi, 2023).

### **4.2 Mediation Mechanisms of Intermediate Variables**

Between stressors and psychological outcomes, mediating variables such as coping strategies, psychological resilience, sleep quality, and self-forgiveness play crucial relaying roles, determining the extent and direction of stressors' psychological impact.

**Mediating role of coping styles:** Faced with identical stressors, differing coping styles yield distinct psychological outcomes. Sports undergraduates employing positive coping strategies (e.g., problem-solving, seeking support, emotional venting) effectively alleviate stress and reduce psychological issues; conversely, negative coping styles (e.g., Avoidance, suppression, rationalisation) lead to accumulated negative emotions and exacerbated psychological problems (Li Yonghui, 2021). Research indicates that coping styles mediate the relationship between training stress and mental health, with an effect size of 0.184, accounting for 38.17% of the variance (Shi, 2023).

**Buffering Mechanism of Psychological Resilience:** As a core resource for individuals confronting adversity, psychological resilience buffers the psychological impact of stressors. Sports undergraduates with high psychological resilience can rapidly adjust their cognition, actively seek solutions, and maintain psychological equilibrium when facing setbacks such as

competitive losses or sports injuries. Conversely, students with low psychological resilience are prone to becoming entrenched in negative emotions. Research confirms that psychological resilience significantly mediates the relationship between training stress and anxiety, mitigating the negative psychological impact of stress.

**Mediated Transmission of Sleep Quality:** High-intensity training and psychological stress induce sleep disturbances among undergraduate sports students, while poor sleep quality further exacerbates psychological issues, forming a transmission pathway of "stress → sleep disturbance → psychological problems". Research indicates that pre-test sleep disturbances significantly predict post-test anxiety, with path coefficients ranging from 0.258 to 0.368. Concurrently, anxiety also predicts sleep disturbances, establishing a bidirectional transmission (Fu Shang, 2023). Sleep deprivation impairs prefrontal cortex function, diminishing emotional regulation, attention span, and self-control, thereby triggering anxiety and depression.

**Mediating mechanisms of self-forgiveness and mindfulness:** Self-forgiveness assists undergraduate sports students in accepting personal shortcomings and failures, reducing negative emotions such as self-blame and guilt, thereby mediating the relationship between social exclusion and mental health. Mindfulness, by enhancing individual focus and acceptance, modulates the mediating pathway of self-forgiveness, thereby mitigating the adverse impact of social exclusion on mental health.

#### 4.3 Feedback Reinforcement Mechanism

Once psychological issues arise, failure to intervene promptly can create vicious cycles through feedback reinforcement. For instance, competitive anxiety leads to subpar performance in matches, while match losses further intensify anxiety, forming a reinforcing loop of "anxiety → failure → heightened anxiety". Sleep disturbances reduce training efficiency and academic performance, triggering self-blame and anxiety that subsequently worsen sleep quality. Moreover, psychological issues can strain interpersonal relationships, reducing social support. This lack of support then exacerbates psychological problems, creating a multidimensional reinforcement cycle.

### **5 Strategies for Addressing Psychological Issues Among Sports Undergraduates**

Addressing the causes and mechanisms of psychological issues among undergraduate sports students, this paper integrates effective practices from the literature to construct a four-dimensional response system encompassing "school-society-family-individual," proposing targeted and actionable solutions.

#### 5.1 School Level: Establishing a Professionalised, Contextualised Mental Health Support System

Optimising mental health education curricula and teaching methods: Introduce dedicated mental health courses for sports undergraduates, deeply integrating psychological education with professional training. Course content should cover topics such as competitive psychological regulation, psychological rehabilitation following sports injuries, career planning, and interpersonal communication. Practical teaching methods, including case studies, scenario simulations, and group discussions, should be employed to align with the cognitive characteristics of sports undergraduates. Furthermore, mental health courses should be incorporated as compulsory credits to ensure teaching duration and quality, avoiding "formalistic" instruction.

Enhancing Psychological Counseling and Intervention Services: Sports faculties should establish dedicated counseling rooms staffed by full-time faculty possessing both sports expertise and psychological training, delivering integrated "sports psychology + clinical psychology" services. Innovate counselling approaches through a multi-modal framework combining "on-site training interventions + offline consultations + online platforms". Examples include group psychological coaching before major competitions and one-to-one counselling following sports injuries. Establish psychological crisis early-warning mechanisms with regular student screenings, prioritising high-risk groups (e.g., students with sports injuries, those experiencing competitive setbacks, graduating cohorts).

Enhance psychological support capabilities among coaches and counselors: Conduct regular mental health training for coaches and counsellors, covering psychological issue identification, foundational counseling techniques, and crisis intervention protocols. Encourage coaches to integrate psychological training into daily sessions—such as mindfulness and imagery training to enhance students' emotional regulation and psychological resilience. Counsellors should strengthen routine communication with students, monitoring their training, academic, and personal well-being to identify and address psychological concerns promptly.

Foster a positive campus sports culture: Organise events such as the "Sports Mental Health Festival" and "Competitive Setbacks Sharing Sessions" to cultivate a campus atmosphere that encourages "acknowledging psychological issues and actively seeking support". Strengthen interaction between sports undergraduates and students from other disciplines by organising cross-disciplinary cultural and sporting events to broaden social networks and reduce feelings of isolation. Revise the evaluation system to shift away from an "overemphasis on competitive results at the expense of holistic development," establishing a multi-dimensional assessment framework encompassing "academic performance + training outcomes + psychological qualities" to alleviate competitive pressures.

Alleviate conflicts between academic studies and training: Rationally schedule teaching and training times to avoid severe clashes; reform academic curricula by increasing practical courses relevant to sports disciplines to enhance students' learning interest. Establish an academic support mechanism providing one-on-one tutoring for students with heavy training commitments and weaker academic foundations, assisting them in balancing studies and training.

## 5.2 Societal Level: Optimising Supportive Environments and Resource Allocation

Dispel societal stereotypes and enhance social recognition for sports students: Media should amplify coverage of undergraduate athletes' comprehensive competencies, showcasing their academic capabilities and professional ethics to counter the "brawn over brains" prejudice. Government and industry associations should establish evaluation standards for sports professionals, emphasising both holistic qualities and specialised skills to foster accurate societal perceptions of talent.

Refine employment support systems and broaden career pathways: The government should increase support for the sports industry, cultivating emerging employment sectors such as sports training, rehabilitation, and management to expand opportunities for sports undergraduates. Universities should establish collaborative partnerships with enterprises, sports venues, and communities to co-create internship and employment opportunities, providing students with practical experience and job placements. Offer career planning guidance services to help students clarify their professional direction and enhance their vocational skills.

Optimise allocation of physical education resources: Government funding for university sports education should be increased to improve training facilities and teaching conditions, particularly in central and western regions and at local institutions. Establish resource-sharing mechanisms to facilitate inter-institutional and regional collaboration, enhancing resource utilisation efficiency. Strengthen the development of physical education teachers and coaching staff through training and professional development programs to elevate their expertise and teaching capabilities.

Regulating the online environment to mitigate negative influences: Strengthen internet oversight to combat cyberbullying and malicious commentary, fostering a healthy digital ecosystem. Guide undergraduate sports students in responsible internet usage through digital literacy education, enhancing their ability to discern information and exercise self-control to prevent online addiction.

## 5.3 Family level: Fostering a warm, supportive home environment

Transform parenting approaches to address psychological needs: Parents should abandon utilitarian parenting styles, reducing excessive expectations regarding competitive achievements and career prospects. Instead, focus on students' physical and mental wellbeing alongside psychological requirements (Ma Bianjing, 2023). Adopt democratic, supportive parenting methods, fostering frequent communication to understand challenges in training, studies, and daily life while providing emotional support and encouragement.

Strengthen parent-child communication to foster positive relationships: Parents should proactively enhance communication with students, maintaining regular contact via phone or video calls even when students are training away from home for extended periods (Zhang Hui,

2023). During conversations, prioritise listening over criticism, demonstrate understanding of training pressures and competitive setbacks, and assist students in managing negative emotions.

Provide financial and psychological support: Parents should reasonably support students' professional training and academic needs according to their family circumstances, avoiding financial pressures that hinder development (He Guangye, 2023). When students face setbacks such as sports injuries or competitive losses, parents should offer full understanding and support to help rebuild confidence, avoiding blame or complaints.

#### 5.4 Individual level: Enhancing psychological adaptability and self-management skills.

Cultivating positive coping strategies: Sports undergraduates should proactively learn psychological adjustment techniques, mastering problem-solving, emotional release, and support-seeking skills (Li Yonghui, 2021). When facing setbacks, avoid avoidance or suppression; actively seek assistance from coaches, counselors, peers, or family, and access professional psychological counseling when necessary.

Enhancing psychological resilience and emotional regulation: Develop mental fortitude through mindfulness training, imagery techniques, and self-affirmation to strengthen adversity coping abilities (Tang Fangwu, 2024). Master emotional regulation methods—such as deep breathing, muscle relaxation, and attention diversion—to swiftly adjust moods during training and competitions, maintaining psychological equilibrium.

Improve sleep quality to safeguard physical and mental well-being: Establish sound sleep-wake patterns, balance training and rest periods, and prevent training fatigue from disrupting sleep (Fu Shang, 2023). Enhance sleep quality through pre-sleep relaxation, consistent routines, and optimised sleep environments to avert psychological issues stemming from sleep disturbances.

Expand social networks and cultivate positive relationships: Actively participate in cross-disciplinary and cross-sector social engagements to broaden connections and enhance interpersonal skills (Wang Haiping, 2015). Foster mutually beneficial partnerships with teammates during professional training, supporting one another for collective progress while minimising interpersonal conflicts and feelings of alienation.

Develop accurate self-awareness and career planning: Objectively recognise personal strengths and weaknesses to avoid arrogance or inferiority complexes, fostering a positive sense of self-worth (Zhang Hui, 2023). Combine personal interests and abilities to formulate clear career plans, proactively acquire diverse skills to enhance employability, and alleviate career-related anxieties.

## 6 Conclusion and Outlook

The incidence of psychological issues among undergraduate sports students significantly exceeds that of general undergraduates, primarily manifesting as competitive anxiety, psychological trauma from sports injuries, stress from academic-training conflicts, career development anxiety, and sleep disturbances. These issues exhibit variations across year groups, genders, and specialised disciplines. The emergence of these psychological issues results from the combined influence of individual factors (personality traits, coping mechanisms, psychological resilience), environmental factors (training pressure, academic conflicts, inadequate campus support), social factors (stereotypes, employment pressure, resource inequality), and family factors (parenting styles, parent-child communication, financial strain). This interaction forms a chain-like transmission mechanism of "stressor – mediating variable - psychological outcome" chain transmission mechanism, with feedback reinforcement effects.

Addressing the developmental logic of psychological issues among undergraduate sports students requires establishing a four-dimensional response system encompassing "institution-society-family-individual": - Institutional level: Optimise mental health education and services to alleviate academic-training conflicts - Societal level: Eliminate stereotypes, broaden employment pathways, and optimise resource allocation - Family level: Transform parenting approaches and strengthen parent-child support - Individual level: Enhance psychological adaptation capabilities and self-management skills

As the future backbone of the sports sector, the mental health of undergraduate sports students impacts not only their holistic development but also the sustainable growth of the sports industry. Collaborative efforts across all stakeholders are essential to establish a comprehensive, multi-tiered mental health support system. This will empower sports undergraduates to flourish under the dual nurturing of physical and mental development, growing into outstanding talents with robust physical and mental well-being and exceptional comprehensive qualities.

### **Data availability statement**

The raw data supporting the conclusions of this article will be made available by the authors without undue reservation.

### **Ethics statement**

Ethical approval was not required for the study involving humans in accordance with local legislation and institutional requirements. Written informed consent to participate in this study was not required from the participants or the participants' legal guardians/next of kin in accordance with national legislation and institutional requirements. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

### **Author contributions**

Huancheng Huang: conceptualisation, data curation, writing—original draft preparation, and resources.

Yuanyuan Chen: Writing—review & editing, supervision, funding acquisition.

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## **Conflict 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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