

A Study on Identity Formation of Students in the Major of Social Sports Guidance and Management under the Context of Artificial Intelligence

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Abstract: The rapid development of artificial intelligence is profoundly transforming the ways of delivering sports services, reshaping professional competence structures, and redefining career development contexts, significantly influencing the identity formation of students majoring in social sports guidance and management. On one hand, AI is driving social sports services toward greater intelligence, digitization, and precision, expanding students' learning content, practical opportunities, and career pathways, thereby enhancing their professional value recognition and career expectations. On the other hand, the widespread application of intelligent devices, data platforms, and algorithmic systems may also trigger concerns among students about job displacement, insufficient skills, and diminished professional relevance, potentially undermining their sense of belonging and stability in identity. In response, universities should focus on three key areas-professional value guidance, curriculum optimization, and practical platform development-to help students better understand the relationship between AI and careers in social sports guidance. This approach promotes the integrated development of sports expertise, management capabilities, and AI application skills, while enriching students' professional experiences through practical settings such as smart fitness, community sports services, and health management. Through systematic guidance and skill empowerment, students' professional confidence, sense of responsibility, and identity stability can be further enhanced.

Keywords: Artificial Intelligence, Social Sports Guidance and Management, Identity, Professional Identity, Talent Development.

1. Introduction

Artificial intelligence has profoundly empowered sports governance and related services, driving their intelligent and digital transformation and raising new demands for social governance talent cultivation. As a core program fostering applied professionals in this field, the Social Sports Guidance and Management major has expanded rapidly over more than two decades, growing from over 20 institutions in 1999 to 284 by 2020. It has become the second-largest program in the sports discipline, providing crucial human resources support for social sports development. However, the prominent career misalignment among graduates highlights the disconnect between current talent cultivation and industry needs.

The formation and development of professional identity is a core issue throughout the talent cultivation process of this major, and a key internal variable affecting students' career adaptability and development stability[9]. It is mainly influenced by two dimensions: the educational system and professional socialization, as well as the employment market and social evaluation. Artificial intelligence exerts a dual impact on students' professional identity: on the one hand, it enhances their professional self-efficacy and promotes a technology-governance integrated positioning to adapt to digital grassroots sports governance needs; on the other hand, it intensifies the ambiguity of professional boundary cognition and job substitution anxiety, triggering identity weakening, value doubt and career drift.

Existing studies are mostly based on traditional educational contexts and fail to systematically address the dual situation of students' identity construction under the background of artificial intelligence, leaving a significant research gap in the

evolution logic and mechanism of identity in the technological context. Therefore, this paper takes the identity construction of Social Sports Guidance and Management students in the AI era as the core research object, sorts out the opportunities and challenges they face, and explores the internal mechanism and optimization paths, so as to provide theoretical support and practical references for improving talent cultivation quality and guiding students' professional identity.

2. Development Opportunities for the Identity Formation of Students in the Social Sports Guidance and Management Major under the Context of Artificial Intelligence

Artificial intelligence, as an important driving force of the new round of technological revolution and industrial transformation, is profoundly reshaping the educational form, public service methods, and sports development model [1]. At the national level, efforts have been continuously made to promote the empowerment of education by artificial intelligence, emphasizing the integration of teaching and learning through intelligent technology, promoting personalized growth, and proposing the cultivation of interdisciplinary and multi-skilled talents who can meet the demands of emerging positions [8]. The professional environment of students in the social sports guidance and management major is shifting from the traditional "physical fitness guidance - activity organization" model to a new form of "scientific fitness services - data support for decision-making - digital platform collaboration", thereby providing

new opportunities and challenges for the formation and reinforcement of their professional identity [2].

First, artificial intelligence has restructured the way professional knowledge is provided and skills are cultivated. In traditional sports-related majors, the provision of knowledge mainly involved the teaching of sports skills and the explanation of fitness theories. The teaching scenarios were highly dependent on offline practical operations and teacher demonstrations, and students' skill development was limited to a single dimension of offline guidance and activity organization. After the intervention of artificial intelligence technology, virtual simulation teaching systems, AI motion recognition and error correction tools, and personalized learning push platforms gradually integrated into professional teaching. The transmission of knowledge shifted from "uniform indoctrination" to "precise adaptation", allowing students to independently correct movement deviations and formulate personalized learning plans. The depth and efficiency of professional learning significantly improved [8]. At the same time, contents such as intelligent sports operation, sports data processing, and digital platform management were gradually incorporated into the professional knowledge system, expanding the connotation of professional capabilities and helping students establish a "technology + sports" composite identity cognition and strengthen professional self-efficacy. Second, artificial intelligence has expanded the scenarios of intelligent sports and fitness-for-all services, helping to enhance students' expectations and confidence for professional career prospects. Previously, the service forms of social sports guidance were concentrated in offline community fitness stations and mass sports event organization, with limited service coverage and relatively fixed career development paths. Currently, under the empowerment of artificial intelligence, new scenarios such as intelligent sports parks, AI physical fitness monitoring stations, online fitness guidance platforms, home exercise intelligent terminals, and intelligent venue operation have emerged continuously. The service boundaries have extended from offline to online, from communities to the entire territory, and career positions have derived diverse directions such as sports health data management, online fitness content planning, and intelligent sports product operation, enabling students to form a positive judgment of "what they have learned can be applied and can be sustainable for development", thereby enhancing their value recognition and development recognition of this major [3].

Thirdly, artificial intelligence has enhanced the public value and social visibility of social sports services, helping to strengthen students' sense of professional mission and identity pride. The deployment by the State Council regarding the development of the new generation of artificial intelligence clearly states that the wide application of artificial intelligence in fields such as education, healthcare, elderly care, and urban operation will improve the precision of public services and enhance the governance capabilities of society [1]. When it comes to the sports field, social sports instructors already undertake responsibilities such as teaching fitness skills, organizing fitness activities, and promoting scientific fitness knowledge. They are both the organizers of fitness activities for all citizens and the disseminators of healthy lifestyles. The integration of artificial intelligence technology enables social sports guidance services to break through time and space limitations and cover a wider population, especially meeting the fitness needs of remote areas and special groups more

effectively. The public service attribute and social value of the social sports guidance profession are further highlighted. From a combination of professional learning and practical observation, students can directly feel the enhancement of professional influence under the empowerment of technology, thereby strengthening their sense of professional belonging and identity pride.

Overall, the opportunities that artificial intelligence brings to the identity recognition of students majoring in social sports guidance and management are mainly reflected in the upgrading of the knowledge system, the expansion of the professional scenarios, and the enhancement of professional value [6]. It enables students to re-understand the capability boundaries, social functions and development prospects of their major under the dual traction of technological change and social demands. In the actual process of the interconnection of "digital technology - scientific fitness - public services", they can strengthen their sense of belonging, identification and mission to their major.

3. Realistic Challenges Faced by Students of Social Sports Guidance and Management Major in the Context of Artificial Intelligence

The development of artificial intelligence has provided new external conditions for the formation of students' identity in the field of social sports guidance and management. At the same time, it is reshaping the methods of sports service provision, the structure of professional capabilities, and the evaluation standards of occupations at a faster pace, thus presenting new tensions for students' identity recognition [6]. When the Ministry of Education deployed the digitalization of education, it clearly stated that artificial intelligence should be integrated into all elements, processes, and scenarios of education; the "14th Five-Year Plan for Sports Development" proposed promoting the intelligent development of fitness activities, building a digital fitness service platform, and innovating public service models [2]. Thus, it can be seen that artificial intelligence is not a local repair of the original professional environment, but an overall reconfiguration of the professional ecosystem. During this reconfiguration process, students of social sports guidance and management will, on the one hand, see new scenarios and opportunities, and on the other hand, also experience confusion and uncertainty in their career cognition, which is an important source of identity recognition anxiety [5].

3.1. The Emergence of Artificial Intelligence Leads to the Reconfiguration of Professional Boundaries, Which is Likely to Intensify Students' Anxiety about Professional Substitution.

After artificial intelligence entered the sports field, functions such as movement data monitoring, physical fitness assessment, action recognition, training feedback, generation of sports prescriptions, intelligent venue operation, online fitness guidance, etc. have become increasingly widespread. When the National Sports Administration and the Ministry of Industry and Information Technology collected typical cases of intelligent sports, they had already regarded intelligent sports parks, smart community fitness centers, intelligent sports guidance, outdoor physical fitness testing, movement

volume monitoring, emergency rescue, etc. as important application scenarios; in the list of intelligent sports typical cases for the year 2024, products and solutions such as AI smart playgrounds, AI physical fitness testing and training terminals, and intelligent sports prescriptions based on large models have also appeared. The rapid integration of technology has enabled many basic, repetitive, and standardized tasks traditionally undertaken by social sports instructors to partially shift to intelligent terminals, digital platforms, and algorithm systems [3].

The technological substitution of traditional job functions directly challenges students' original understanding of the core value of their major. Once students cannot clearly understand the professional boundaries and core competitiveness of social sports instructors in the era of artificial intelligence, they are likely to fall into a state of blurred professional status, unstable career prospects, and decreased willingness to invest in their studies, thereby weakening their sense of belonging and identification with their major [7]. From the daily communication and learning situation of students in the social sports major, many lower-grade students will have questions like "Can machines replace social sports instructors?" after coming into contact with AI fitness products. This uncertainty about the substitutability of the profession is an important factor in weakening their professional identity.

3.2. The Advancement of Artificial Intelligence in Terms of Capabilities Has Led to an Increase in the Standards, Which May Result in a Lack of Professional Confidence among Students.

The second challenge brought about by artificial intelligence lies in the fact that it significantly increases the required knowledge complexity and ability levels for social sports services [8]. The digitalization policy in education continuously emphasizes the empowerment of education by artificial intelligence and proposes exploring human-machine collaborative teaching and enhancing digital literacy. Many universities have also incorporated artificial intelligence literacy into their talent cultivation content. At the same time, the intelligent development in the sports field no longer merely stops at simple information display, but increasingly relies on data collection, user profiling, platform operation, intelligent analysis, and cross-departmental collaboration. This means that students majoring in social sports guidance and management will face not only traditional sports skill guidance work in the future, but also the need to possess multiple abilities such as sports science, health promotion, communication and organization, digital tool application, basic data understanding, and platform collaborative services. However, the problem is that many students' existing professional cognition and learning preparation often remain within a relatively traditional knowledge framework, leading to a mismatch between their ability structure and job requirements. On one hand, students may possess certain sports practical abilities and organizational activity experience, but lack sufficient understanding of artificial intelligence, data technology, and intelligent scene operation; on the other hand, they may also experience significant learning pressure in the face of rapid technological iteration, thus developing a sense of insufficient ability. For identity recognition, a sense of competence is an extremely crucial

psychological foundation [5]. Only when students believe that they have the ability to assume professional roles and complete professional tasks can their identity recognition truly be consolidated. If artificial intelligence continuously raises the professional entry threshold, while professional training fails to timely help students complete the ability transformation, students may develop a contradictory mindset of "wanting to enter this profession but feeling unqualified", ultimately affecting their positive construction of professional identity.

3.3. The Application of Artificial Intelligence May Enhance Technical Logic, but it Might Also Weaken the Humanistic Value Experience.

The Social Sports Guidance and Management major is not merely a technical discipline; it is also a profession with distinct characteristics of public nature, service orientation, and interpersonal interaction. According to the management regulations of the National Sports Administration regarding social sports instructors, social sports instructors are personnel who, in social sports activities, do not receive remuneration and provide public services such as teaching fitness skills, organizing fitness activities, and promoting scientific fitness knowledge; related reports also summarize them as promoters of national fitness, guides for scientific fitness, organizers of mass activities, and leaders of healthy lifestyles. However, the large-scale application of artificial intelligence can easily cause students to overly understand this major from the perspective of technical efficiency, thereby weakening its social and humanistic aspects [6]. Once professional education overly emphasizes platforms, equipment, algorithms, and result optimization, while neglecting the complexity, diversity, and situational nature of grassroots mass sports work. In fact, sports services, especially those for children, the elderly, people with chronic diseases, and community residents, often involve safety responsibilities, ethical judgments, and practical care. The "Out-of-Class Sports Training Behavior Norms" issued by the National Sports Administration have already set clear requirements for safety education, video collection, emergency response, and emergency medical equipment allocation, indicating that sports guidance work should not only focus on efficiency but also on responsibility, norms, and bottom lines. Although artificial intelligence can improve information processing efficiency, it cannot replace ethical judgment, risk identification, and emotional communication when facing complex individuals. If students ignore this point in their technological worship, they may deviate from the core value of this major in identity construction, leading to their professional identity becoming instrumentalized, utilitarianized, and superficialized.

4. The Promotion Path for the Identity Construction of Students Majoring in Social Sports Guidance and Management in the Context of Artificial Intelligence

Artificial intelligence brings about industry transformation challenges, and students' identity recognition also encounters threefold real-world problems: the continuous reorganization of professional boundaries gives rise to anxiety over job

replacement, the comprehensive elevation of industry comprehensive ability standards leads to insufficient professional competence among students, the dominant logic of technical efficiency weakens the core of professional and humanistic services, and continuously undermines students' stable career cognition. Therefore, it is particularly crucial to actively promote the deep integration of artificial intelligence into the professional talent cultivation system of sports. This can not only seize the opportunities of smart sports to broaden students' career development space, but also balance the attributes of technical tools with the professional and humanistic color, fundamentally resolving the identity recognition crisis and adapting to the talent demand for digital transformation of national fitness. Regarding this, the following text proposes targeted optimization paths from three levels: professional value guidance, intelligent transformation of the curriculum system, and expansion of the smart sports practice platform. It comprehensively resolves the obstacles to students' identity recognition caused by artificial intelligence.

First, strengthen the professional value guidance under the context of artificial intelligence, and enhance students' professional identity recognition. Artificial intelligence is profoundly transforming the form of the sports industry and the methods of sports services, but its essence is not simply replacing social sports guidance and management professionals; instead, it is promoting the upgrading of professional competence structure and career roles. Therefore, universities should strengthen professional introductions, career planning, and industry development education, guiding students to recognize the important role of the social sports guidance and management profession in areas such as national fitness, the construction of a healthy China, community sports services, and sports health promotion. By inviting industry experts, outstanding alumni, and personnel from intelligent sports enterprises to give lectures, students can understand the demands of emerging positions such as smart fitness, sports health management, physical fitness monitoring, and sports public services, helping students form a clear professional positioning and career expectations, and enhancing their sense of professional belonging and development confidence.

Second, promote the integration of the curriculum system with artificial intelligence technology to enhance students' professional competence. The formation of students' identity not only depends on value cognition but also on practical ability support. Universities should, in light of the new changes in the sports industry under the context of artificial intelligence, optimize the curriculum system of the social sports guidance and management major, integrating contents such as sports data analysis, application of intelligent fitness equipment, physical health monitoring, formulation of sports prescriptions, and informatization of sports management into the professional teaching. Through a combined training model of "sports professional knowledge + artificial intelligence application ability + management service ability", students will not only master the basic theories and skills of social sports guidance, mass sports organizations, and sports health management, but also be able to use intelligent technology to provide personalized sports guidance and sports service management. During the process of improving their abilities, students can more clearly identify their professional advantages, thereby enhancing their recognition of their professional identity[4].

Thirdly, expand the intelligent sports practice platform and enhance students' career experience and sense of mission. Universities should strengthen cooperation with community sports service centers, smart fitness venues, sports enterprises, health management institutions, and public sports service platforms to provide students with more intelligent and realistic practical opportunities. Through participation in practical projects such as community fitness guidance, physical fitness tests, movement risk assessment, guidance on the use of intelligent equipment, and organization of mass sports activities, students can understand the application value of professional knowledge in real scenarios and feel the practical significance of the social sports guidance and management profession in serving the health of the masses and promoting the development of national fitness. At the same time, a practice feedback and career reflection mechanism should be established to guide students to summarize experiences, identify gaps, and enhance their sense of responsibility in practice, ultimately forming a stable professional identity and confidence in career development.

5. Conclusion

In the context of the digital transformation of the sports industry driven by artificial intelligence and the deep advancement of the national fitness strategy, the professional identity recognition of students majoring in social sports guidance and management is encountering threefold obstacles: the continuous reconfiguration of professional boundaries leading to anxiety about job replacement, the rising standards of industry comprehensive capabilities resulting in insufficient professional competence, and the weakening of the dominant logic of technical efficiency leading to the weakening of the professional humanistic service core. These issues have become the core problems restricting the quality of professional talent cultivation and the compatibility between industry talent demand. In response to this, relevant research proposes a core solution path centered on the deep integration of artificial intelligence into the professional talent cultivation system, advocating for strengthening professional value guidance to clarify the technical empowerment attributes of artificial intelligence and the irreplaceable value of the profession, consolidating the cognitive foundation of students' identity recognition, through the construction of a "sports professional knowledge + artificial intelligence application ability + management service ability" composite training model, promoting the intelligent transformation of the curriculum system to strengthen the ability support for students' professional competence, and expanding the intelligent sports practice platform for school-enterprise-local-government collaboration and establishing a practice feedback and career reflection mechanism to deepen students' career perception and mission recognition. Ultimately, a "value cognition - ability construction - practical internalization" identity recognition promotion loop is formed. This research framework not only responds to the real challenges brought by technological change to the social sports major, but also adheres to the essence of professional humanistic service, providing systematic theoretical basis and practical references for the reform of social sports guidance and management professional talent cultivation and the cultivation of students' identity recognition in the new era.

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