



Factors Influencing Chinese Students' Physical Exercise Behavior

—A Qualitative Systematic Literature Review

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KEYWORDS

*College students;
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Personal factors;
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ABSTRACT

The purpose of this study is to identify the main factors influencing college students' physical exercise behavior and to analyze their interrelationships using a bibliometric approach. A total of 189 scientific publications on students' sports behavior indexed in the CNKI database from 2001 to 2024 were selected as the research material. Using CiteSpace software, trends in publication output, major research themes, and the structural framework of influencing factors were systematically analyzed. The results indicate that college students' physical exercise behavior is shaped by a complex interaction of personal, environmental, and sociocultural factors. Intrinsic motivation, self-efficacy, and awareness of the value of physical activity play a leading role in sustaining regular participation in exercise, while individual differences and physical condition determine the intensity and stability of exercise behavior. In addition, the accessibility of sports infrastructure, social support, and the sociocultural environment provide essential external conditions for students' engagement in physical activity. These findings highlight the necessity of adopting a comprehensive approach to fostering sustainable physical exercise behavior within higher education systems

INTRODUCTION

Against the backdrop of the in-depth advancement of the "Healthy China 2030" strategy, college students, as the core force for the future development of the country, have seen their physical health status become an important dimension for evaluating the quality of higher education [1]. Although there is a broad consensus on the positive role of physical exercise in promoting physical health, psychological adjustment and personality development, the physical fitness level of Chinese college students is still facing the severe challenge of fluctuating decline, and phenomena such as sedentary lifestyle and lack of regular exercise are still prevalent [2]. Although previous studies have explored the causes of sports behavior from different perspectives, most of them focus on the empirical analysis of single factors and lack a systematic review of the long-term evolution trend

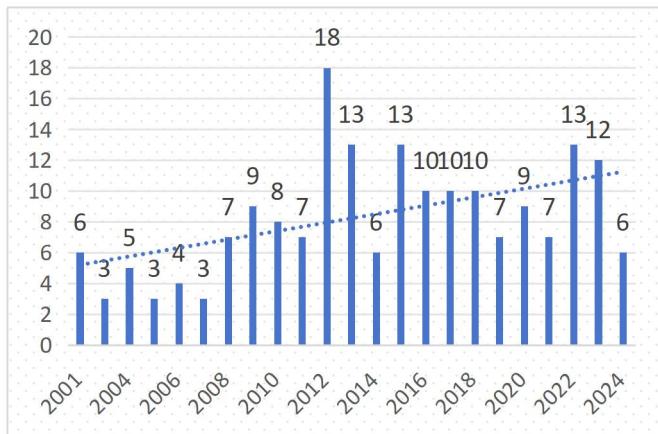
and integration of macro-dynamic mechanisms in this field. Based on this, this study relies on the CNKI database to conduct an in-depth search of 189 scientific research articles on college students' physical exercise behavior from 2001 to 2024, and uses CiteSpace visualization software for quantitative analysis and qualitative review. This paper aims to objectively reveal the internal logic and external constraints of college students' participation in physical exercise by constructing a three-in-one influence framework of personal factors, environmental factors, and socio-cultural factors. This not only provides empirical evidence for improving the reform of college physical education and enhancing the effectiveness of sports facilities, but also provides scientific theoretical guidance and policy reference for promoting college students to develop sustainable

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1. Research Concept and Methods



This study employed bibliometric analysis to systematically examine 189 scientific articles on college students' sports behavior indexed in the CNKI (China National Knowledge Infrastructure) database from 2001 to 2024. The publication trend chart (Figure 1), created using CiteSpace software, shows that research in this field has evolved from an initial stage to continuous development, demonstrating an overall gradual growth trend, reflecting the increasing attention paid by the academic community to the issue of college students' sports behavior. As a result of the systematic review and synthesis of the literature, it was found that the factors influencing college students' sports behavior are multidimensional and complex, primarily classified into three types: personal factors, environmental factors, and socio-cultural factors (Figure 2). Based on this, the paper will proceed with further analysis and discussion of the corresponding research findings in these three areas.

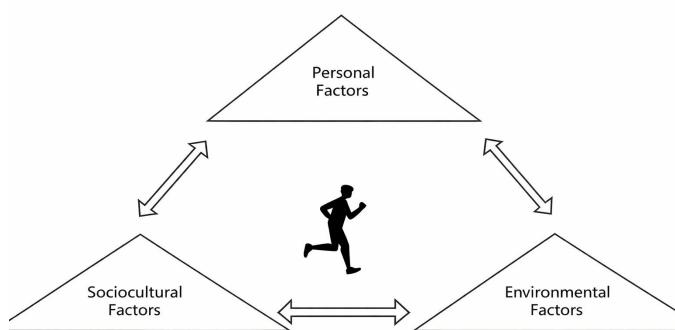


Fig.1. Number of Publications in CNKI from 2001 to 2024

Fig.2. Three-Factor Diagram of Interrelationships

2. Research Content

2.1. Personal Factors

2.1.1. Motivation for Physical Activity and Psychological Cognition

Numerous studies have shown that the onset and continuation of physical activity among college students are primarily limited by their internal psychological factors, among which motivation for sports, level of interest, and perception of the value of physical exercise are considered the most important influencing variables. Mao Hao de (2024) in his study on college students' participation in sports noted [3] that a significant number of college students do not take the initiative in their sports activities, mainly because they lack an understanding of the long-term value of physical exercise for strengthening physical and mental health. They regard physical activity as a way to cope with academic pressures or as a short-term activity, which hinders the formation of sustainable exercise habits. Students with low awareness of physical exercise are more likely to abandon it under academic pressure or lack of time.

From the perspective of sports motivation, intrinsic motivation has a significant positive predictive impact on college students' sports behavior. Cheng Sixuan (2024) in her study of female college students' participation in basketball found [4] that interest is the key factor influencing their sports participation. When students are personally interested in sports and experience positive emotional feelings, the frequency and duration of their participation significantly increase; conversely, if participation in sports is mainly driven by external requirements (such as course grades and physical fitness tests), their sports behavior is often passive and gradual. A sports experience lacking enjoyment and a sense of achievement can weaken sports motivation in college students and even provoke avoidance of sports [5].

Moreover, self-efficacy and body image play an important mediating role in college students' sports behavior. Studies have shown that college students with high self-efficacy in



sports generally have a positive evaluation of their sports abilities, are more willing to participate in sports events, and try different types of sports; while students with low self-efficacy often reduce their participation due to fear of failure or judgment from others. Some college students experience significant psychological pressure when participating in sports events at public sports venues due to anxiety about body shape or lack of confidence in their physical abilities, which affects the formation of sports behavior [6]. This suggests that college students' sports behavior is not only limited by objective conditions but is also closely linked to their psychological perceptions and emotional experiences.

2.1.2. Motivation for Physical Activity and Psychological Cognition

Individual differences such as gender, academic year, physical fitness, and sports skills significantly influence college students' sports behavior. Existing studies generally consider gender differences to be one of the most stable variables affecting college students' sports participation behavior [7]. Results from numerous surveys show that male students are generally more active in sports than female students, while female students typically choose sports of low and moderate intensity with high recreational value. Huang Chunhua (2018) in her study of female college students' participation in basketball noted that the overall proportion of female students engaging in basketball is low, mainly due to factors such as physical fitness, insufficient sports skills, and psychological rejection [8].

Regarding academic year factors, Zhao Zhongwei (2024) in his empirical analysis of college students' participation in sports [9] found that the level of sports participation among freshmen is significantly higher than that of senior students, and the frequency of physical exercise decreases as students progress through their academic years. The study suggests that this change is closely related to increased academic workload, greater pressure from the job market, and reduced requirements for physical education courses in the senior years.

From the perspective of physical condition, the level of physical fitness and health directly influences college students' sports behavior. Students with good physical fitness and a certain level of sports foundation are more likely to have positive experiences in sports events, thus

forming a sustainable behavior pattern associated with physical exercise. In contrast, students with poor physical fitness, obesity, chronic discomfort, and other issues may reduce their participation due to the overwhelming sense of physical strain. Na Dong xia (2025) noted a significant positive correlation between physical fitness and self-confidence in sports. Good physical fitness helps to improve sports confidence in college students, thus contributing to the formation of sports behavior [10]. At the same time, the level of sports skills is also an important factor influencing college students' sports behavior [11]. Studies have shown that students who lack basic sports skills are more likely to experience frustration and negative emotions during sports activities, thereby reducing their interest in sports.

2.2. Environmental Factors

2.2.1. Availability and Equipment of Sports Facilities

Providing sports environments and facilities is an important external foundation for college students' participation in sports activities. By offering the necessary material conditions and spatial guarantees, it directly affects the possibility, frequency, and sustainability of sports behavior. From the perspective of the physical campus environment, the availability and accessibility of sports facilities are prerequisites for participation in sports. Studies have shown that the distance between sports fields and students' academic and residential buildings significantly influences their willingness to use them. Sports facilities with reasonable spatial layout and easy access are more likely to be included in students' daily sports routines [12]. At the same time, compared to single-purpose facilities, multifunctional sports zones can meet the needs of various types of sports and fitness activities, expand the choice of sports, thereby stimulating students' interest in participation and enhancing the effectiveness of facility usage, as well as increasing initiative and the sustainability of sports involvement [13]. This suggests that the provision of a sports environment is reflected not only in the number of facilities but also in ensuring the spatial configuration meets the diverse and individual sports needs of college students. In terms of the quality and development of sports facilities, factors such as facility safety, equipment condition, and



lighting directly impact the sports experience and risk perception. Aging facilities or inadequate maintenance not only reduce the comfort of sports participation but also increase the risk of injuries, thereby decreasing students' desire to participate. Studies have shown that colleges with well-equipped sports facilities have significantly higher levels of student participation in sports [14]. Additionally, "smart" sports facilities, sports data registration systems, and wearable devices enhance manageability and improve sports experiences through real-time feedback and personalized support. However, their effective role still depends on support and guidance in usage, and some students are unable to fully benefit from them due to technical barriers in operation.

2.2.2. Social Support Systems and the Influence of the Digital Environment

In addition to the physical environment and infrastructure, social support systems have a long-term impact on the formation and maintenance of college students' sports behavior through emotional connections, behavioral demonstration, and interaction mechanisms. Xu Shanshan et al. (2023) found that peer relationships are one of the most immediate social situations [15]. The exercise habits of roommates and close friends often influence individual behavioral choices through imitation and group norms. When those around them actively participate in sports events, individuals are more likely to form regular exercise habits. This peer effect is particularly evident among college students. Furthermore, sports clubs and teams provide students with a structured and stable social support environment. With fixed training schedules, clear roles, and common goals, they strengthen emotional support and a sense of belonging among members. Wang Wantong (2024) found [16] that members of sports clubs engage in sports significantly more often than students who are not part of clubs, showing higher frequency and regularity in training. The social support mechanism helps to compensate for the lack of individual self-discipline.

2.3. Sociocultural Factors

2.3.1. Family and Educational System-Related Factors

Family and educational systems have a fundamental influence on the formation of individual sports behavior orientation. Studies have shown that parents' exercise habits, their attitudes toward sports, and their lifestyle continue to affect children's cognition and participation in sports through daily demonstration and value-based education [17]. While parental recognition of the value of sports has grown with the change in educational concepts, in practice, sports activities are still mainly carried out within the academic priority framework and are often seen as an auxiliary way to regulate academic pressure, which somewhat weakens students' understanding of the long-term value of sports. The educational system shapes external norms for sports behavior through evaluation mechanisms, such as the development of sports curricula, examination systems, and physical fitness assessments. Relevant reforms have objectively raised the baseline level of students' participation in sports activities, but may also strengthen the trend toward "exam-oriented sports" and limit the diversity of sports content. At the university level, mandatory sports courses and the credit system provide institutional guarantees for student participation in sports. The level of participation and student qualifications in universities with strict implementation of this system are relatively high. Meanwhile, although the promotion of the "integration of sports and education" policy is still at the deepening stage, it has already positively influenced students' sports behavior in terms of conceptual guidance and resource integration. In general, the value guidance of the family and the behavioral norms of the educational system jointly shape the basic orientation of individual sports behavior.

2.3.2. Differences in Sociocultural Atmosphere and Structure

In a broader social context, the social and cultural atmosphere has a significant influence on college students' sports behavior through subtle value imposition. Under the influence of the established concept of "academic performance taking precedence over sports," sports remain relatively marginal in the minds of some students. Zhang Zhi zhong study showed that students generally participate



passively in sports events due to exam requirements or external pressure [18]. Although students' understanding of the importance of physical and mental health has been constantly strengthened with the popularization of health concepts, this understanding has not fully transformed into stable and continuous sports behavior. On the other hand, mass media also play their role. Sports events and sports stars can stimulate students' interest in sports and encourage them to try different sports [19]. Overemphasis on competitive achievements and the demonstration of elite sports can easily lead some students to believe that "sports require talent," thus distancing them from everyday sports activities.

At the school level, the influence of social culture is particularly reflected in differences in campus sports culture, and these differences are often closely linked to resource conditions. Universities with a more developed sports culture generally have more comprehensive sports infrastructure and active clubs, which facilitate students in forming spontaneous and sustainable sports habits [20]. In contrast, in universities with a relatively weak sports culture, students' enthusiasm for sports participation still needs further stimulation. Additionally, differences in the level of economic development and urban-rural context in different regions significantly affect students' opportunities to participate in sports. Regions with better economic conditions have more advantages in terms of sports conditions, funding, and professional guidance, making sports choices more diverse for students. The gap in early sports experience between urban and rural students often persists into the university stage, affecting their sports foundation and confidence in participation. At the same time, different traditional sports cultures in various regions also shape diverse sports preferences among students [21], providing rich cultural resources for the development of student sports.

3. Results and Discussion

3.1. Personal Factors

The results of the analysis show that personal factors play a key role in shaping college students' sports behavior. Intrinsic motivation, interest in physical activity, and awareness of its value are directly related to the frequency and sustainability of sports participation. In contrast, the

dominance of external motivation, related to grades and norms, often leads to passive and short-term participation. Significant influences also come from self-efficacy and body perception: high confidence in physical abilities reduces psychological barriers and contributes to the formation of stable sports behavior, whereas anxiety and fear of social evaluation limit students' engagement.

3.2. Individual Differences and Physical Condition

The literature analysis revealed a consistent influence of individual differences on college students' sports behavior. Gender differences manifest in higher activity levels among male students and a tendency for female students to engage in recreational forms of physical activity. As student progress through their academic years, their participation in sports decreases, which is related to the increasing academic load and weakening institutional requirements. Additionally, the level of physical fitness and the presence of basic sports skills determine the quality of sports experience and directly impact the sustainability of sports behavior.

3.3. Environmental Factors

Environmental factors are important external conditions for the realization of college students' sports behavior. The availability, functionality, and quality of campus sports infrastructure significantly affect the opportunity for regular physical activity. The rational spatial organization of sports facilities and the multifunctionality of sports areas increase student engagement and contribute to the formation of sustainable sports habits. Alongside this, peer social support and participation in sports clubs and teams enhance motivation and compensate for the lack of individual self-regulation.

3.4. Sociocultural Factors

At the sociocultural level, students' sports behavior is determined by the value orientations of the family, the educational system, and society as a whole. Despite the promotion of healthy lifestyle concepts and the integration of sports and education, sports in many cases continue to be seen as an auxiliary activity to academics. The media environment and campus sports culture have a dual impact, on one hand stimulating interest in physical activity, and on



the other, creating participation barriers. Regional socio-economic differences and cultural traditions further shape the diversity of college students' sports behavior.

Conclusion

The conducted analysis showed that college students' sports behavior is shaped by the interplay of personal, environmental, and sociocultural factors. The leading role is played by intrinsic motivation, self-efficacy, and the awareness of the value of physical activity, while individual differences and physical condition determine the sustainability of sports participation. The availability and quality of sports infrastructure, social support, as well as the value orientations of family, educational systems, and society as a whole create external conditions for the realization of sports behavior. The findings highlight the need for a comprehensive approach to developing sustainable sports habits among students.

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