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Exploring the Formation Mechanism of Cultural Differences Between Chinese and Western Competitive Sportmanship: Based on a Qualitative Study

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Abstract

Purpose: The development of athletics is pivotal to China's aspiration of becoming a modern competitive sports powerhouse. Spiritual culture, being its core component, also serves as an intrinsic driving force. A nuanced understanding of the formation of spiritual and cultural differences between Chinese and Western competitive sports is essential for the connotative construction of China's competitive sports strength.

Methodology: This study employs qualitative text analysis to examine 46 texts in both Chinese and English. The aim is to investigate the mechanisms underlying the cultural differences between Chinese and Western sportsmanship and to construct a theoretical model.

Findings: The study identifies five key dimensions—mindset, internal and external drive, traditional paradigm, code of conduct, and spiritual pillars—that collectively contribute to the cultural differences in Chinese and Western competitive sportsmanship. Among these, mindset, internal and external drive, and traditional paradigm are the causative factors, while codes of conduct and spiritual pillars represent the actions and outcomes that shape these cultural differences.

Value: This study aims to elucidate the specific spiritual and cultural differences between Chinese and Western competitive sports, and the reasons behind these differences. By constructing a mechanism for the formation of these cultural differences, the study seeks to foster a conducive cultural environment for the development of competitive sports in China. This, in turn, is expected to accelerate China's transition from a major sports nation to a leading sports power on the global stage.

Keywords: Competitive Sports; Spiritual Culture; Cultural Differences; Nvivo12; Qualitative Research

1. Introduction

Athletics, as an integral component of sports, represents a unique cultural phenomenon inherent to humanity [1]. The concept of a sports culture is widely valued and acknowledged globally, fostering the progressive evolution of modern competitive sports across the world [2]. As a prominent sports nation, China has achieved significant successes and explored various
practical experiences in competitive sports. Nevertheless, despite its prowess in events such as badminton, table tennis, weightlifting, and diving, China lags behind Western countries in major gold medal events at the Olympic Games [3]. This disparity in competitive sports performance is intrinsically linked to cultural differences between China and the West, stemming from divergent historical social evolutions influenced by distinct geographic and social environments [4]. Understanding these cultural differences is essential for analyzing the development trajectories, achievement generation, and success patterns in Western competitive sports. Furthermore, it highlights the varying emphases within Chinese and Western sports cultures and the gaps therein [5]. The spiritual dimension remains central to the culture of competitive sports. Hence, examining the differences in the spiritual and cultural aspects of Chinese and Western sports is crucial for guiding the development of China’s competitive sports landscape.

Existing literature reveals that research on Chinese and Western competitive sports culture is still in an exploratory phase, focusing on conceptualization [6] and characterization [7]. Conceptually, some scholars perceive competitive sports as a social activity reflecting cultural soft power—a non-coercive influence that achieves development goals by attracting and assimilating others [8,9]. Another perspective views competitive sports culture as an attitude toward winning, emphasizing philosophical, practical, and sociocultural elements in leading a competitively intense environment [10]. In China, competitive sports culture has been characterized by the motto “faster, higher, stronger” since the 2008 Beijing Olympics [11]. Constructing a competitive sports cultural system requires not only ideological and institutional frameworks but also a focus on competition and performance, fostering self-generation and self-improvement [12]. Additionally, experiences of spirituality, cooperation, trust, and personal integrity can be transposed to various fields [13]. In terms of characteristics, competitive sports culture exhibits a trend of diversified development, encompassing regional, contemporary, ethnic, class, and group aspects, transitioning from the “authoritative consciousness” of family ethical culture to a “multiple interpersonal interaction mode” [14]. Although some scholars have examined the conflict and unity between traditional Chinese cultural thought and Western sportsmanship, such studies have primarily focused on the differences and conflicts [15]. However, the spiritual culture remains the core dimension and intrinsic driving force of competitive sports. A deeper understanding of these spiritual and cultural differences is vital not only for addressing the developmental gap between Chinese and Western sports but also for shaping the trajectory towards a modernized Chinese sports powerhouse.

In light of this, the present study employs a qualitative research methodology, utilizing Nvivo12 software to conduct a textual analysis of the spiritual culture in Chinese and Western c
ompetitive sports. It aims to uncover the specific differences in deeper understanding and awareness, explore the reasons behind these differences, and construct a mechanism for the formation of cultural disparities. This endeavor seeks to create a conducive cultural environment for the development of competitive sports in China, effectively guiding the connotative construction of a modernized competitive sports powerhouse and expediting China's transformation from a major sports nation to a global sports leader.

2. Research method

2.1 Qualitative textual tools

Nvivo12, a widely used text analysis tool in qualitative research, facilitates the construction of theoretical models based on empirical data [16]. In this study, Nvivo12 was employed to search for and analyze textual information in both English and Chinese. The goal was to construct a model explaining the formation mechanisms of cultural differences between Chinese and Western competitive sportsmanship. This approach aligns with the research logic and theoretical construction procedures of qualitative text analysis. Nvivo12's capabilities ensured that the entire qualitative research process was meticulously followed.

2.2 Data collection

Data collection involved using specific keywords, such as "competitive sports" (竞技体育), "competitive sports AND culture" (竞技体育 AND 文化), "competitive sports AND spiritual culture" (竞技体育 AND 精神文化), "competitive sports AND culture AND difference" (竞技体育 AND 文化 AND 差异), and "competitive sports AND spiritual culture AND difference" (竞技体育 AND 精神文化 AND 差异). These keywords were used to search for relevant literature in CSSCI, Beida core, and SSCI journals. As of January 2024, a total of 4,666 pieces of literature were collected, comprising 1,266 pieces from CSSCI, 1,873 pieces from Beida core, and 1,527 pieces from English literature sources (Table 1).
Table 1. Literature statistics

<table>
<thead>
<tr>
<th>Chinese Literature (CNKI)</th>
<th>Competitive sports (竞技体育)</th>
<th>Competitive sports AND culture (竞技体育 AND 文化)</th>
<th>Competitive sports AND spiritual culture (竞技体育 AND 精神文化)</th>
<th>Competitive sports AND culture AND difference (竞技体育 AND 文化 AND 差异)</th>
<th>Aggregate (Part)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSSCI</td>
<td>1226</td>
<td>39</td>
<td>1</td>
<td>0</td>
<td>1266</td>
</tr>
<tr>
<td>A Guide to the Core Journal of China (北大核心)</td>
<td>1811</td>
<td>61</td>
<td>1</td>
<td>0</td>
<td>1873</td>
</tr>
<tr>
<td>English literature (WOS)</td>
<td>Competitive sports</td>
<td>Competitive culture</td>
<td>Competitive sports spiritual culture</td>
<td>—</td>
<td>Aggregate (Part)</td>
</tr>
<tr>
<td></td>
<td>1070</td>
<td>405</td>
<td>52</td>
<td>—</td>
<td>1527</td>
</tr>
</tbody>
</table>

2.3 Literature sampling and qualitative analysis

The preliminary examination of titles, abstracts, and basic frameworks of the collected literature was conducted. Theoretical sampling was employed in accordance with qualitative research methodology requirements. The study process alternated with the coding process, resulting in the selection of 24 Chinese and 22 English articles, totaling 46 articles, which were closely related to the research theme. To ensure the quality and credibility of the literature, Chinese sources were obtained from CSSCI and Beida core journals, while English sources were obtained from SSCI journals. Next, the selected literature underwent qualitative analysis. This methodology facilitates a systematic qualitative analysis of the collected data, enabling the discovery and innovation of theories that have been provisionally tested. It is particularly applicable to the popular research topic of "cultural differences." The first task in qualitative text analysis involved coding the relevant content based on a careful reading of the literature. The textual literature was coded according to the research topic and cross-checked to ensure the reliability of the coding process. Following this, the content of the literature was conceptualized through coding analysis. Finally, the main categories were identified by analyzing and summarizing the concepts. Table 2 presents the number and coding of literature extracted for each research theme.
Table 2. Literature sampling by research topic on differences in competitive sportsmanship

<table>
<thead>
<tr>
<th>Research Topics</th>
<th>Number of documents/Part</th>
<th>Literature sources (CNKI/Wos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive sports (竞技体育)</td>
<td>24</td>
<td>CSSCI, A Guide to the Core Journal of China（北大核心）</td>
</tr>
<tr>
<td>Competitive sports culture (竞技体育文化)</td>
<td>11</td>
<td>CSSCI, A Guide to the Core Journal of China（北大核心）</td>
</tr>
<tr>
<td>Competitive sports spiritual culture (竞技体育精神文化)</td>
<td>1</td>
<td>CSSCI, A Guide to the Core Journal of China（北大核心）</td>
</tr>
<tr>
<td>Competitive sports culture</td>
<td>22</td>
<td>SSCI</td>
</tr>
<tr>
<td>Competitive sports spiritual culture</td>
<td>1</td>
<td>SSCI</td>
</tr>
</tbody>
</table>

**Note:** 46 documents were selected, with duplications in different research topics.

3. Data analysis

3.1 Open coding

The open coding stage involves abstracting textual information on the spiritual culture of Chinese and Western competitive sports into concepts and quantifying their frequency. Concepts with high frequency of occurrence (those appearing twice or more, and those appearing once but deemed very important) are retained [17]. Through the process of "decomposition-comparison-conceptualization-categorization," the most valuable concepts and categories for this study are ultimately retained [18]. To minimize researcher subjectivity, the coding process adhered closely to the original literature, using specific terminology for conceptualization and categorization.

The open coding of cultural differences in Chinese and Western competitive sportsmanship involved analyzing 46 Chinese and English texts as the original textual material. Valid data from each text were coded individually, resulting in 597 coded statements. These coded statements were then conceptually identified and categorized, yielding a total of 327 concepts. Any duplicate or similar concepts were further categorized and integrated, resulting in 16 subcategories. The open coding process is detailed in Table 3.
### Table 3. Open coding analysis

<table>
<thead>
<tr>
<th>Categorization</th>
<th>Conceptualization (part)</th>
<th>Primary documentation (part)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Expression mode</td>
<td>Violence and civilization co-mingled in competitive sporting events ....... (CW1) They brought dance movements from tribal religious ceremonies into ...... A creative and lively style of Brazilian soccer began to emerge. (CW2) Although in some ways characterized by tragedy, it reflects an indomitable human instinct for life ...... (CW3)</td>
<td></td>
</tr>
<tr>
<td>A2 Moral pursuit</td>
<td>Code of ethics Moral ethics and hierarchy Moral norms are the possibilities of moral values, and moral relationships are the facts of moral values. (CW9) Essentially a humanistic culture, it emphasizes ethics and hierarchy. (CW10)</td>
<td></td>
</tr>
<tr>
<td>A3 Development attitude</td>
<td>Incorporating Eastern and Western civilizations Absorption of beneficial ingredients Advance bravely The contemporary competitive sports spiritual culture of the Chinese nation that we want to construct should be one that fully absorbs the essence of the spiritual culture of both the East and the West in the process of civilization development ...... (CW11) Western spiritual culture should be treated with positive learning, borrowing and assimilation of its beneficial components ...... (CW12) At least there's nothing wrong with the West's desire for fulfillment Higher levels of desire can also lead to advancement. (CW13)</td>
<td></td>
</tr>
<tr>
<td>A4 Core values</td>
<td>Core value of &quot;righteousness&quot; Patriotism and the Great Collective View Core values and belief systems It is an expression of the core value of &quot;righteousness&quot;, which shows that the interests of the group, the nation and the state are the highest interests. (CW14) Thanks to ...... The Chinese government has also been able to expand the international influence of the collective concept of patriotism, which is capable of uplifting the spirit of the Chinese nation. (CW15) Competitive sport cultural authority means that the core values and belief systems of competitive sport culture can be agreed upon and universally followed worldwide. (CW16)</td>
<td></td>
</tr>
<tr>
<td>A5 Value judgement</td>
<td>Compliance with value standards and popular demand Competition as an ethical standard of fairness Individual Civilian Code of Conduct The content of athletic contests must also conform to human values and satisfy the aesthetic needs of the general public. (CW17) Competition in athletics is predicated on fair ethical standards that uphold human dignity. (CW18) Chinese people's individual behavioral norms such as &quot;the middle way&quot; and &quot;peace is precious&quot;. (CW19)</td>
<td></td>
</tr>
<tr>
<td>A6 Education concept</td>
<td>Educational ideals for the full development of the human person Influence of educational philosophy Educating youth Dating back to the ancient Greek period, sports activities have been associated with an educational ideal of the &quot;holistic development of the human being&quot;. (CW28) These great educational philosophies have not only made an important contribution to the development of modern education. (CW29) The aim of the Olympic Movement is to educate young people through sport in the spirit of mutual understanding and friendship ...... (CW30)</td>
<td></td>
</tr>
</tbody>
</table>
| A7 Spiritual essence | Patriotism  
Violence is a kind of value orientation  
Catalyzing the Spirit of Science | Promoting the Spirit of Patriotism ..... (CW36)  
Violence was not an immoral behavior for the ancient Greeks, but a value .....(CW37)  
Rational thought gave birth to the scientific spirit of Western civilization. (CW38) |
| --- | --- | --- |
| A8 Interest orientation | National and collective interests override individual interests  
The national interest is paramount.  
Speaking of collective cultural interests | The highest practical manifestation of this is the value of emphasizing national and collective interests over individual interests. (CW74)  
In terms of interests, Chinese sports culture, influenced by traditional culture, requires that the national interest be given priority in the event of a conflict between the interests of the "individual", the "family" and the "country". (CW75)  
The patriarchal collectivist culture of individual subordination to the collective and ..... the collective interest is the starting point and ultimate destination of members' behavior. (CW76) |
| A9 Goal pursuit | Promotion of physical-psychological and social-ethical development  
The desire and pursuit of honor  
Winning the standard and educating people | The modern Olympic Games are organized to "promote the full physical, mental and social-moral development of man, ....." (CW80)  
The winning of competitive sports can satisfy the instinctive desire to pursue ..... The desire and pursuit of honor is supposed to be the embodiment of a noble spirit ..... (CW81)  
The core idea of putting people first ..... has the athletic thought and concept of winning the standard and educating people, which is conducive to enhancing the appeal and attraction of China's athletic culture. (CW82) |
| A10 Social function | Showing social value  
Huge spiritual power The carrier of identity and cohesion | It can be seen that the more developed the grandstand culture of a certain sport, the higher the social value of the performance of the sport, which fully demonstrates the charm of the sport competitive grandstand culture. (CW118)  
These functions include: competitive sports can inspire citizens' national pride and strong patriotic spirit, uplift the national spirit ..... inject great spiritual power. (CW119)  
In the modern world, many sports days ..... serve as a kind of "tote m" for team supporters in their quest for a unified identity and cohesion. (CW120) |
| A11 Ideas | Concept of Olympic Harmony  
A highly dialectical and harmonious relationship  
The individual value standard | Competition under the principles of "fairness, impartiality and objectivity" and the pursuit of "faster, higher and stronger" are the core concepts of the Olympic Movement. (CW126)  
Adhere to the forward direction of competitive sports culture and consistently embody the highly dialectical and harmonious spirit of competitive sports culture. (CW127)  
Of course with the penetration of western sports culture, the values of sports culture under traditional Chinese culture began to shift from the holistic to the individual value-based. (CW128) |
| A12 Ideological basis | Traditional philosophical thought  
The Ideal of Harmony in Noble Harmony  
National Sports Ideology | China's sports culture is characterized by traditional Chinese philosophical thought: the unity of celestial beings and the theory of monism. (CW170)  
The Ideal of Harmony in the Noble Monk ..... (CW171)  
The national sports ideology is the focus of personality and national character is a symbol of the fundamental nature of the national sports civilization. (CW172) |
| A13 Cultural background | Harsh conditions of existence Industrial revolution Different national conditions and historical starting points | The harsh conditions of existence in the West forged the competitive spirit of athletics. (CW184) After the Industrial Revolution, Western sports culture became more competitive, cosmopolitan, scientific and commercial. (CW185) This tendency ignores the differences in national conditions and historical starting points ignores the fact that every country and nation has its own cultural premises. (CW186) |
| A14 Cultural identity | Patriotism at the core Manipulation and dominance characteristics Differentiation and diversity | From the perspective of cultural vision, it itself embodies the cultural characteristics of the Chinese nation with patriotism at its core. (CW203) Thus, although popularized competitive sport is not ostensibly coercive, its manipulation and domination of people is deeper and more "silent". (CW204) Each culture has its own historical imprint and individual characteristics, ..... Differences in aspects shape the ethnic difference and diversification of competitive sports culture. (CW205) |
| A15 Consciousness orientation | Conceptual awareness of the rule of law Consistency with ideology and values Spiritual realization | Create a conceptual awareness of the rule of law. (CW288) Its emergence is consistent with the ideology and values of traditional Western culture. (CW289) To cultivate a sense of self-reliance, competition, efficiency, fairness, democracy and the rule of law and a sense of pioneering and innovation adapted to the development of a socialist market economy. (CW290) |
| A16 Following principles | The virtues of compliance with the law Following the principle of sport for all | The establishment of rules for competitive sports and the enforcement of the rules by game officials, in turn, lead to the development of a social ethic of compliance with the law. (CW326) In the 20th century, the development of sport in Germany also followed the principle of sport for all. (CW327) |

### 3.2 Spindle Coding

Spindle coding involves elucidating the relationships between various preliminary categories identified during the open coding stage. This process refines higher-level principal categories through repeated reflection and analysis, aiming to identify the core factors of the study [19]. The objective of this coding process was to organize the categories derived from open coding and to distill and refine them into five main categories through the mechanistic analysis of the "condition-action (outcome)" framework. The results of the axial coding analysis are presented in Table 4.
Table 4. Spindle code analysis

<table>
<thead>
<tr>
<th>Main category</th>
<th>Subcategory</th>
<th>Relationship connotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking mode</td>
<td>A6 Education concept</td>
<td>Chinese and Western educational philosophies focus on cultural ideology and elite politics, respectively.</td>
</tr>
<tr>
<td></td>
<td>A11 Ideas</td>
<td>Chinese and Western ideologies are grounded in the core concept of the Olympties, with China emphasizing harmony and the West focusing on competition.</td>
</tr>
<tr>
<td></td>
<td>A12 Ideological basis</td>
<td>The foundations of Chinese and Western thought were influenced by the traditional philosophy of Confucianism and the statist ideology of the flesh-spirit dichotomy, respectively.</td>
</tr>
<tr>
<td></td>
<td>A15 Consciousness orientation</td>
<td>Consciousness orientation in China and the West mainly focuses on the consciousness of the state and the rule of law.</td>
</tr>
<tr>
<td>Internal and external drive</td>
<td>A8 Interest orientation</td>
<td>China emphasizes national and collective interests; the West emphasizes the interests of individual athletes.</td>
</tr>
<tr>
<td></td>
<td>A9 Goal pursuit</td>
<td>The goal pursuit in China and the West, one is to capture the target, the other is the pursuit of individual utilitarianism.</td>
</tr>
<tr>
<td></td>
<td>A2 Moral pursuit</td>
<td>The intrinsic quest of both China and the West lies in &quot;virtue&quot;, with both emphasizing individual cultivation and reflecting &quot;virtue&quot; through fairness, respectively.</td>
</tr>
<tr>
<td>Traditional paradigm</td>
<td>A13 Cultural background</td>
<td>The cultural backgrounds of China and the West are different, with the former set against the backdrop of national conditions and the latter against the backdrop of the Industrial Revolution.</td>
</tr>
<tr>
<td></td>
<td>A14 Cultural identity</td>
<td>Chinese and Western cultures are each characterized by their own connotations, with one highlighting the closed nature of the East and the other highlighting the competitive nature of survival.</td>
</tr>
<tr>
<td></td>
<td>A10 Social function</td>
<td>The main social functions in China and the West emphasize the promotion of harmony, cohesion, aspiration and equality.</td>
</tr>
<tr>
<td>Code of behavior</td>
<td>A1 Expression mode</td>
<td>Chinese and Western expressions are mainly based on entertainment, performances, rituals and reflections of bodily instincts.</td>
</tr>
<tr>
<td></td>
<td>A3 Development attitude</td>
<td>The developmental attitudes of China and the West are reflected in the absorption of the beneficial elements of civilization and the courage to move forward, respectively.</td>
</tr>
<tr>
<td></td>
<td>A5 Value judgement</td>
<td>China and the West make value judgments about attitudes toward life versus popular demand and objective attitudes, respectively.</td>
</tr>
<tr>
<td></td>
<td>A16 Following principles</td>
<td>China is based on the principle of compliance with the law; the West is based on the principle of sports for all.</td>
</tr>
<tr>
<td>Spiritual prop</td>
<td>A4 Core values</td>
<td>The core values of China and the West land on patriotism and collectivism, pragmatism and liberalism.</td>
</tr>
<tr>
<td></td>
<td>A7 Spiritual essence</td>
<td>The spiritual essence of China and the West mainly contains the elements of endeavor and hard work; rationality and science.</td>
</tr>
</tbody>
</table>

3.3 Selective encoding

Selective coding entails revisiting the source material based on Spindle coding, focusing on core categories that govern the principal axes. This process systematically integrates categ
ories into a cohesive narrative and validates their relationships [20]. Therefore, this study centers on the spiritual and cultural differences between Chinese and Western competitive sports as the core category, associating it with five main categories: mindset, internal and external drive, traditional paradigm, code of conduct, and spiritual pillar (as depicted in Table 5). This approach aims to construct a theoretical model elucidating the formation mechanism of spiritual and cultural differences between Chinese and Western competitive sports (as illustrated in Figure 1). The formation of these differences in the spiritual culture of Chinese and Western competitive sports is influenced by five dimensions. Among them, mindset, internal and external drive, and traditional paradigm serve as causal, phenomenal, and situational conditions, respectively, for the emergence of cultural disparities. Within the interplay of these three conditions, both the code of conduct and the spiritual pillars act as actions (results) in shaping the spiritual and cultural differences in competitive sports between China and the West. Thus, the cultural differences in Chinese and Western sportsmanship adhere to the principle of the "condition-action (result)" formation mechanism.

**Table 5. Typical relational structure of main categories**

<table>
<thead>
<tr>
<th>Relationship structure</th>
<th>Relationship Cotation</th>
<th>Excerpts from representative primary literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking mode→Cultural difference formation</td>
<td>Causality condition</td>
<td>China: The aim of the Olympic Movement is to educate young people in order to build a better and more peaceful world. Western: Physical education and sports activities are based on an educational ideal of &quot;the full development of the human being.&quot;</td>
</tr>
<tr>
<td>Internal and external drive→Cultural difference formation</td>
<td>Phenomenon</td>
<td>China: The highest practical manifestation of this is the value of emphasizing national and collective interests over individual interests. Western: Western competitive sports teams are characterized by a focus on the value of the individual athlete.</td>
</tr>
<tr>
<td>Traditional paradigm→Cultural difference formation</td>
<td>Key situation</td>
<td>China: China has one of the oldest cultures, and many ideas are deeply rooted. Western: The harsh conditions of existence in the West forged the competitive spirit of athletics.</td>
</tr>
<tr>
<td>Code of behavior→Cultural difference formation</td>
<td>Behavior (Results)</td>
<td>China: The formulation of rules for competitive sports and the enforcement of the rules by match referees have contributed to the development of a social ethic of compliance with the law. Western: In the 20th century, the development of sport in Germany also followed the principle of sport for all.</td>
</tr>
<tr>
<td>Spiritual prop→Cultural difference formation</td>
<td>Behavior (Results)</td>
<td>China: It is a reflection of the core value of &quot;righteousness&quot;, which manifests itself in the supreme interest of the group, the nation and the state. Western: The growing prevalence of pragmatic values in the United States has caused major changes in the field of higher education.</td>
</tr>
</tbody>
</table>
3.4 Theoretical saturation test

A crucial step in exploring the formation mechanism of cultural differences in competitive sportsmanship between China and the West through qualitative research is the theoretical saturation test. Theoretical saturation refers to the point at which researchers can no longer identify new categories from additional data, thereby determining when to halt theoretical sampling [21]. In this study, upon constructing the theoretical model, 10 original papers were randomly selected for a theoretical saturation test. Subsequently, these papers were re-examined through "open-major-axial-selective" coding methods. No new main categories, subcategories, relational implications, or structural relationships emerged during this round of coding. This observation indicates that the theoretical model has achieved theoretical saturation.

4. Model Interpretation and Research Findings

Through analysis using Nvivo12 software, this study confirms significant differences in the spiritual culture of competitive sports between China and the West. It has constructed a theoretical model encompassing mindset, internal and external drive, traditional paradigm, code
of conduct, and spiritual pillar. To deepen understanding of these cultural differences, it is crucial to interpret the model of the formation mechanism of cultural differences between Chinese and Western competitive sportsmanship in detail. In this process of interpretation: Understanding the Causes of Cultural Differences: It is essential to recognize the underlying reasons contributing to the formation of cultural disparities. Clarifying the Outcomes of Actions Leading to Cultural Differences: It is important to clearly delineate the results stemming from actions that influence the formation of cultural differences. This interpretive framework not only elucidates the theoretical constructs but also provides insights into practical implications for fostering cultural understanding and development in competitive sports between China and the West.

4.1 Causes of the Formation of Spiritual and Cultural Differences between Chinese and Western Athletic Sports

In the realm of macro and meso theories, the specific origins significantly influence theory construction. Variations exist across different historical periods, geographical regions, and cultural manifestations [22]. These factors contribute to differences in the spiritual culture of competitive sports between China and the West. Understanding the causes of these differences involves tracing their causal relationships, analyzing their modes of expression, and delineating their contextual scenarios.

4.1.1 Mindset: Tracing the Causal Relationship in the Formation of Cultural Differences in Chinese and Western Athletic Sportsmanship

The mindset refers to the fundamental cognitive approach towards the spiritual and cultural aspects of Chinese and Western competitive sports. According to cultural genetics theory, mindset reflects the determinism and permeability inherent in core cultural genes, influencing their representation in cultural spirit and beyond [23]. This study identifies that the mindset driving cultural differences between Chinese and Western competitive sportsmanship primarily manifests in educational philosophies, ideological perspectives, foundational ideologies, and orientations of consciousness.

Firstly, educational philosophy pertains to the rational understanding held by inheritors and enthusiasts of the spiritual culture in Chinese and Western athletic sports. In China, competitive sports serve educational purposes, as articulated by CW51: "The aim of the Olympic Movement is to educate young people through sport." Conversely, the West emphasizes "freedom" through competitive sports, as expressed by CW58: "Therefore a liberal education with a free development of reason is noble." Secondly, ideology encompasses both subjective and objective understandings of spiritual and cultural ideals in competitive sports. Chinese ideology emphasizes "harmony," encapsulated in CW163: "Harmony is the essence of traditional Chinese
In contrast, Western ideology places greater emphasis on the human body over personality, as noted in CW196: "Western competitive sports culture values the human body more than personality." Thirdly, ideological foundation refers to objectively existing viewpoints shaping perceptions of the spiritual culture in Chinese and Western competitive sports. Chinese sports culture is rooted in Confucianism, as indicated by CW202: "Chinese sports culture is characterized by Confucianism." Conversely, Western ideas stem from the Renaissance and Reformation movements, focusing renewed attention on bodily and personal well-being, as articulated by CW214: "After the Renaissance and Reformation movements, the body and personal well-being began to receive renewed attention." Lastly, consciousness orientation reflects the intentional frameworks guiding the spiritual culture of Chinese and Western competitive sports. China's orientation emphasizes a sense of authority, described in CW337: "The Chinese people's internalized and externalized 'sense of authority' is the cultural foundation ensuring the efficient operation of the 'national system'." In contrast, the West's orientation leans towards equality and order, as articulated by CW333: "Roman culture aspires towards utilitarianism and embraces the establishment of the rule of law."

The study's findings underscore the necessity of adopting a generative mindset to construct a new theoretical model explaining the spiritual and cultural differences between Chinese and Western competitive sports in a scientific and systematic manner [24]. This generative mindset encompasses educational concepts, ideologies, ideological foundations, and consciousness orientations, contributing to self-perspective practices and the formation of theoretical frameworks. This causal capacity goes beyond mere Humean constant causal connections, attributing causality to underlying causal systems crucial for understanding the primary conditions shaping cultural differences between Chinese and Western competitive sportsmanship [25].

4.1.2 Internal and External Drivers: Analyzing the Formation of Cultural Differences between Chinese and Western Athletic Sportsmanship

Internal and external drivers refer to the influence exerted by the external environment and the internal responses within the cultures of Chinese and Western competitive sportsmanship. Understanding the formation of cultural differences in competitive sports between China and the West necessitates an exploration of their manifest conditions. This theoretical exploration aids in identifying their foundational drivers, both internal and external.

Firstly, interest orientation pertains to how Chinese and Western competitive sports align pursuit of their interests with both individual and societal goals to maximize benefits under various rules and requirements. China emphasizes national and collective interests over individual interests, exemplified by CW94: "The highest practical expression is the value of empha
izing national and collective interests over individual interests." Conversely, the West places more emphasis on the individual athlete's value, as stated in CW99: "Western competitive sports teams are characterized by a focus on the value of the individual athlete." Secondly, goal pursuit refers to the direction and final outcomes sought by Chinese and Western competitive sports according to their respective aims. China's goals lean towards achieving targeted outcomes, integrating the core philosophy of prioritizing people into competitive ideals, as indicated by CW105: "Extend the core idea and philosophy of putting people first to the competitive idea and philosophy of capturing and nurturing people." In contrast, the West historically aspired to an environment of peaceful coexistence, highlighted during events like the ancient Olympics' Sacred Truce, as mentioned in CW112: "Ancient Greece longed for an environment of peaceful coexistence, and it was during the Olympics that the public psyche of the Sacred Truce appealed." Lastly, moral pursuit involves demonstrating and upholding the overarching values in Chinese and Western competitive sports, reflecting the process of achieving ideal pursuits through noble means. China emphasizes the cultivation of moral integrity, evident in CW13: "The culture of sportsmanship is fully embodied in the participation of Chinese modern competitive athletes in athletic competitions." Conversely, the West values the concept of fair play, as articulated in CW14: "In the athletic contests of the ancient Olympics 'fair play' was a way of harmonizing the winners."

System dynamics theory posits that the characteristics of causal linkages and dynamic evolution inherent in the theory align well with the internal and external driving mechanisms influencing cultural differences [26]. The combined dimensions of interest orientation, goal pursuit, and moral pursuit within Chinese and Western competitive sportsmanship exhibit a strong coherence between external profit-driven orientations and goal pursuits, and internal ethical pursuits, grounded in observable phenomena. This convergence underscores how internal and external drivers manifest as phenomena shaping the spiritual and cultural differences in competitive sports between China and the West. Therefore, accurately grasping internal and external drivers becomes crucial in guiding the development of a modernized Chinese-style competitive sports powerhouse.

4.1.3 Traditional Paradigm: Outlining the Situational Veins of the Formation of Cultural Differences in Chinese and Western Athletic Sportsmanship

The traditional paradigm refers to the established theoretical norms and conventional methodologies for studying the spiritual culture of Chinese and Western competitive sports. To elucidate the theoretical model of cultural differences' formation mechanism, referencing traditional paradigmatic research is indispensable. Through primary text analysis, the traditional par
adigms of cultural differences primarily encompass cultural context, cultural identity, and societal function.

Firstly, cultural context denotes the cultural influences stemming from Chinese and Western competitive sports on human physical, mental development, and personality formation. China’s cultural context is deeply rooted in its rich tradition and heritage, as articulated in CW2 37-238: "In the excellent traditional culture of the Chinese nation, this spirit has been integrated into our blood to flow unceasingly and be passed on from generation to generation." Conversely, the West is shaped by its unique geographic challenges and commercial civilization, among other factors, as described in CW218-230: "The harsh conditions of existence in the West, the establishment of commercial civilization, and the city-state system forged the competitive spirit of athletics." Secondly, cultural identity represents the distinctive representation and unique identification derived from the developmental trajectory of Chinese and Western competitive sports. China embodies the uniqueness of its national culture, as reflected in CW275-263-306: "the measure is the uniqueness of the national culture." In contrast, the West emphasizes traits such as individual liberation, adventurous personalities, a love for competition, and pushing limits, as detailed in CW256-324: "A free spirit requiring individual liberation; an adventurous character resulting from the special maritime cultural environment; and a challenge to the limits of nature for the purpose of strengthening the body." Lastly, social function refers to the significant impact and role that competitive sports in China and the West play across various societal systems. China's social function encompasses both individual and collective benefits, articulated in CW147-148: "A purpose to achieve a benign development of mind and body; a way to promote communication and friendship among people." Conversely, the West pursues individual-centered human harmony, as expressed in CW151: "The harmony pursued by the Olympic idea starts with the individual and extends to the harmony between man and nature, man and man, and finally to the harmony of the whole international community."

The study’s findings reveal that traditional paradigms often apply theoretical frameworks directly onto texts, resulting in hermeneutic effects that essentially reflect or reiterate the theories themselves [27]. Thus, constructing a theoretical model of cultural differences in Chinese and Western athletic sportsmanship necessitates grounding it in textual analysis, where cultural background, characteristics, and social functions serve as foundational elements of the traditional paradigm for researching cultural differences. By explicating each element’s role in the cultural differences of Chinese and Western sportsmanship, a comprehensive and conventional theoretical framework for interpretation based on the traditional paradigm of "background-feature-function" can be provided. Conversely, a modernized Chinese-style competitive sports p
owerhouse, emphasizing connotative construction, should also adhere to the research paradigm of "background-feature-function".

4.2 Action Results of the Formation of Cultural Differences in Chinese and Western Competitive Sportsmanship

The ethos of competitive sportsmanship differs somewhat between China and the West in both action and outcome. Through original text analysis, it has been observed that the code of conduct and spiritual pillars are two pivotal dimensions that significantly influence the cultural disparities between Chinese and Western competitive sportsmanship in shaping outcomes.

4.2.1 Code of Conduct: Adherence to Established Principles Shaped by Cultural Differences in Chinese and Western Sportsmanship

Behavioral norms represent the standards of conduct that guide Chinese and Western competitive sportsmanship cultures in their social interactions. Cultural economics generally defines culture as a shared code of behavior communicated across different groups [28]. When focusing on the spiritual culture of athletics, China and the West exhibit certain differences rooted in their respective evaluative criteria.

Firstly, expression refers to the methods used by Chinese and Western competitive sportsmanship cultures to convey thoughts and emotions. China emphasizes entertainment, performance, and ritual. As CW10 notes, "China’s traditional national sports culture has evolved consistently towards entertainment, performance, and ritual." Conversely, the West blends violence with civilization in its expressions. CW4 explains, "Violence and civilization intertwine in athletic competitions, where the expression of violence becomes a symbol of civilization, mutually constraining and reinforcing each other." Secondly, developmental attitude reflects the choices made by Chinese and Western athletic sportsmanship cultures in pursuing and enhancing their own development. China integrates the beneficial achievements of both Eastern and Western cultures. As CW17 asserts, "The contemporary competitive sportsmanship culture of China should fully absorb the essence of Eastern and Western spiritual cultures during its civilization development." In contrast, the West emphasizes a courageous attitude. CW19 elaborates, "There is nothing wrong with the West's pursuit of fulfillment, and higher desires can lead to courage." Thirdly, value judgments involve the assessments made by Chinese and Western competitive sportsmanship cultures regarding their respective objectives, focusing on defining values and their implications. China upholds the moral standard of fair competition, preserving human dignity. CW36 states, "Competitive sports are based on the moral standard of fairness, which upholds human dignity." Meanwhile, the West emphasizes an objective stance. CW37 articulates, "This directly contributes to the scientific spirit of Western culture—embracing
reason, objectivity, and the relentless pursuit of truth." Lastly, compliance principles encompass the normative behaviors and requirements developed over time in both Chinese and Western competitive sports. In China, match enforcement is closely tied to legal compliance. CW34 3 explains, "The formulation and enforcement of rules in competitive sports promote the development of social virtues related to legal compliance." Conversely, the West emphasizes the principle of "sport for all," promoting universal participation. CW344 notes, "In the 20th century, the development of sport in Germany was guided by the principle of sport for all."

The study of theoretical ethics provides a fundamental code of conduct and constructs a framework for an overarching value system [29]. The code of conduct encompasses expressions, developmental attitudes, value judgments, and principles to be followed. This framework reflects essential behaviors and tangible realities in the realm of competitive sports in both China and the West, serving as a potent force for guiding values. The findings of this study underscore core significant differences in this guiding force, particularly within the cultural domain, influencing action outcomes shaped by the cultural distinctions between East and West. This understanding is crucial for advancing the construction of a modernized competitive sports powerhouse in China, requiring a comprehensive grasp and scientifically informed interpretation of the spiritual culture inherent in Chinese and Western competitive sports.

4.2.2 Spiritual Pillars: Role and Impact on the Formation of Cultural Differences in Chinese and Western Competitive Sports

Achievement goal theory provides a fundamental theoretical framework for understanding the mechanisms and effects of cultural differences [30]. Within the realm of Chinese and Western competitive sports, this framework is anchored in the concept of spiritual pillars. Spiritual pillars serve as critical guiding principles that foster cohesion in both Chinese and Western competitive sports cultures. Through original text analysis, it is evident that the spiritual pillars encompass core values and spiritual essence as its primary components.

Firstly, core values represent the fundamental beliefs held within Chinese and Western athletic cultures, guiding their spiritual and cultural endeavors. In China, these values include patriotism, collectivism, respect, and the interconnectedness of internal and external realms. As cited in CW23-28, "Patriotism, collective vision, holistic interconnectedness, collectivism, and respect are the foundational societal values revered in contemporary times." Conversely, Western values lean towards pragmatism, professionalism, and liberalism. CW30-32 notes, "The infusion of pragmatic and professional sports values, increasingly prevalent in the United States, has significantly contributed to the rapid development of competitive athletic talent in American colleges and universities." Secondly, spiritual essence refers to the essential core conte
nt of Chinese and Western competitive sports at a spiritual and cultural level. China embodies a revolutionary spirit, a drive for progress, pioneering spirit, and global application. CW64-73 elaborates, "The contemporary revolutionary cultural spirit, spirit of self-improvement, and pioneering and enterprising spirit form the spiritual core of its culture." In contrast, the West embraces a spirit of rationality, scientific inquiry, openness, and contractual obligations. CW77-82 argues, "Rational thought gave rise to the scientific spirit of Western civilization, with the contractual spirit being the direct contribution of Britain to the rules of modern competitive sports."

Utilizing Marxist worldview and methodology to address the issue of spiritual and cultural differences between Chinese and Western competitive sports [31] enhances the understanding and management of these differences. This enhanced understanding stems from the spiritual pillar, shaped by core values and spiritual essence. To effectively address cultural differences, the pivotal role of the spiritual pillar must be recognized—a critical outcome in the formation of spiritual and cultural distinctions in Chinese and Western athletic sports. Notably, the spiritual pillar constitutes the core of a modernized Chinese-style competitive sports powerhouse and must be meticulously considered in its development.

In summary, Huo's theory on dimensions of cultural differences underscores the importance of recognizing these distinctions across various cultural dimensions [32]. The study identifies that cultural disparities in Chinese and Western athletic sportsmanship are influenced by five dimensions: mindset, internal and external drive, traditional paradigm, behavioral norms, and spiritual pillars. Among these dimensions, the precursors to cultural differences primarily encompass mindset, internal and external drive, and traditional paradigm. The actions and outcomes shaping cultural differences chiefly involve two dimensions: the code of conduct and spiritual essence. Together, these five dimensions formulate a model elucidating the mechanisms behind the spiritual and cultural differences between Chinese and Western athletic sports, the reby offering a theoretical foundation for comprehending these differences more effectively.

5. Conclusion and discussion

Based on qualitative textual analysis, this study constructs a conceptual model of the formation mechanism of spiritual and cultural differences between Chinese and Western competitive sports, yielding the following insights:

(1) Defined the concepts of five dimensions—mindset, internal and external drive, traditional paradigm, code of conduct, and spiritual pillar—and their relational implications based on differences in spiritual culture in Chinese and Western competitive sports.

(2) Developed a theoretical model elucidating the formation mechanism of spiritual and
cultural differences in Chinese and Western competitive sports.

(3) Explored the causes underpinning the formation of spiritual and cultural differences between Chinese and Western athletic sports.

(4) Identified the outcomes resulting from actions that contribute to the formation of spiritual and cultural differences between Chinese and Western athletic sports.

This study delves into the formation mechanism of spiritual and cultural differences between Chinese and Western athletic sports. Through the interpretation of Chinese and English texts and employing three-level coding with Nvivo12 software, the study re-examined the nuances of relationships shaping these differences. It defined five main categories—such as mindset—and 16 subcategories—such as expression—introducing new content and research perspectives into the discourse on spiritual and cultural differences in Chinese and Western athletic sports. Furthermore, a theoretical model of the formation mechanism of differences in Chinese and Western competitive sports culture was constructed. The study analyzed factors influencing the formation of these cultures and derived implications for action, aiming to guide the development of a modernized Chinese-style competitive sports powerhouse.

By analyzing the formation mechanism of spiritual and cultural differences between Chinese and Western competitive sports, this study proposes the following strategies:

(1) Shift in Mindset: Promote the spiritual culture of competitive sports through education and public awareness campaigns to foster a mindset conducive to developing a strong competitive sports nation.

(2) Establish Internal and External Drivers: Cultivate self-awareness and stimulate individual potential among competitive athletes, supported by effective incentive mechanisms.

(3) Uphold Traditional Paradigms: Promote traditional values such as sports education, teamwork, and collective honor within the international athletic community, adapting them to contemporary needs.

(4) Establish and Standardize Codes of Conduct: Develop a comprehensive code of conduct for athletes, coaches, referees, and management personnel to enhance professional ethics and moral support mechanisms, fostering a culture of mutual supervision and integrity.

(5) Strengthen Spiritual Pillars: Enhance the cultural and humanistic aspects of competitive sports through education and cultural initiatives, bolstering a robust spiritual support system to advance strategic development in competitive sports.

The model of the formation mechanism of cultural differences in Chinese and Western competitive sportsmanship presented in this study draws from existing literature. Future
research should expand data sources to enhance study outcomes effectively. Additionally, findings suggest that the "aesthetic concept" may be considered a subcategory of spiritual culture, warranting further exploration in future theoretical investigations. In conclusion, this study represents an exploratory theoretical inquiry into the formation mechanisms of cultural differences between Chinese and Western texts. Future research should validate the theoretical model proposed here and deepen understanding of the nuanced relationships among main categories, subcategories, and conceptualizations.

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Authors’ contribution:

Changxin Luo: Selecting the topic, setting the framework, writing, unifying and revising the manuscript.
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