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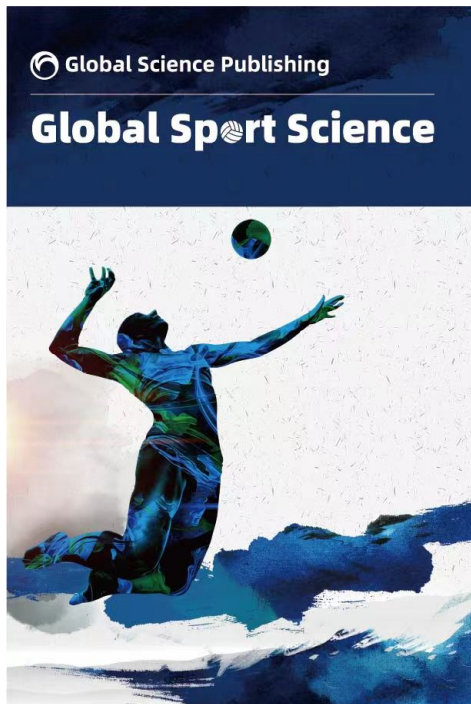
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A Study on the Evolution of Chinese Wrestling, the Characteristics of the Project and Its Value

Jianliang Zhu

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Abstract: By using the methods of literature review and expert interview, this paper studies the evolution history, features and value of Chinese style wrestling. The research results show that in the 1950s, Shuai Jiao was established as a modern competitive sport by Chinese sports workers with the background of thousands of years of wrestling practice in China, with reference to the rules of modern sports competition, and based on the wrestling techniques of Beijing and Tianjin, integrating the wrestling techniques of many nationalities. From the perspective of evolution, the main technical schools of Chinese style wrestling include Beijing, Shanxi, Mongolia and Baoding, etc. The main features of the sport are simple rules, well-known, intense sports, strong appreciation, rich techniques, strong dexterity, point to point, safe and civilization. Its project value is mainly to exercise quality, cultivate personality, profound connotation, inheritance carrier, physical fitness, self-defense, competitive viewing, enrich life, etc. It is necessary and meaningful to study the development history, events characteristics and value of Chinese style wrestling, so as to provide theoretical and practical reference for the development and promotion of Chinese style wrestling.

Keywords: chinese wrestling; the course of development; events characteristics; events value

1. Introduction

Wrestling, as one of the oldest sports in human history, has a wide mass base all over the world and is deeply loved by people. According to statistics, there are more than 30 wrestling sports in various ethnic groups around the world, among which there are six most influential wrestling types, namely Greco-Roman wrestling, freestyle wrestling, sumo wrestling, judo, Sambo wrestling and Chinese wrestling. Shuai Jiao is a modern competitive sport established by Chinese sports workers in the 1950s with the background of thousands of years of wrestling practice in China, with reference to the rules of modern sports competition, and based on the wrestling techniques of Beijing and Tianjin, combining the wrestling techniques of many nationalities. It is named "Chinese style wrestling" to distinguish it from other kinds of wrestling in the world. The name has been disputed, but no better title has been found, so it has been used until now. Today, Chinese wrestling is not the Olympic Games, but it is attracting people's love with its unique charm.

With the return of the excellent traditional culture of the Chinese nation and the improvement of people's living standards, the social, cultural, fitness, entertainment and competitive functions of Chinese wrestling have been increasingly recognized, and the voice of reviving Chinese wrestling from all walks of life has become increasingly strong [1]. In the new era, the promotion and development of Chinese wrestling ushered in a new opportunity. Especially in the past 20 years, the Weightlifting Wrestling and Judo Management Center of the

General Administration of Sport of China established the Chinese Wrestling Development Management Committee, the Chinese Wrestling Development Committee and the Chinese Wrestling Promotion Committee respectively in 2004, 2016 and 2020 to take charge of the development and promotion of Chinese wrestling. At the same time, Chinese style wrestling has become an official competition event of the National Youth Games in 2019 and a mass competition event of the National Games in 2021. In addition, the "2020 National Chinese Style Wrestling Championship" hosted by the Weightlifting Wrestling and Judo Sports Management Center of the General Administration of Sport of the State and hosted by Shaanxi Provincial Sports Bureau and Weinan Municipal Government has attracted a large audience both online and offline. It reflects the profound mass foundation of Chinese wrestling, the easy-to-understand technical and tactical characteristics, and the cultural confidence of Chinese sons and daughters who are linked by blood [2]. In particular, on April 21, 2022, the Ministry of Education issued the *Curriculum Standards of Physical Education and Health for Compulsory Education* (2022 Edition), pointing out that carrying out traditional Chinese sports is conducive to carrying forward the martial spirit of standing upright, doing righteous deeds, persevering in self-improvement and carrying out moral commitment, and helping students to form cultural identity of excellent traditional Chinese sports. Enhance national confidence and national pride. Chinese wrestling is included in the *New Curriculum Standard* (page 74--86) of the Ministry of Education for the first time. For the development and promotion of Chinese wrestling, it has a milestone significance.

To sum up, it is necessary and meaningful to study the development history, event characteristics and value of Chinese style wrestling, so as to provide theoretical and practical reference for the development and promotion of Chinese style wrestling.

2. The evolution of Chinese wrestling

2.1. Chinese style wrestling evolution pattern

In the Qin Dynasty, it was officially named "Juedi". Because the Qin Dynasty destroyed weapons and restricted the folk to hold weapons and learn martial arts, Juedi was widely developed among the people. In 1975, the wooden grate on the Qin Dynasty tomb at Fenghuang Mountain in Jiangling, Hubei Province was found with ancient wrestling pictures (Figure 1). This is the earliest historical data on ancient wrestling ever found.



Figure 1. Ancient wrestling pictures

During the Han Dynasty, the economy developed and culture prospered, with frequent exchanges between China and foreign countries, and the content of Juedi opera became more colorful. The show was grand in scale and unprecedented in pomp. Every spring and summer, a large-scale Juedi opera is held in the capital. All the people within 150 km come to watch it, which is very lively.

The two Jin Dynasties and the Nanbeichao Dynasties, is a period of social unrest and cultural integration of various ethnic groups. During this period, wrestling status is low. In the early Sui Dynasty, the Juedi activity

began to recover and developed and prevailed in the royal and folk festival activities. However, the cost of the drama has also caused some people to criticize and propose a ban.

The martial arts system was put into practice in the Tang Dynasty, which promoted the development of wrestling. At that time, they called wrestling "Juedi" and "sumo", and also called it "hand fighting". The Song Dynasty called wrestling "Xiangpu" or "contorting", and it continued to develop in the Suitangwudai Dynasties. Because of the wide development of wrestling, wrestling in the Song Dynasty has a great improvement in technology.

During the Yuan Dynasty, wrestling activities and their development were limited. However, the Mongols' own sport of wrestling (known as "Boke" or "Palinledu") has developed greatly. Therefore, Mongolian wrestling has a far-reaching influence on the wrestling activities in the Central Plains and minority areas.

After the Ming Dynasty was founded, wrestling was advocated. However, because quanshu has been greatly developed, and weakened the important position of wrestling, so it never recovered to the Tang and Song dynasties. In the Qing Dynasty, the emperor strongly advocated wrestling, so wrestling was more popular than in the Tang and Song dynasties and swept the country. At that time, wrestling activities had "official" and "private" differences. "Guan wrestle" mainly refers to the imperial wrestling of the Qing Dynasty. The Imperial bodyguard Office of the Qing Court set up a "sumo wrestling camp", which was later called "Shan Pu Camp". The Shan Pu camp was dedicated to recruiting and training wrestling experts. "Private wrestling" mainly refers to folk wrestling, Beijing, Tianjin, Baoding and other places have a permanent private wrestling arena and teach private wrestling. At the end of the Qing Dynasty, "good attack camp" disbanded, "official tumble" to the people. In short, on the basis of the original "Buku", the Manchu absorbed the wrestling strengths of the Mongolian, Han and other nationalities, which greatly developed the wrestling skills. In modern times, Ma Liang, the guardian of Jinan, Shandong Province, also advocated wrestling when he set up a new martial arts training center. When the Nanjing Central National Martial Arts Museum was founded, Ma Liang, the dean, made wrestling a formal part of his class. The first relatively complete Chinese wrestling rules was formulated in 1931 "National Martial Arts Examination Rules (Amendment)". However, due to the influence of imperialism and feudalism on politics, economy, culture and education at that time, the inheritance and development of Chinese style wrestling was restricted to a large extent.

Since the founding of the People's Republic of China, the government have attached great importance to and cared for traditional ethnic sports. The State Sports Commission has listed traditional ethnic sports as a national sports competition and stipulated that a single championship should be held every year, so that wrestling will be on the road of organized, led and planned development. In 1953, the first National Ethnic Sports Performance and Competition Conference adopted the *Interim Rules of Ethnic Sports Wrestling*, which initially established the competition rules of "Chinese-style Wrestling" and made it an independent official sports event to be promoted throughout the country. In 1956, the Wrestling Association was established by the State Sports Commission, and professional wrestling teams were set up in all provinces and cities, as well as in rural factories and mines. National competitions are held every year, such as the first, second, third, fourth, sixth and seventh National Games, where Chinese wrestling was listed as an official competition. In the 1960s and 1970s, Chinese wrestling reached its peak and there were many Chinese wrestling masters.

After the "farewell" of Chinese style wrestling to the National Games in 1993, the sport quickly fell silent, and the national championships and championship matches were very cold or even suspended. Since the establishment of the Chinese Wrestling Development Management Committee in 2004, the competition of this excellent traditional sport of the Chinese nation has been gradually standardized. Especially after the launch of the "China Wrestling King Competition", this sport has been revitalized, and the number of participants in the national championship has reached nearly 500. At present, there are the national Championship, the National championship, the Club Championship, the Youth Championship, the National College Championship, the National Ethnic Games and so on. In addition, once Chinese style wrestling was the key competition at the National Sports Conference, or the national farmers' Games.

With the continuous development of Chinese wrestling, it has been paid more attention in colleges and

universities. The universities with good performance include: Tianjin University of Physical Education, Wuhan University of Physical Education, Shandong University of Physical Education, Capital University of Physical Education, Shanghai University of Physical Education, Harbin University of Physical Education, School of Physical Education of Zhengzhou University, etc. Institutions of higher learning set up Chinese style wrestling courses, for the development of Chinese style wrestling sports opened up a broad road and prospects.

2.2. The main technical school of Chinese wrestling

Judging from the evolution of Chinese style wrestling after the founding of New China, the main technical schools of Chinese style wrestling include Beijing style wrestling, Shanxi style wrestling, Mongolian style wrestling and Baoding style wrestling.

Beijing wrestling is mainly popular in Beijing area. It inherits and develops the unique skills and techniques of the wrestling of Puying in the Qing Dynasty. It is characterized by a variety of skills and techniques, exquisite movements, and is known for its techniques. Its spread includes Shandong, Henan and other places, these areas of the original technical action combined with Beijing, and each has its own characteristics. Shanxi wrestle is mainly popular in Shanxi Xinzhou, Yuanping and other areas, to grasp the wrist, inverted arm, neck, shoulder, elbow lock, leg, especially to hold the leg fall as its specialty. In the 1950s, Cui Fuhai, a Shanxi athlete, popularized the leg-holding technique through the national Chinese-style wrestling competition. Mongolian wrestling is mainly popular in Inner Mongolia, Xinjiang and other regions, the school is good at strength, with a lot of Mongolian wrestling characteristics. Baoding wrestle is mainly popular in Baoding area. It is a combination of martial arts and wrestling to form a unique Baoding quick wrestle, which is also known as "martial arts wrestle". Influenced by Ma Liang, a famous wrestler in modern times, many fast wrestlers were trained in Jinan, Nanjing and other places.

3. Characteristics of Chinese wrestling events

3.1. The rules are simple and well known

Chinese wrestling is a type of standing wrestling in which the two teams compete in a circular ring with a diameter of 9 meters. The rules can be summed up in one sentence: When two people fall against each other, the person who lands first, except for the feet, loses the points, and the person who lands behind, or the person who stands behind, scores the points. (In one case, when the knee touches the ground and succeeds, no points are lost.) . Therefore, Chinese wrestling rules are simple, well-known, easy to judge the outcome, favored by the masses.

3.2. The sports are intense and the viewing is strong

Chinese wrestling is a technique used to look for fighters in the process of intense grab and reverse grab, control and reverse control. Therefore, in the match, the athletes should be timely according to the opponent's change of center of gravity, the use of technical movements and technical style of decisive attack, which is just as the old generation of wrestlers often say "move like a flash needle" as fast.

Chinese wrestling is very confrontational and competitive, so it is self-evident to watch. It is not savage or bloody; Anti - joint is not allowed to use, as long as the opponent falls to the ground even score, athletes generally will not be injured, so it is very civilized, with a strong appreciation. These characteristics are very much in line with the requirements of Olympic sports. Insiders generally believe that Chinese style wrestling can not only reflect the faster, higher, stronger Olympic spirit, but also show the gentleman modest traditional Chinese culture way, Chinese style wrestling is one of the best sports for China to enter the Olympic Games.

3.3. Rich techniques and strong skills

In the process of its formation and development, Chinese wrestling continuously absorbs the wrestling technical advantages of various nationalities and regions and enriches its technical system. In the long-term practice, Chinese wrestling has formed rich, delicate, systematic and comprehensive technical characteristics. From the technique, footwork, body method and its composition of the ever-changing fall techniques can be seen

its rich, delicate techniques, as the fall sector saying: "big stumbling thirty-six, little stumbling game cow hair."

Skill is the most prominent characteristic of Chinese wrestling. Since ancient times, Chinese wrestling is not graded (although in modern times according to the rules of artificial classification), the wrestlers with large weight and strong strength naturally took advantage of the wrestlers, and the wrestlers with light weight and small strength if they want to beat the weight and strength of the opponent must master superb technology and "follow the trend of others, borrow the power of others" unique skills. In the process of attack and defense of Chinese wrestling, its strong skills are not only reflected in the virtual-real conversion, the desire to leave first, the desire to come first, and the desire to join first, but also reflected in the moderate speed of the change, the right place is slow, the fast is fast. In short, strong skill is the typical characteristic of Chinese wrestling, from the form of expression reflected in the mechanics principle of the technique, from the philosophy reflected in its principle in Yin and Yang.

3.4. To the point. Safe and civilized

The third touchdown of a team is the winner, known as the point. The game advocates not intentionally hit each other, clean, civilized and generous. This feature is unique in the two person direct confrontation project, very safe and civilized. In a race of four or five hundred people, no one gets hurt.

4. The value of Chinese wrestling

4.1. Exercise quality, cultivate personality

Chinese wrestling training, from the basic skills, basic techniques, to conditional combat and overall combat practice process, in each stage and each level of people's will quality and personality have different degrees of tempering. Increase the amount of strengthening degree, to overcome the pain of fatigue. It is necessary to overcome adverse psychological reactions such as timidity and nervousness during actual combat. Through the long-term Chinese wrestling training, it can cultivate the learners boldness, perseverance, being not afraid of hardship, not afraid of fatigue, dare to fight, and then form mature, steady, positive and excellent quality.

The rules of Chinese wrestling are simple, the conditions are not high, the advantages of easy to carry out activities and its competitive entertainment are easy to be accepted by teenagers. Therefore, it is of great significance and broad prospect for this sport to be carried out widely in schools at all levels. Chinese wrestling is a combination of sports that require the dexterity of a martial artist, the flexibility of an acrobat, the strength of a weightlifter and the finesse of a chess and card player. It can cultivate young people's personality such as competitive consciousness, heroic spirit, ideal belief and self-concept.

4.2. Deep connotation, inheritance carrier

Mr. Su Xueliang, who has been engaged in martial arts research for many years, pointed out that Chinese wrestling fully embodies the eight-word concept of "neutralization, integrity, self-improvement and virtue". The idea of neutralization is the way of the mean. Neutralization also has another meaning, which is called "only good and both good". Being impartial is the middle, and living in harmony is harmony, and harmonious coexistence is one thing. The letter "integrity" requires that one who learns to practice Chinese wrestling in order to regulate their own behavior. Self-strengthening and thick virtue is the moral character of life. "Neutralization, integrity, self-improvement, thick virtue" has long been the moral of life and work code of our Chinese nation since ancient times. With this concept as the core, from the aspects of dress, etiquette, confrontation, humanistic fitness, etc., the traditional significance and national spirit of this sport are deeply explored, and a relatively large-scale and systematic Chinese wrestling culture system is formed.

Chinese wrestling and other traditional sports are one of the carriers of the excellent traditional culture and spirit of the Chinese nation. Developing them is an effective means to inherit and promote the excellent traditional culture and spirit of the Chinese nation.

4.3. *Build up your body and defend yourself*

Chinese wrestling is a traditional national sport, through practice, can develop people's strength, endurance, flexibility, agility and other qualities and improve the body function. Insist on Chinese wrestling training can strengthen the body.

Chinese wrestling is a form of sport in which the two sides fight against each other, which requires the learners to grasp the timing of attack correctly in practice, the defense should be in place, and the counterattack should be timely, so as to establish the correct conditioned reflex. At the same time, it is necessary to improve the response ability and actual combat ability for different opponents and the changes of both sides, so as to achieve the role of self-defense and security.

4.4. *Competitive viewing, enrich life*

Chinese wrestling has a high ornamental value. In the competition, the wits, courage and skills of the athletes on both sides can give the audience great enthusiasm for watching, which shows that the Chinese wrestling match is not only exciting and fierce, but also has a high ornamental value, and enriches the social life of the people.

5. Conclusion

In the new era, the promotion and development of Chinese wrestling ushered in a new opportunity. Especially since the 18th National Congress of the Communist Party of China, cultural confidence has formed a favorable environment for the revitalization and promotion of Chinese wrestling. The so-called geographical location means that Chinese style wrestling is a traditional national sports rooted in the soil of Chinese traditional culture. As the main folk fitness and leisure activities, Chinese style wrestling has a broad mass base. It not only has a strong practical and ornamental, but also can be practiced anytime, anywhere, according to local conditions. The "field, factory, mine, or workshop" all are the right place, and cold or heat is the right season. The so-called "harmony" means that more and more people with insight in society have realized the social, cultural, fitness, entertainment and competitive value of Chinese wrestling, and are willing to devote themselves to the development of Chinese wrestling.

Under the guidance of the concept of healthy China and cultural confidence, it will surely usher in new development opportunities for Chinese style wrestling and push it to a new development stage.

Author Contributions

All of the works are made by Zhu Jianliang.

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The authors declare no conflict of interest.

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Research on the Design of Sports Park Based on the Theory of Urban Double Cultivation

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Abstract: Purpose In general, every sports park in the urban space environment is a collection of cultural essence of a city and a region, which reflects the cultural imprint of the historical era, is the cultural fusion substance of a specific period, and has distinctive characteristics and cultural context that distinguish itself from other regions. Sports parks not only witness the history, but also foresee the future. The rebirth of sports parks is mainly carried out in the two dimensions of protection and innovation. It is necessary to take its essence, eliminate its dross, develop in protection, and innovate in development. Methods GIS, bibliometrics, knowledge atlas, human factors and efficacy and other tools were introduced into the research of sports park design based on the theory of urban double training to enhance the scientific, persuasive and logical nature of sports park design. Conclusion The research on the design of sports parks based on the theory of urban double repair is guided by the specific content and requirements of urban double repair, and properly handles the relationship between the past and the present, the present and the future with appropriate scale and scale. It achieves the integrity of the development of each piece of land and each piece of urban area through urban organic renewal, and achieves the organic unity of sports parks and the city as a whole, to realize the improvement of urban planning quality and the sustainability of urban renewal, and finally move towards a new organic order.

Keywords: sports park design; environmental design; urban double repair

1. Introduction

Sports parks are entrusted with the emotional memory of a generation, reflect the enduring cultural crystallization, condense the artistic ingenuity of a specific historical period, retain the historical context with a long history, and inherit the unique urban gene. Therefore, it is necessary to protect and update sports parks to create a unique gene map of a city, build a unique urban style, continue the historical context, and inherit the historical culture, let the homesickness and nostalgia return to some extent, the folkways can be continued, and the homestay can be inherited, so that the appearance of the block can be improved, with a sense of history and a sense of the times (selected from part of the author's master's degree thesis). In this paper, the design of sports park will be further explored and discussed in more dimensions [1].

2. Research background

The research is mainly based on the theory of urban double repair. "Urban double repair" refers to ecological restoration and urban repair, which is an effective means to cure "urban disease", improve human settlements and change the way of urban development. It is planned to repair damaged mountains, rivers,

wetlands and vegetation step by step. The pilot cities can explore or try out the organization mode, planning and design concept, engineering technology, fund raising, mechanism and system, evaluation criteria, etc. Secondly, the research plans to introduce GIS, bibliometrics, knowledge maps, human factors and efficacy and other tools to enhance the scientific, persuasive and logical nature of sports park design. At the same time, the topic that the author has been discussing in detail in the past three years is the research on the design of "planning", "regeneration", "transformation" and "optimization" of traditional streets. The research on the design of sports parks based on the theory of urban double cultivation will be based on the author's existing research results for further exploration and more dimensional discussion [2].

Previous studies by Li Yanbin and other scholars mainly focused on the urban space environment and the "planning", "regeneration", "transformation" and "optimization" design of traditional streets, hutongs and alleys, mainly based on the "symbiosis" theory in the ecological category, the "collage city" theory proposed by Colin Rowe, the "organic renewal" theory proposed by Wu Liangyong Professor Wu Mingwei put forward the "systematic" old city renewal principle and two urban renewal models, namely, "top-down" and "bottom-up". The main research cases focus on the Nirvana rebirth of Tianzifang Historic Block, Chengdu Kuanzhai Alley, Beijing Ju'er Hutong dilapidated old house reconstruction pilot project, the sustainable regeneration design of Beijing Nanluogu Lane Historic Block, the reconstruction of Beijing Xiaohoucang, Suzhou No. Neighborhood, etc. The design practice focuses on the research on the regeneration design of the traditional blocks of the Yuhe River in Bianjing and the five hutongs in the east of Dawu. Through the research and experience summary of the "regeneration" and "transformation" design of the urban space environment and the traditional blocks, hutongs and alleys over the past three years, he has a preliminary understanding of the optimization, transformation strategies, methods and research technology routes of the traditional blocks, and has a preliminary grasp of the future research direction. It also provides technical route and theoretical support for the design and research of sports parks based on the theory of urban double training. It is hoped that GIS, bibliometrics, knowledge atlas, human factors and efficacy and other tools will be introduced in the future research of sports park design to enhance the scientific, persuasive and logical nature of sports park design [3].

3. Research contents and methods of sports park design based on urban double cultivation theory

First, on February 21, 2016, Xinhua News Agency released the Opinions of the Central Committee of the Communist Party of China and the State Council on Further Strengthening the Management of Urban Planning and Construction (hereinafter referred to as the Opinions), which proposed that "urban repair and organic renewal should be carried out in an orderly manner to solve the problems such as the decline of the environmental quality of the old urban areas, the disorder of spatial order, and the destruction of historical and cultural heritage...". Secondly, under the active promotion of the Ministry of Housing and Urban Rural Development, the urban double training was launched in Sanya. It is a method of urban renewal with Chinese characteristics, and it is proposed based on the transformation background of urban planning from incremental planning to stock adjustment (selected from part of the author's master's degree thesis). The sports park is an important node in shaping "high-quality and humanized" public space and building "harmonious and livable city and improving urban governance". It is a concentrated interpretation of humanized design, an important embodiment of the spirit of "people-oriented, sincere and responsible", an important link in enhancing the people's "sense of gain, happiness and security", and a new landscape of "honesty, kindness, love, integration of disabled and health, and sharing beauty".

Secondly, in terms of the construction of relevant research strategies, it intends to base itself on the background of differentiation and the new paradigm of contemporary scientific exploration - interdisciplinary research, with the intention of giving the sports park design research based on the theory of urban double cultivation a research rich in scientific data support, historical data confirmation, meticulous logic and rational structure. For example, the discussion logic adopted in the research report written by the author for the Second Liaoning Postgraduates' "Intelligent Human Settlements and Healthy City AUL Innovation Research Competition" and the "Tianjin Development Technology HFE Award National Human Factors and Ergonomics Innovation Competition Cultivation Project" during the period of studying for the master's degree: the way and

method adopted by the author for urban space optimization research is based on a mature and complete theoretical basis (such as "Symbiosis" theory, the "collage city" theory proposed by Colin Rowe, the "organic renewal" theory proposed by Mr. Wu Liangyong, the "systematic" old city renewal principle proposed by Professor Wu Mingwei, etc.), because the practical research without theoretical guidance and support is not scientific and logical. Secondly, in order to increase the persuasiveness, credibility and visibility of humanities and social sciences research, it introduced such tools as bibliometrics, knowledge atlas, MATLAB data visualization platform, analytic hierarchy process, and GIS to try to quantify and specify the abstract concept of "symbiotic city", so as to analyze the internal dynamic mechanism that promotes the evolution of the spatial trajectory of the block, the historical transformation of the block mechanism, and the innovation of the block style and features. Thirdly, it puts forward the optimization strategy of "symbiosis" of Shenyang Xita block, combining the block gene, traditional culture, material and intangible cultural heritage and other cultural contents of the block from the perspective of contemporary culture. Finally, the core of urban space optimization and transformation is based on humanism. In order to make the research scheme humanized, reasonable and scientific, the research strategy in the above two research reports tries to introduce "human factors and ergonomics". For example, in 1959, Hall put forward four kinds of interpersonal communication distance (intimacy, personal, social, communication distance) and human observation scale (45, 27, 18 degrees of elevation) and human behavior habits (walking patterns, activity groups) and human activity types (necessary, spontaneous, social activities) In the Exterior Space Design and Street Aesthetics, Japanese contemporary famous architect Yixin Lu Yuan (1918-2003) expressed the dialectical relationship between the width of street space and the height of structures, hoping to clarify the specific planning indicators, and make the proposed "symbiotic" optimization strategy of Shenyang West Tower block fit with the physiological and psychological characteristics of people through the above limitation of human factors and ergonomics theory, to improve the efficiency of the whole symbiotic system [4].

4. Research steps of sports park design based on urban double cultivation theory

The first stage - theoretical research: first of all, investigate and read relevant literature, make a preliminary understanding of the sports park design research based on the theory of urban double training, clarify the historical background before and after the urban double training and its similarities and differences with the sponge city, and clarify the specific requirements and theoretical connotation of urban double training. Secondly, based on the conclusion that "without understanding history, we can't deeply understand modern times, and without understanding history, we can't accurately predict the future", we further comb the research status of sports park design and research at home and abroad based on the urban double cultivation theory, and understand the characteristics, strategies, advantages and disadvantages of sports park design and research in different historical periods, different political, economic and cultural backgrounds, These design strategies naturally bear a deep historical imprint and solve the urban development problems in a specific historical period. Thirdly, research the professional theory of sports park design. Clarify the emphasis of different theories and the similarities and differences of sports park design under the guidance of different theories. The second stage - case study: conduct in-depth research on the design practice of sports parks under the guidance of different theories, and give a clear description of their characteristics and existing risks or problems. The third stage - tool research: actively introduce the new paradigm of contemporary scientific exploration - interdisciplinary research. That is to say, the role of bibliometrics, knowledge atlas, MATLAB data visualization platform, analytic hierarchy process, GIS and other tools in the design and research of sports parks will be deeply analyzed to make the design more "rational". The fourth stage - practical research: by completing the research on the above related theories, tools and cases, he has a clear understanding of the strategies, methods and research technical routes of sports park design research based on the theory of urban double cultivation, that is, the innovation of this topic lies in the introduction of interdisciplinary research paradigm. First of all, based on a series of basic theories and principles, mechanisms, algorithms, models, etc. such as ArcGis, bibliometrics, knowledge atlas, fuzzy comprehensive evaluation, analytic hierarchy process, Matlab, etc., the site environment is deeply investigated to achieve data acquisition, so as to more accurately analyze and judge the site and surrounding data, frame the

basic algorithm and implementation plan, and more directly express and analyze ideas, Visualize the data. Specifically, the elevation, aspect, slope, catchment line, ecological hydrology and lighting, thermal density, skyline and other data in the site environment are analyzed quantitatively, and data visualization is achieved through bibliometrics and knowledge atlas, so that one picture can be more than one thousand words. And make the design more "rational" through data. Secondly, the theory of human factors and ergonomics is introduced to make it a tool to test or limit and improve the above achievements and data, so that the space environment to be optimized and transformed can become a human machine environment system coordinated by human, machine and environment. Finally, we can quickly sort out various spatial structure relationships and complete the site planning+regional planning in a large scale. It is expected that the past and future will be the same in the present, and the rupture of the context between tradition and modern will be bridged, so as to seek a diversified, coordinated and dynamic inheritance operating mechanism between the two [5].

5. The historicity of sports park design

The historic nature of sports park design is rooted in the development of environmental design. The rise of environmental design at the end of the 19th century and the beginning of the 20th century was based on modern environmental science, social science and technological mutation and scientific and technological progress. In the history of the development of art design, the industrial revolution at the turn of the century is undoubtedly a huge driving force to promote the occurrence, development, maturity and change of modern design, which finally led to the formation of a modern design concept with profound context, strong theoretical basis and extensive influence. The foundation of modern environmental art design in China is also affected by the elite movement of intellectuals with distinctive socialist color, rebelling against the Victorian wind, eclecticism and classical revival; It started from the reform and opening up in the 1980s and gradually matured from a new discipline. Under the influence of multiple factors such as increased domestic demand and stable market economy, it was listed as a first-class discipline in the Academic Degrees Awarding and Talent Training Disciplines Catalog. At the same time, environmental art design, as a branch of modern art design, inherits the basic connotation of modern design. That is to say, environmental art design, which is subordinate to modern art design, is also a design art that integrates "technology", "art", "social culture", and "function is greater than form". In a narrow sense, it is a kind of design art that integrates interior space. The practical art aimed at the outdoor space and the transitional space environment between them is not "on the shelf" art. The realization of the practical purpose it pursues depends on the integration of technology and art, the innovation of art design, and the means of art design. The broad sense of environmental art design involves many subjects, fields and disciplines, including sociology, chromatics, optics, psychology, etc. It also has a wide range of contacts and is closely related to architecture, landscape, structure and planning. Based on a simple analysis of environmental art design, this paper expounds the current situation of environmental art major in colleges and universities in China, the problems in the development process of environmental art design, and the future development trend with the perspective of contemporary culture [6].

During the industrial revolution, modern art and design emerged at the historic moment. Human beings replaced manual labor with machines. People no longer only paid attention to the quantity of products, but more and more tended to pay attention to the practicality and aesthetics of products. Practicality and aesthetics became the subsidiary conditions of product quality standards. In the 1920s and 1930s, Bauhaus and Ulm Design Academy perfectly combined technology and art, and promoted the practicality of products with modern science and technology. To meet the requirements of formal beauty with art, contemporary art design needs to fill in the scheme design, drawings and market research before production, and needs to understand the market demand and user feelings. The development of art design at each stage is moving towards the direction of more mature theory, more perfect system, more perfect structure and more refined fields. Luigi Colani, a contemporary industrial design master who is known as the contemporary "Da Vinci" and also the most famous and subversive designer today, invented a unique bio form by using curves according to the laws of nature he firmly believes in. In the 1970s, he will widely apply it to the design of ballpoint pens, fashion, cars, buildings and handicrafts, it not only breaks the inherent design boundaries of designers, but also promotes the leapfrog development of

industrial design in the world [7].

With the change of social needs, contemporary art design also subdivides into different types, such as indoor environmental art design, outdoor environmental art design, UI design, book design, digital media, art and technology, such as space design or environmental design (represented by interior decoration, landscape design, architectural design, planning design) Graphic design or visual communication design (represented by production, printing, dyeing and weaving, posters, billboard design, etc.). With the trend of social development and the awakening of localization, local consciousness and national consciousness, contemporary environmental art design in China is gradually recognized by more people and has a better industrial structure system.

The overall ideal of the sports park design research based on the urban double cultivation theory is to stand on the "cultural heritage, old city revitalization, and resource linkage", jump out of the shackles of the sports park design's transition to commercialization, following the law, and unchanging, and to re-examine the contemporary application of local culture from the multi-dimensional perspectives of art, architecture, sculpture, drama, design, communication, consumer psychology, sociology, etc. It is planned to build a cultural complex integrating commercial tourism and cultural tourism to realize the beautiful transformation of the sports park. At the same time, the research is committed to creating a humanistic life experience area that integrates "comprehensive protection, global tourism, the whole city and one landscape, and the whole industry chain". It is hoped that the research on the design of sports parks based on the background of urban double cultivation can explore a new path for the improvement of theme parks, lay a new standard for the overall transformation of old sports parks, and open a new dimension for the application of landscape aesthetics in the 21st century [8].

6. Development trend of sports park design

At present, there are a lot of urban quality improvement projects based on sports parks, but few of them are famous and successful in achieving the magnificent transformation of urban sports parks. Moreover, the excessive introduction of commercial formats not only breaks the original privacy, authenticity and integrity of the residential area, but also increases the risk of the affiliated culture of the sports park moving towards cultural variation, which increases the risk of the hollowing and loss of authenticity of the urban sports park, and makes the cultural project that should be a unique "local dish" become a "cultural instant noodle" that follows the rules and regulations [9].

With the development of economy, the progress of digital technology and the improvement of people's requirements for living environment and social environment, sports park design has become more and more important in national life, and "respecting nature and following nature" has become one of the social responsibilities of designers in the field of environmental design. How to better handle the relationship between human and nature runs through the designer's design process, which requires contemporary designers to pay attention to nature, reduce the impact of human factors, integrate resources, create an environmental design concept that meets the requirements of the times, and create an industrial model that meets the efficient development of the times. At the same time, we should also speed up the reform of the educational concept of environmental art design, the innovation of teaching methods, and the innovation of teaching methods. The innovation of the educational concept and teaching methods of environmental art design is not only the practical need of educational reform, but also the direction and practical goal of future educational development. Finally, under the great influence of western modern design trends, the internationalist style of modernism has swept the world, and the national and regional characteristics of design are hidden behind the internationalist style highlighted by homogeneity. Chinese designers should dig deeper into regional characteristics, be good at making use of the latest scientific and technological achievements, take the road of scientific and technological intelligence and wisdom, that is, use scientific and technological achievements to enrich historical details, enhance cultural continuity and cultural integrity, highlight the local cultural characteristics and improve the continuity of cultural layers (this paper is rewritten according to the first author's master's degree thesis "Research on the Regeneration Design of the Collage City "Theory in the Bianjing Yuhe Traditional Block" and "Research on the Regeneration Design of the Bianjing Traditional Block Based on the Theory of Urban Double Cultivation and Applied Psychology").

7. Conclusion

The research on sports park design based on the theory of urban double repair focuses on the urban double repair theory. First of all, it is planned to strengthen the urban design of key areas, key sections, important nodes, etc., shape the urban characteristics with the design of sports parks, highlight the charm of the city, highlight the urban customs and memories, and establish and improve the urban design and infrastructure planning system to open the dust laden nostalgia of the city. Secondly, it is planned to actively and steadily promote the improvement of the living environment of the historical urban area and the historical and cultural blocks through the design of sports parks, carry out the listing and filing of historical and cultural blocks and historical buildings, and further strengthen the overall control of the style and features of the historical urban area.

Author Contributions

All of the works are made from Li Yanbin.

Institutional Review Board Statement

Not applicable.

Data Availability Statement

Not applicable.

Conflicts of Interest

The authors declare no conflict of interest.

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Article

Visual Analysis of Research on Chinese Psychological Skills Training Based on CiteSpace V

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Abstract: In order to explore the progress, evolution trend and frontier hotspots of the research on psychological skills training in China, 320 scientific research documents on psychological skills training included in the China National Knowledge Infrastructure (CNKI) database from 1990 to 2020 were taken as the research objects, and the literature method was used to , visual analysis, bibliometrics and other research methods, using CiteSpace V software and Excel software to draw knowledge maps and statistical charts for visual analysis and bibliometrics analysis. The results show that the research on psychological skills training in China in the past 30 years can be divided into four stages: initial development (1990-2000), rapid development (2001-2008), steady development (2009-2015), and developmental decline (2016-2020). In this stage of development, the number of published papers shows an inverted U-shaped curve overall; Zhang Zhongqiu, Liu Shuhui, Zhang Liwei, Si Gangyan, etc. are the main representatives of the research; "Modern Sports Psychology Research Review" is the most frequently cited Literature; "Psychological skills training", "Psychological training", "Psychological skills", "Representational training" and "Psychological quality" are research hotspots. Suggestion: Strengthen exchanges and cooperation between research scholars and research institutions, broaden research ideas, enrich research objects, innovate research methods, and make theoretical results better serve research practice.

Keywords: psychological skills training; progress dynamics; cutting-edge hotspots; knowledge map; visual analysis

1. Introduction

Psychological Skill Training (PST for short) refers to the use of certain methods and means to exert influence on people's psychology and conduct specialized training on the brain, in order to achieve the purpose of strengthening psychological skills and cultivating special psychological abilities. In short, psychological skills training is the practice of systematic and continuous mental or psychological skills [1] . Since 1990, two scholars, Li Jingcheng and Zhang Liwei, published the translation of the keynote report "New Achievements and Development Trends of World Sports Psychology Research" made by Robert N. Singer, then chairman of the International Sports Psychology Society, at the Beijing Asian Games Science Conference. Beginning in "Physical Education" (now "Journal of Capital Institute of Physical Education") [2] , research on psychological skills training has been developed in China for nearly 30 years. Especially since the beginning of the new century, with the success of the Olympic bid in 2001 and the successful hosting of the 2008 Beijing Olympic Games, the Chinese sports theory circle has produced a large number of high-level achievements in the study of psychological skill training. However, through combing, it is found that most of the research on psychological

skills training in China focuses on a qualitative perspective. It only conducts research on a certain topic in the field of psychological skills training, and lacks an overall grasp of the research progress of psychological skills training and the ability to reveal the laws of psychological skills training research. Analysis of literature results. In view of this situation, CiteSpace V software is used to conduct a visual analysis of the research progress in the field of psychological skills training in order to gain a comprehensive insight into the pattern and research trends of Chinese psychological skills training research. Hotspots, summarize the theoretical results of psychological skills training research, and provide theoretical reference and rationalization suggestions for future related research.

1. Data sources and research methods

1.1. Data source

This study uses the China National Knowledge Infrastructure (CNKI) database as the data source, the source type of the literature is "academic journals", the retrieval method of "advanced search" is adopted, and the retrieval condition is "subject = psychological skill training or keyword = psychological skill training", the time span is "1990-2020", the retrieval date is "May 10, 2021", and a total of 479 relevant research documents were retrieved (see Table 1). In order to ensure the reliability and representativeness of the literature analysis results of "psychological skills training", the literature data were pre-processed, and the literature with poor relevance to the topic and foreign language literature, conferences, notices, newspapers and other literature were eliminated, and 320 papers were selected. The literature is the literature sample used in this study, which is exported in the "Refworks" format for subsequent visual analysis.

Table 1. List of data sources for this study

Retrieve	Content
Data Sources	China National Knowledge Infrastructure (CNKI) database
Document source type	academic journals
language type	Chinese
search method	Advanced Search
Search condition	Theme = Mental Skills Training or Keyword = Mental Skills Training
time span	1990 ~ 2020
retrieval time	May 10, 2021
Total number of documents	479
Featured Documents	320

1.2. Research Methods

1.2.1. Documentation method

In the China National Knowledge Infrastructure (CNKI) database, "psychological skills training" was used as the subject or key words to conduct advanced searches, the time span was from 1990 to 2020, and 320 journal papers selected from the search results were used as literature materials for this study, document collation, research analysis and induction and summary work.

1.2.2. Visual analysis method

the research field of psychological skills training in China, CiteSpace V (5.6.R4 (64-bit)) software to draw scientific knowledge maps for visualization tools [3]. Enter the data of 320 documents in the "Refworks" format into CiteSpace V (5.6.R4 (64-bit)) software, set the time span (Time Slicing) to 1990-2020, and time slice (Years Per Slice) to 1. In the first stage of the year, choose Author (author), Institution (organization), Keyword (keyword) as the node type, and the threshold value is the default value of the system. Clustering of related nodes and time zone co-occurrence analysis are carried out, and co-occurrence network, time zone evolution, etc. are drawn. The knowledge map visually shows the progress, research hotspots and evolution trends in the field of psychological skills training research in China in the past 30 years.

1.2.3. Bibliometric method

Bibliometrics is a quantitative analysis method that uses various external characteristics of scientific and technological literature as the research object, and uses mathematical and statistical methods to describe, evaluate and predict the current situation and development trend of science and technology [4]. This research takes 320 journal papers selected from the China National Knowledge Infrastructure (CNKI) database as the research object or the key word "psychological skills training". Statistics based on metrology features to maximize the information contained in the knowledge graph representing relevant documents.

2. Research results and analysis

2.1. Year analysis of research on psychological skills training in China

Analyzing the relationship between the number of academic papers published in a certain research field and the time changes can show the historical trajectory, development speed and current stage of the field, and can effectively predict its development trend and research dynamics [5]. In the China National Knowledge Infrastructure (CNKI) database, an advanced search was carried out with the theme or keywords of "psychological skills training", and the time span was "1990-2020". A total of 479 related documents were retrieved and 320 journal papers were selected. Statistical analysis of the data was carried out using the bibliometric method, and the results shown in Figure 1 were obtained.

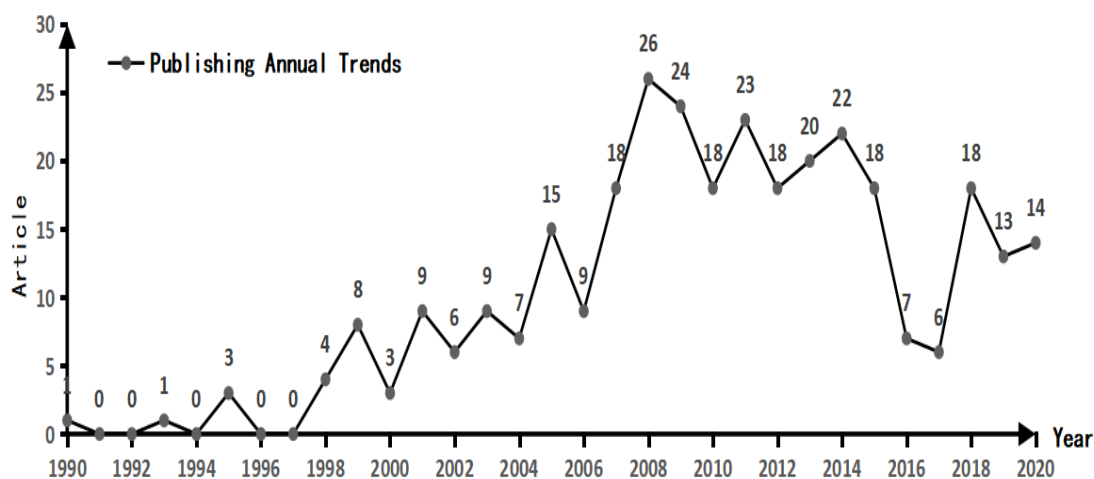


Figure 1. Trend chart of the number of papers published on psychological skills training research papers in China from 1990 to 2020

It can be seen from Figure 1 that the development of research on psychological skills training in China in the past 30 years can be roughly divided into four stages: the first stage (1990-2000) was the initial stage of development, and a total of 20 papers were published in 11 years, accounting for (6.25% of 320 papers), at this stage, the development of psychological skills training research was slow, with few research results and a low level of development; the second stage (2001-2008) was a stage of rapid development, with a total of 99 papers published in 8 years, about It is 5 times the number of papers published in the first stage, accounting for 30.94% of the total number of papers. In particular, 26 papers were published in 2008, reaching the highest peak of the number of papers published in China's psychological skills training research since the new century. The emergence of this peak coincides with China's success in hosting the 2008 Beijing Olympic Games is closely related. At this stage, the annual volume of psychological skills training has made a huge breakthrough and improvement, showing a strong momentum of development; the third stage (2009-2015) is a stage of steady development. A total of 143 papers have been published in the past 7 years, accounting for 44.69% of the total number of papers, with an average annual publication volume of 20 papers. At this stage, more scholars have joined the research field of psychological skills training, and stable research has emerged. Scholars and research teams, at the same time, the research field of psychological skills training in China has diversified research

objects and research methods, and is in a state of comprehensive development; the fourth stage (2016-2020) is the stage of development decline, and a total of 58 papers have been published in 5 years papers, accounting for 18.13% of the total number of papers. Except for the "small peak" in 2018, the average annual number of papers published was only 11, which was only two-fifths of the previous stage (stable development stage). The downward trend was obvious, reflecting the In recent years, the popularity of research on psychological skills training in China has declined, and the number of published papers has shown a decreasing trend year by year. Overall, the number of publications on psychological skills training research in China in the past 30 years has shown an inverted U-shaped curve.

2.2. *Analysis of authors of research on psychological skills training in China*

As an important factor in the development and evolution of disciplines, researchers are the endogenous driving force for the development of disciplines [6], and their characteristics have a strong reference role for the progress of discipline research. Import the literature data into CiteSpace V software, and run it to obtain the knowledge map of relevant authors and research teams in the field of Chinese psychological skills training research (see Figure 2).

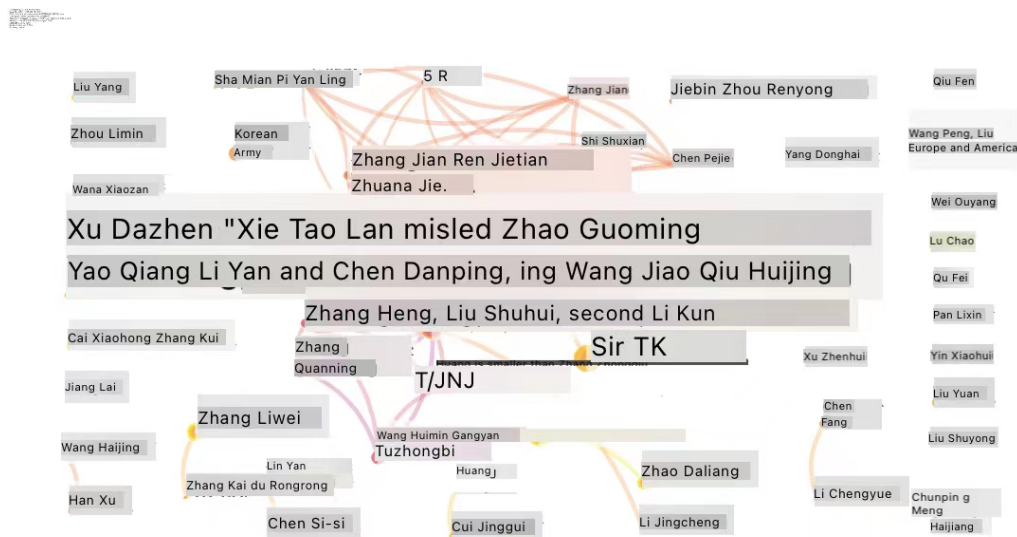


Figure 2. The author co-occurrence map of the research on psychological skills training in China (N≥2)

The nodes in Figure 2 represent the authors, the size of the nodes reflects the amount of articles published by the authors, and the lines between the nodes indicate the cooperative relationship between the authors. Figure 2 shows that Nodes (node) = 425, Links (connection) = 297, indicating that there are 425 authors in total, resulting in 297 academic collaborations, among which the author with the highest frequency is Zhang Zhongqiu, 6 times; the frequency of occurrence is 3. There are 11 high-frequency authors, namely Zhang Zhongqiu, Si Gangyan, Liu Shuhui, Zhang Liwei, Ren Jie, Zhao Daliang, Zhao Guoming, Wang Huimin, Han Jun, Xu Dazhen, Zhang Quanning, accounting for 2.59% of the total. It shows that the attention of research on psychological skills training in China is concentrated in a small number of scholars, and the attention of this field needs to be further improved. Relevant studies have shown that the output of scientific research results is closely related to the frequency of cooperation among researchers, and the high output rate of scientific research is positively correlated with high-level cooperation [7]. Density (density) = 0.0033 in Figure 2 shows that the co-occurrence network density of highly productive authors in the field of psychological skills training in China is low, and the cooperation among authors is not ideal. Most of them conduct independent research, showing a relatively scattered research situation. Among them, there are several large cooperative teams, namely, seven research teams with Zhang Zhongqiu, Si Gangyan, Liu Shuhui, Zhang Liwei, Ren Jie, Xu Dazhen, and Zhang Quanning as core members. Most of the rest of the authors and influential Many experts and scholars are

basically in the state of independent research . The lack of academic exchanges and cooperation among researchers is not conducive to academic contention and resource sharing, and it is not conducive to the formation of a stable and lasting research team in the field of psychological skills training in China .

2.3. Institutional Analysis of Research on Psychological Skills Training in China

Research institutions have an important role and extraordinary significance for a research field. Through the visual analysis of research institutions in the field of psychological skills training in China, it can intuitively show the scientific research status and influence of different institutions in the field of psychological skills training research in China , thus Identifying the core institutions of research on psychological skills training in China will also help to discover the shortcomings and existing problems of research at the institutional level . Using CiteSpace V software, run it to get the co-occurrence map of Chinese psychological skills training research institutions (see Figure 3) .

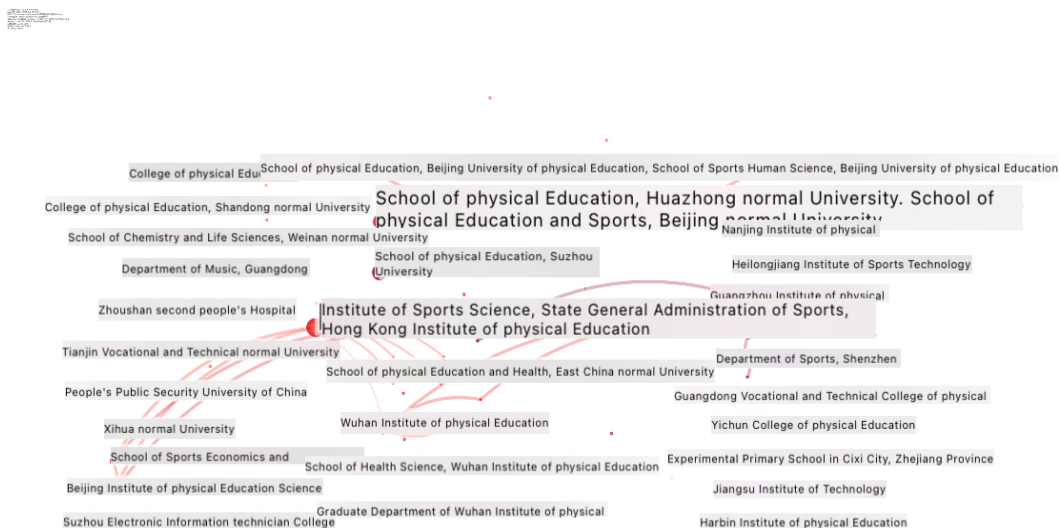


Figure 3. The institutional co-occurrence map of research on psychological skills training in China (N≥2)

It can be seen in Figure 3 that Nodes (node) = 244 , Links (connection) = 61 , Density (density) = 0.00 21 , where each node represents a mechanism, and the size of the node shape is proportional to the frequency of the mechanism , and the node The thickness of the lines between them indicates the cooperation between institutions , and the thicker the lines, the closer the cooperation . Usually, the frequency of an institution's appearance is positively correlated with the amount of papers published. The larger the node, the more frequently it appears, which means the more papers the institution publishes. Figure 3 forms a sports science research institute centered on the State Sports General Administration It can be seen that it is the core research institution in the field of psychological skills training in China. From the perspective of the number of nodes, there are currently 244 relevant institutions that have conducted research on psychological skills training, mainly the Institute of Sports Science of the General Administration of Sport of China, various sports colleges, and sports colleges (sports departments) of normal or comprehensive colleges and universities. A total of 61 cooperations have been carried out between them, forming two cooperation networks centered on the Institute of Sports Science of the General Administration of Sports of China and Wuhan Institute of Physical Education. , reflecting that the distribution of psychological skills training research institutions in China is relatively wide. Although there are many institutions involved in the research of psychological skills training, there are few cooperation and exchanges between institutions, and there are not many cooperation networks formed, and good cooperation has not yet been established. relation. In this case, the national sports department, provincial sports institutes, local sports bureaus, colleges and universities and other levels should establish a linkage mechanism,

complement each other's advantages, and cross-cooperate, so as to form a research chain of Chinese psychological skills training and promote research in the field of psychological skills training. All-round, high-quality and sustainable development provides impetus.

2.4. Analysis of highly cited literature on research on psychological skills training in China

Through the China National Knowledge Infrastructure (CNKI) , under the search conditions of this study, select the "cited" sorting to get a list of the top 10 highly cited literature in the field of psychological skills training in China (see Table 2, the deadline for data statistics is May 2021 10).

Table 2. List of the top 10 highly cited literature in the field of psychological skills training in China

Serial Number	Essay Topic	Author	Journal Title	Cited Frequency	Download	Time
1	A Summary of Modern Sports Psychology Research	Tension is, Ren is not much	Acta Psychologica	105	3498	1995-10-30
2	Research status and future trend of modern sports psychological skills training	Qiu Fen, Yao Jiaxin	Journal of Wuhan Institute of Physical Education	95	2307	2007-02-15
3	On the domestic research status of imagery training	Wang Min	Journal of Shenyang Institute of Physical Education	73	825	2003-09-10
4	A review of the application of mindfulness training in the field of sports competition	Zhong Boguang, Si Gangyan, Zhang Chunqing	Chinese Journal of Sports Medicine	52	1362	2013-01-25
5	Athletes' self-control: Important theories and research progress	Tension is	psychological science	51	1948	2013-05-20
6	A Psychological Study on the Game Performance of Advanced Shooters	Liu Shuhui, Zhao Guorui, Wang Hui-min and others	Physical Education Teaching (now Journal of Capital Institute of Physical Education)	48	291	1993-04-02
7	Research on Improving the Psychological Regulation Ability of Shooting Players	Li Jingcheng, Liu Shuhui, Li Sihua, etc.	Journal of Capital Institute of Physical Education	47	1132	2009-05-15
8	Research development and application of sports psychology in the field of competitive sports	Zhang Zhongqiu	Journal of Tianjin Institute of Physical Education	46	3053	2012-05-25
9	Mental Training and Monitoring of Chinese Diving Team in Preparation for Beijing Olympic Games	Zhang Zhongqiu, Zhao Guoming, Liu Yunzhou and others	Sports Science	46	1061	2009-11-15
10	Analysis on the Current Situation and Development Trend of Sports Psychological Training	Xu Wanbin	Sports and Science	46	1537	2003-07-25

The number of citations of a document is a key evaluation index for the academic quality and academic influence of a document. In general, the citation frequency of a document is highly positively correlated with the quality of the document. Therefore, citation analysis is feasible as a scientific evaluation method for documents. [8] . It can be seen from Table 2 that the most frequently cited literature on the study of psychological skills training in China is the "Review of Modern Sports Psychology Research" published by Zhang Wei and Ren Weiduo on October 30, 1995 in the "Acta Psychologica" , was cited 105 times and downloaded 3498 times [9] . The top 10 highly cited papers in the field of psychological skills training in China are all from core journals and CSSCI source journals, mainly sports journals and journals of sports colleges, and the authors of highly cited papers highly overlap with the core authors in this field, such as Zhang Zhongqiu, Liu Shuhui, Zhang Liwei, etc. It shows that the authors of the highly cited papers have grasped the key issues in the development of Chinese psychological skills training, the research is in-depth, and has strong guiding significance for the practice of Chinese psychological skills training.

2.5. Analysis of hot spots in research on psychological skills training in China

A research hotspot is a topic studied by a group of papers that appear in a large number and have internal connections within a period of time [10]. Keywords are the core of a topic and the main perspective of research, and can accurately reflect the current research hotspots and development trends of a topic. Therefore, the research hotspots and directions of topic literature can be analyzed through keyword co-occurrence characterization. After running the CiteSpace V software, the keyword co-occurrence map of China's psychological skills training research is obtained (see Figure 4).

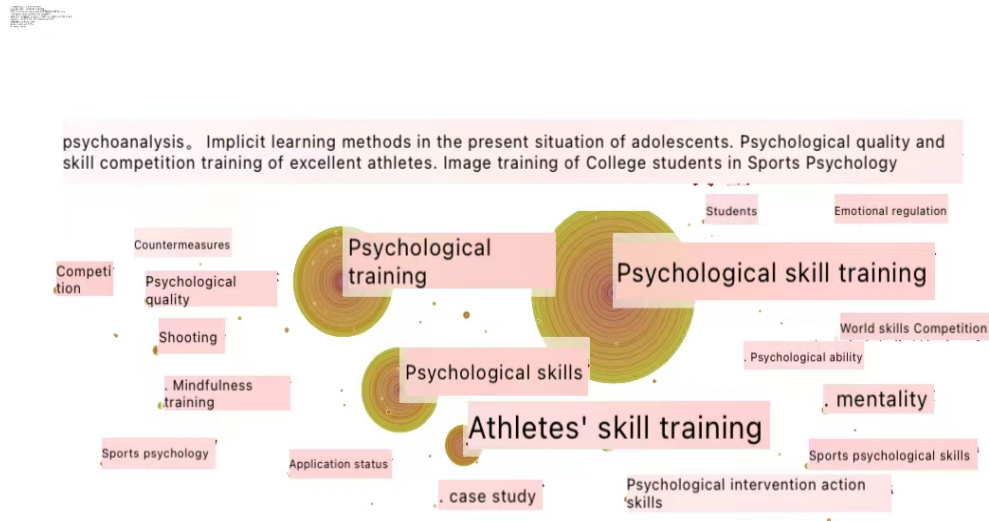


Figure 4. Keyword co-occurrence map of Chinese psychological skills training research (N ≥ 5)

Nodes are an important way to display information in the knowledge graph. Figure 4 shows the keyword nodes that appear more than 5 times in journal papers in the field of Chinese psychological skills training research. Each concentric circle on the picture represents a node, each node represents a keyword, the size of the node is proportional to the frequency of keyword occurrence, the larger the node, the higher the frequency. Different nodes appearing in the same document are connected by line segments. The thickness of the connection line is related to the connection density of the nodes. The thicker the connection line, the closer the connection between the nodes. It can be seen from Figure 4 that "psychological skills training", "psychological training", "psychological skills", "skills training", "representation training" and "psychological quality" are the main prominent nodes. The high-frequency keywords contained in Figure 4 are exported, and after statistics, a list of keyword frequencies in the research field of psychological skills training in China is obtained (see Table 3).

According to the concept of keyword centrality, we can analyze the frontiers of the current Chinese psychological skills training research field from high-frequency keywords, and can also provide a research hotspot basis for follow-up research [11]. It can be seen from Table 3 that the most frequently occurring keyword in the research field of psychological skills training in China is "psychological skills training" with a frequency of 110 times. According to Figure 4 and Table 3, it can be seen that keywords such as "psychological skills training", "mental training", "psychological skills", "athletes", "skills training", "sports psychology", "imagery training", and "psychological quality" are Chinese psychological skills. Research hotspots in the field of training.

3. Conclusions and suggestions

3.1. Conclusion

(1) This study uses 320 documents included in the China National Knowledge Infrastructure (CNKI)

database from 2000 to 2020 as the data source for statistical analysis. It is found that the research on psychological skills training in China in the past 30 years can be divided into the beginning of development (1990-2000) , rapid development (2001-2008), stable development (2009-2015), and developmental decline (2016-2020). Overall, the number of publications on Chinese psychological skills training research presents an inverted U-curve trend.

Table 3. A list of the top 20 keywords in the research field of psychological skills training in China

serial number	Key words	frequency	year	serial number	Key words	frequency	year
1	mental skills training	110	1990	11	skill competition	7	2012
2	mental training	71	1995	12	mindfulness training	6	2013
3	mental skills	54	1998	13	middle distance running	6	2001
4	athlete	27	2001	14	sports	6	2006
5	skill training	18	1999	15	method	6	2004
6	sports psychology	11	1990	16	train	6	2004
7	Representational training	9	2001	17	excellent athlete	6	1999
8	psychological quality	9	2002	18	psychological intervention	5	2009
9	shooting	8	1998	19	sports mental skills	5	2001
10	mental state	7	2005	20	psychological counseling	5	2009

The serial number is the keyword frequency ranking , and the year is the time when the keyword first appeared.

(2) Zhang Zhongqiu is the scholar with the largest number of publications in the field of psychological skills training in China. The core authors of the research on psychological skills training in China are strong, and most of them are professors. Zhang Zhongqiu, Si Gangyan, Liu Shuhui, Zhang Liwei, Ren Jie, Zhao Daliang, Zhao Guoming, Wang Huimin, etc. are the main representatives, and they are the core force to promote the research on psychological skills training in China. The core institutions of China's psychological skills training research are mainly the Sports Science Research Institute of the State Sports General Administration, the sports colleges (sports departments) of various sports universities, normal or comprehensive universities, among which the Sports Science Research Institute of the State Sports General Administration has the strongest scientific research strength , yielding the most results.

(3) The literature with the highest citation frequency in the research field of psychological skills training in China is the "Review of Modern Sports Psychology Research" published by Zhang Wei and Ren Weiduo in the "Acta Psychologica" on October 30, 1995, with 105 citations times, the number of downloads is 3498 times. Highly cited papers have grasped the key issues in the development of Chinese psychological skills training, have certain theoretical innovation and research depth, and have strong guiding significance for the practice of Chinese psychological skills training. The journals with highly cited articles are mainly concentrated in sports journals and journals sponsored by sports universities, and most of them are high-level journals such as core journals and CSSCI source journals.

(4) The research hotspots in the research field of psychological skills training in China mainly focus on "psychological skills training", "psychological training", "psychological skills", "imagery training", "psychological quality" and so on. In the past 30 years, the research on psychological skills training in China has developed in the direction of diversification of research objects and research methods.

3.2. Recommendations

(1) In recent years, the popularity of research on psychological skills training in China has declined, and the trend of decline has been obvious. The number of published papers has shown a decreasing trend year by year, which deserves the attention of research institutions and academic organizations on psychological skills training in China. It is recommended to fully explore the essence and connotation of psychological skills training, and take method innovation as a breakthrough to conduct systematic, in-depth and comprehensive research on psychological skills training in the new era.

(2) The common problems of the authors and institutions of psychological skills training research are low contact density, little communication and cooperation, and failure to establish a good cooperative network and cooperative relationship. It is recommended that researchers share more resources and academic contention among researchers in order to form a stable and lasting research team in the field of psychological skills training in China . Establish a linkage mechanism, realize complementary advantages and cross-cooperation, form a research chain of Chinese psychological skills training, and provide impetus for the development of psychological skills training research.

(3) Appeal to experts and scholars in psychology, pedagogy, physical education and other disciplines to pay attention to the research on psychological skills training and participate in the research. Only in this way can more high-level, high-quality, and highly cited research results be produced , forming a new development pattern of "a hundred flowers blooming and a hundred schools of thought contending" in the study of psychological skills training in China.

(4) It is recommended that future researchers, on the basis of fully grasping the trends, frontiers and hot spots of Chinese psychological skills training research, pay attention to the latest developments in foreign psychological skills training research, and deeply analyze the classic literature and research hotspots of foreign psychological skills training research , through the comparative analysis of research results at home and abroad, broaden research ideas, enrich research objects, innovate research methods, pay attention to linking theory with practice, so that theoretical results can better guide the research practice of psychological skills training, and realize the comprehensive research on psychological skills training in China orientation, high quality and sustainable development.

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Analysis of the Influence of "Health Qigong·Baduanjin" on Some Physiological Indicators and Physical Fitness of College Students

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Abstract: As a treasure of Chinese traditional sports, Health Qigong is widely circulated among the people. Experts and scholars organized by the General Administration of Sport of China created and edited some routines. Among them, "Health Qigong·Baduanjin" The fitness effect is loved by the general public, and the State Sports General Administration has also strengthened the work of promoting Health Qigong into colleges and universities. In order to better promote the promotion of "Health Qigong Baduanjin" in colleges and universities, especially among non-sports majors It is necessary to analyze and study the fitness effects and movement characteristics of college students based on "Health Qigong Baduanjin", so as to provide data support and reference for further research on "Health Qigong Baduanjin". Analytical methods and other methods were used to study and analyze the research objects. The experimental method was mainly to intervene in the Health Qigong teaching classes carried out by the School of Mechanical and Electrical Engineering, Pujiang College, Nanjing University of Technology, and to compare and analyze the physical fitness of the experimental objects before and after the data. The following conclusions were drawn: (1) Practicing "Health Qigong Baduanjin" can significantly improve the physical fitness of college students. Compared with students of the same major, on the premise of practicing Baduanjin in physical education from the first half year of freshman year to the first half year of sophomore year, the sophomore The attainment rate of the physical test was higher than that of the freshman year. (2) Performing the exercise of "Health Qigong Baduanjin" can change the performance of lung ventilation, heart rate, and muscle endurance in sitting and forward flexion , which shows that performing "Health Qigong · The exercise of "Baduanjin" can improve the physical fitness of college students.

Keywords: Health Qigong; baduanjin; college students; physiological indicators; physical fitness

In the context of quality education, the importance of physical education in the education system has been significantly improved, so the professionalism and standardization of physical education at all stages have been significantly improved at this stage. Summarizing the physical education at the university stage at this stage, we can see that the educational content is more diverse, and the specific content of Health Qigong has been introduced into the university physical education, and Baduanjin is one of them [1]. At this stage, Baduanjin has become a very important item in physical education in many colleges and universities, and a special assessment process and content have been set up for Baduanjin education. Starting from the analysis of educational practice,

the reason why Baduanjin teaching has attracted much attention is that it plays an important role in improving the physiological indicators of college students and strengthening their physical fitness.

1. Health value Analysis of Baduanjin

As an important item of physical education in colleges and universities, Baduanjin has been popularized in many colleges and universities. Based on the analysis of the health value of Baduanjin from the perspective of physical health and mental health, it can be seen that it is mainly manifested in the following aspects: (1) Baduanjin can eliminate fatigue. As far as college students at this stage are concerned, although they are relatively free on the surface, they still have relatively high academic pressure. In the face of relatively heavy pressure, fatigue is the normal state of college students [2]. Practicing Baduanjin can help eliminate the fatigue of college students and keep them in a healthier state. It plays a prominent role in improving the sub-health status of college students. (2) Baduanjin has outstanding effects in correcting students' shoulders and backs. Affected by bad sitting and lying postures, college students' shoulder and back problems are more prominent. Practicing Baduanjin can help correct the students' shoulders and backs, so as to make their posture more straight. (3) Baduanjin plays a positive role in strengthening the blood circulation of students' bodies. Analyzing the specific exercises of Baduanjin, the correct practice posture can effectively strengthen the muscles of the chest, ribs, shoulders and arms, thereby strengthening the blood circulation of the body, which has significant significance for the adjustment of students' physical and mental states [3]. Generally speaking, the practice of Baduanjin is positive for students' health, so it is necessary to pay attention to the active implementation of Baduanjin in physical education.

2. Effects of Baduanjin on the physiological indicators and physical fitness of students

Starting from the perspective of physical health, Baduanjin does play an important role in promoting students' physical and mental health. The specific impact of Baduanjin practice on students' physiological indicators and physical fitness needs to be determined through data analysis. Make intuitive judgments.

2.1. Basic information

In order to monitor the physical condition of students, colleges and universities organize physical fitness tests every semester, so in the experimental analysis, the main reference data is the physical fitness test data of college students. Taking the Department of Mechanical and Electrical Engineering of Pujiang University as an example, this major has set up Baduanjin courses in the first semester of freshman and the first semester of sophomore, with 2 class hours per week. This study is mainly based on the data reported by the students of this major. Judging from the summary of physical test data in the first semester of freshman year, the pass rate of students in this major is 84.8%. After collecting the physical test data after the end of the first semester of sophomore year, the pass rate is 94.6% from the specific results. Compared with the data of the next semester, the overall situation of the students has improved. Moreover, in terms of specific physiological index data, such as pulmonary ventilation, heart rate, and muscle endurance, the data at the end of the first semester of the sophomore year is significantly better than that of the second semester of the freshman year. Based on the statistical results of the data, active participation in the Baduanjin practice can effectively improve the physiological index data of the students, so that the overall state of the students will be better.

Based on the in-depth and comprehensive analysis of Baduanjin exercises, its comprehensive influence on students is remarkable. As far as the current research results are concerned, its specific impact on students is manifested in the following aspects.

2.2. The influence of Baduanjin on students

The first is that Baduanjin has a significant impact on students' exercise habits and exercise concepts. Through interviews and surveys to understand students' basic views on sports, it is found that students who have received and practiced Baduanjin have better living habits and more correct sports concepts. A deeper analysis

found that the main reason why these students' living habits are healthier is that after practicing Baduanjin, their physical condition has undergone significant changes. Moreover, the exercise intensity of Baduanjin is not intense, and the requirements for the venue are not high, so it can be carried out anytime and anywhere.

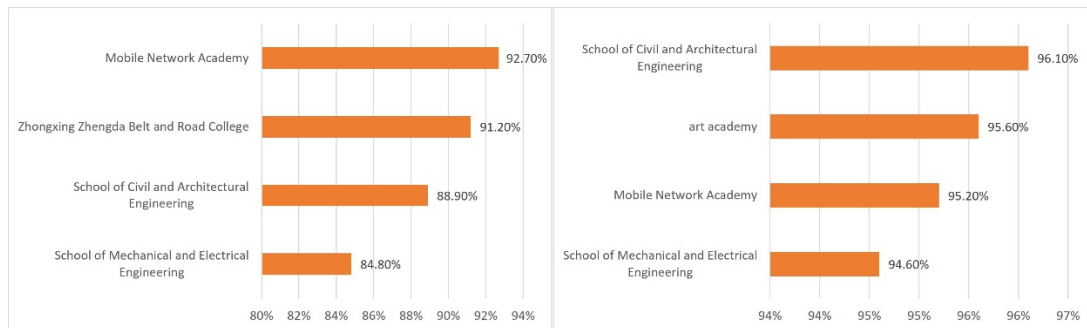


Figure 1. Comparison of the physical test compliance rate of students in the 2019-2020 academic year and 2020-2021 academic year of the School of Mechanical and Electrical Engineering, Pujiang College, Nanjing University of Technology

The second is that Baduanjin has had a significant impact on students' health concepts. Through the survey, it is found that most of the contemporary college students do not have the correct concept of health. They think that they are relatively young, in good health, and in a very healthy state [4]. But judging from the data obtained from the test, most of the students are in a sub-healthy state. The occurrence of this situation has a significant relationship with students playing mobile phones, staying up late and surfing the Internet. The interview survey of the students who took the Baduanjin course found that their health concepts have changed significantly. When asked the reason, the students all said that since they participated in Tai Chi and Ba Duan Jin related courses and practiced, they found that their physical condition and mental state have improved significantly. Based on this improvement, they realized that exercise has nothing to do with age, and that exercise will make them look healthier overall.

The third is the impact of Baduanjin on students' physique. From the analysis of the physical measurement data of the freshman students in our school and the physical measurement data of the sophomore students in the following year, it can be seen that the physical data of the same group of students in the sophomore year are better than those in the freshman year [5]. In the case of other school factors being the same, the element that can have a significant impact on students' physical fitness data is physical education, and the main content of physical education for sophomore students is Baduanjin. This shows that actively participating in the practice of Baduanjin has significant significance for improving students' physical condition, and this positive effect is long-term.

3. Organization practice of health Qigong Baduanjin

Based on the specific analysis above, it can be seen that in the current organization of college students' physical education work, Baduanjin, as one of the main contents of Health Qigong, plays an important role in improving students' physiological indicators and optimizing their physique. In physical education, it is very necessary to actively promote Health Qigong courses. Based on the analysis of the current practice, in order for Health Qigong to play a positive role in the educational practice of college students, it is necessary to clarify the factors that affect Health Qigong, and to discuss the scientific design and organization of Health Qigong courses.

3.1. Factors affecting health Qigong

Summarizing the whole teaching process of Baduanjin, we can see that in the promotion process of Baduanjin course, the main elements that can have a significant impact on the course effect are: (1) Curriculum arrangement and design. From a practical analysis point of view, the effective implementation of the Baduanjin course and its value play have a significant impact on the arrangement of class hours. If there are fewer class hours in teaching practice, students will not be able to fully learn the content of Baduanjin, and there will be

fewer exercises. The value of the course cannot be realized. (2) The standardization and standardization of teaching. For Baduanjin to play a positive role, it must emphasize the standard of movement, otherwise not only will it not achieve healthy effects, but it will cause sports injuries [6]. (3) Teacher factors. In course practice, teachers' professionalism and personal charm will affect students' views on specific courses, so it is necessary to strengthen teachers' personal cultivation and charisma in practice.

3.2. Strategies for organizing and implementing Baduanjin teaching

After mastering the influencing elements of Baduanjin teaching, in order to give full play to the outstanding value of Baduanjin in improving students' physical fitness, the following strategies need to be adopted: (1) Reasonable curriculum arrangement and design are required [7]. Judging from the current analysis, in order to better integrate Baduanjin into students' fitness activities, it is not only necessary to arrange 2-4 class hours for professional teaching in weekly teaching, but also to arrange morning exercises or evening classes. Unified guided practice. When a good atmosphere for Baduanjin practice is formed on campus, students will participate in the practice independently, so that the overall value of Baduanjin will be significantly improved. (2) Emphasize the specialization and standardization of Baduanjin. In the process of implementing relevant courses, the teaching must be based on the standard Baduanjin, so that students can master the essentials of movements during practice, so as to ensure the standards and norms of movements. Under the influence of standard and standardized movements, the positive effects of Baduanjin practice will be brought into play [8]. (3) Emphasize the professionalism of teachers in the implementation of Baduanjin courses. Emphasize the professionalism of teachers to make their guidance to students more professional, so that the effect of relevant training will be more prominent. Strengthen the learning of Baduanjin theoretical knowledge and guide students to achieve the unity of knowledge and action. In this way, the health value of Baduanjin will be more prominent.

4. Conclusion

To sum up, in order to keep students in a good state, to resist the pressure of study and future life, and to improve their physical fitness, health education should be actively emphasized in college students' education. Baduanjin has outstanding effects in shaping students' physical fitness and improving their psychological resistance to stress. In the teaching process of Baduanjin, through the analysis of students' physiological indicators and physical fitness optimization, and thinking about the specific implementation strategies of Baduanjin's professional teaching, this is of positive significance for the full play of Baduanjin's advantages in health promotion.

Author Contributions

Wrote the literature review and checked the article, M.S.; collected data, processed empirical data, Z.S.Q. presented empirical results, wrote the main part of the paper and proposed research conclusions, L.Y.L. All of the authors read and agreed to the published the final manuscript.

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Research on Adolescent Physical Health Policy Change – Based on Discontinuous Equilibrium Theory

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Abstract: Based on the discontinuous equilibrium theory, this paper explains the internal mechanism of adolescent physical health policy changes. The study found that the adolescent physical health policy presents an evolution from equilibrium to discontinuity and then to long-term equilibrium. When the policy picture is relatively stable, the policy will have a gradual fine-tuning; when the policy picture cannot adapt to the external environment, the policy will change. This study not only validates the applicability of discontinuous equilibrium theory to adolescent physical health policy, but also modifies the discontinuous equilibrium theory in China, and provides enlightenment for adolescent physical health decision-making practice

Keywords: teenagers; physical health policy; policy changes; discontinuous equilibrium theory

1. Introduction

Adolescent Physical Health Policy refers to a series of policy documents formulated by relevant national departments to ensure that adolescents achieve the goal of physical health [1]. In 2020, the Implementation Opinions on Comprehensively Strengthening and Improving School Physical Education in the New Era issued by the General Office of the CPC Central Committee and The State Council is a major document issued by the CPC Central Committee since entering the new era, which focuses on the physical health of young people, aiming at enhancing students' physical fitness, perfecting their personality and tempering their will through school physical education. Since its founding, the Communist Party of China has attached great importance to the physical health of young people.

At present, the academic research on adolescent physical health policy is mainly carried out from three aspects: first, the policy text research. Huan Changdian made a quantitative analysis of policy texts in the 20 years after the founding of the People's Republic of China, and found the trend of policy subjects, the instability of policy types, and the comprehensive characteristics of policy texts [2]. Chen Changzhou et al. divided the policy course in the past 40 years of reform and opening up into four stages: adjustment and recovery, improvement and standardization, reform and deepening, and coordination and innovation [3]. Secondly, research on policy implementation. Based on the theory of public policy implementation, Yang Chengwei, Zhang Xiaolin, Zhou Ting et al. explored the status of "reality" (current situation and problems of policy implementation) and "necessity" (policy suggestions) of adolescent physical health policies, and concluded that the current policies have problems of ambiguity and conflict [4-5]. Suggestions for improvement are put forward

from the aspects of guaranteeing resources, perfecting supervision mechanism and optimizing management mode [6]. Third, policies promote research. This kind of research mainly introduces the excellent experience of Japan, the United Kingdom, the United States and other countries, and proposes enlightenment from the aspects of giving play to government guidance, highlighting the subjectivity of schools, and the synergy of policies [7-8]. Based on the above analysis, it can be seen that most studies still focus on the static description of the policy text, or the description of the status quo of the policy. Although some scholars have explained the motivation of policy change in youth sports from 1992 to 2021 based on the multi-source flow theory, and believe that political flow, policy flow and problem flow jointly promote policy improvement [9], they have not paid enough attention to policy mutagenicity and stability, presenting a fragmented research scene. There is no doubt that the evolution of adolescent physical health policy is a dynamic and changing process, involving macro deep structure, multiple stakeholders and multiple elements, both gradual development and mutation characteristics. In view of this, this study draws on the discontinuous equilibrium theory to analyze the process of adolescent physical health policy change. On the one hand, it uses the relatively mature analytical framework of this theory to explore the policy scene of the interaction between government decision-making and the public, and tries to grasp the nonlinear characteristics of adolescent physical health policy change process from the fragmentary historical fragments. On the other hand, through the preliminary application of the theory, the Chinese discontinuous equilibrium expression model is constructed.

2. Analysis framework of discontinuous equilibrium theory

2.1. Historical origin of discontinuous equilibrium theory

In the 1990s, American scholars Baumgartner and Jones borrowed the concept of Punctuated-equilibrium in biology to describe the policy process in the United States [10]. They believe that in most cases, the process of policymaking in the United States is characterized by stability and gradualism, but radical changes occasionally occur because of the bottleneck of people's attention. In fact, most problems have always existed, but people will allocate bounded rationality to different problems at different times [10]. Punctuated-equilibrium theory is committed to explaining a simple phenomenon: political process is often driven by a kind of stability and gradualism logic, but major changes different from the past may occasionally occur [11]. The individual's bounded rationality and the centrality of decision making are its theoretical premise. From the perspective of policy making, large-scale discontinuity in policy comes from either a change in people's preferences or a change in attention. According to Jones, the change of individual or collective decision is not caused by the rapid change of preference, but by the shift of attention, also known as "continuous movement" [11].

2.2. Core concepts of discontinuous equilibrium theory

Discontinuous equilibrium theory is used to describe and explain the gradual and non-gradual policy process, emphasizing that policy change is related to the establishment of policy monopoly, the change of policy landscape (policy image) and the transformation of policy field (see Figure 1). The change of the nature of the problem will lead to the transformation of policy landscape, and then trigger a series of influences, so as to transform the policy field. Indicates a change in the position of the government or parliament, thus upsetting the original equilibrium. In the theory of discontinuous equilibrium, "discontinuity" refers to the change of the policy landscape caused by sudden external events, which eventually leads to the subversive stagnation or reform of the policy. "Balance", also known as "balance", emphasizes the gradual change of policies within the existing framework, that is, the state of "small steps and continuous steps" [11]. Policy monopoly refers to a centralized and closed decision-making system composed of the most important actors or stakeholders in policy making [10]. Policy landscape refers to the system of values and beliefs associated with certain policy contents, which is a mixture of experience information and feelings [10]. The policy field refers to the place where the political subsystem with limited participation conducts policy consultation in a diversified political system, which is also known as the place of policy agreement [10].

According to the discontinuous equilibrium theory, the fundamental cause of policy reform lies in the

change of decision-makers' attention [11]. Policy makers' continuous attention to some issues will actively construct a positive policy picture, maintain policy stability and maintain policy balance in a certain period of time. When the attention of decision-makers changes, the nature of the problem needs to be redefined. The existing policy picture is difficult to resist the impact of the external environment, and the policy picture changes. As a result, opponents entered the policy agenda. Under the lobbying of policy entrepreneurs and the coordinated actions of citizen groups, the policy field gradually expanded and the government changed its stance. The existing policy monopoly was broken, and the policy innovation was interrupted, and a new equilibrium period was entered.

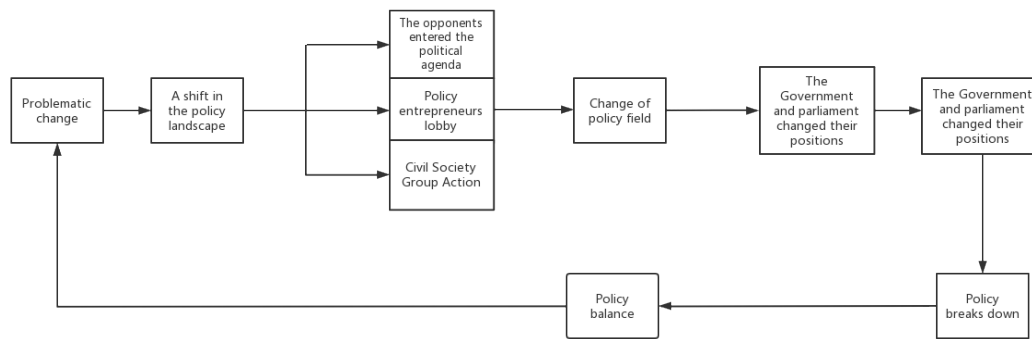


Figure.1. Discontinuous equilibrium theory model

2.3. Suitability of discontinuous equilibrium theory

The emergence of discontinuous equilibrium theory has enhanced the explanatory power of the sudden development process in long-term policy changes. The diversified distribution of public policy preferences, the change of social institutional structure, the improvement of public cognition and social learning ability will all have an impact on major policy issues from different perspectives. By analyzing the historical evolution of preschool education policies, it is found that under China's national conditions, changes in major social conditions have an important impact on the construction of the policy landscape [12]. The evolution logic of the relationship between the government and sports social organizations is analyzed, and the revised discontinuous equilibrium model of sports social organization policy is constructed [13]. After four studies on the evolution of family planning policy, it is believed that the background of decision-making system and the philosophy of the ruling party have an important impact on the evolution of the policy [14]. By explaining the evolution of China's household registration policy, it is found that the decision-making mechanism and influencing factors are different [15]. As a part of China's institutional structure, adolescent physical health policy has undergone many progressive adjustments under the leadership of the Party. Then what is the internal mechanism of adolescent physical health policy change? What are the rules and characteristics of policy changes? The discussion of the above problems can not only test the applicability of discontinuous equilibrium theory to adolescent physical health policies, but also bring new insights into the analysis of government decision-making mechanism from the perspective of policy changes.

3. Trajectory and theoretical analysis of adolescent physical health policy changes

In view of the existing studies that have combed the text of policies since the reform and opening up [3], this study does not involve too much analysis of policy texts, but mainly explains the reform process and internal mechanism of adolescent physical health policies based on the discontinuous equilibrium theory. According to the domestic macro background, policy landscape and policy field characteristics, this study divides the adolescent physical health policy changes into different periods.

3.1. *Equilibrium period under the policy picture of "national Salvation through sports"*

Policy makers generally construct policy scenarios based on social conditions in a certain period [11]. Zhu De once gave Yan 'an "Nine One" expansion games of the inscription for the "militarization of sports". The youth sports in liberated areas take military drills and military skills training as an important teaching content. In physical education classes, students carry out military training and exercises such as dispersing, transferring, standing guard and sentry. The establishment of this policy landscape not only puts forward the development direction and guiding program for the Soviet area policy, but also provides experience for the subsequent development of youth sports cause. During this period, many measures were taken to improve the physical health of adolescents in the Soviet Area. First, textbooks such as *Competitive Game* and *Young Team Game* were compiled. Second, extracurricular sports activities are closely related to military and political training. The third is to review the students' sports achievements in the form of the grand review, such as the Grand review of the students of Lenin Primary School launched by the Central Ministry of Education and the Central Children's Bureau of the Communist Party of China in the autumn of 1933. The items reviewed included the high jump, long jump, running and skipping, etc. [16].

In general, during this period, the construction of adolescent physical health policy landscape is based on the switch of attention. Attention refers to an individual's attention to a certain field, phenomenon or topic. When the attention changes, the values it relies on will also change. At this stage, due to the occurrence of various events, the policy picture showed the characteristics of unity, the main leaders focused on improving the physical fitness of teenagers, and the policy was agreed in a relatively simple place.

3.2. *Discontinuity period under the game of "Revolution and development" policy picture*

In 1968, the Chinese Central Committee, The State Council and the Central Military Commission jointly issued an order to take over the national sports system [17]. Sports activities were cancelled, and the nature of the policy had a fundamental turning point. Generally speaking, the following changes occurred in this stage: the political value concept under the "revolution" scenario, the economic value concept under the "development" scenario, and the political value concept under the "revolution" scenario, the policy encountered two major path obstacles and was in a discontinuous period. Why do two seemingly contradictory policy scenarios alternate at the same time? Due to the closure of the policy field, the limited rationality of decision-makers and the bottleneck of attention, the policy feedback mechanism cannot play a role. The discontinuity of the policy is not a repair on the existing structure, but a complete break with the original policy, and the policy has entered a new construction period.

In general, during this period, the domestic society was in a period of radical reform, and the adolescent physical health policy was in a period of radical mutation. With the deepening of reform, the policy field of adolescent physical health is gradually opened, and the unified policy picture is gradually broken. During this period, a series of reforms of adolescent physical health policies were not due to the addition of external subjects, but the change of policy landscape and the transformation of internal forces of policy subsystems.

3.3. *Long-term Equilibrium under the "diversified" policy Scenario*

3.3.1. *Initial policy equilibrium under the background of economic system transformation*

Although the policy maintains a balance within a certain period of time, the balance is not invariable. Since the reform and opening up, the adolescent physical health policy has basically maintained a balanced state without huge policy discontinuity. However, due to the changes in the internal and external environment and the balance of the internal forces of the policy subsystem, changes will occur accordingly. With the 14th meeting of the Party as a sign, our reform, opening up and modernization development into the accelerated development stage, the transformation of the economic system has brought various forms of social organization, social education, science and technology, culture and sports have all produced changes, sports by the state and the combination of social development situation already shows the embryonic form. In 1993, the meeting of the directors of the National Sports Commission formally adopted the "Opinions on Deepening the Reform of

Sports" (hereinafter referred to as the "Opinions"), which became a programmatic document for deepening the reform of sports in the new era and built a new policy picture. The Opinions proposed the establishment of a benign operation mechanism which is compatible with the socialist market economy system, the state's macro-control, relying on the society and self-development "[18]. This important measure is conducive to mobilizing the enthusiasm of all aspects of the society and meeting the growing health needs of the people. In 1995, the birth of Sports Law of the People's Republic of China filled the blank of our legal system, and also marked the beginning of our sports career to govern sports according to law in the new stage.

With the rapid transformation of the economic system, the society is also in a period of change. The fierce competition for talents, the pursuit of short-term interests in education ignoring the overall development of students and the one-sided pursuit of "enrollment rate", the gradual "nihilization" of physical education in schools, the rampant prevalence of extracurricular tutorial classes, and the greatly reduced time for physical exercise [19], which causes worrying physical problems of adolescents and makes it difficult to carry out quality education. In the face of such intractable problems, policies such as "Opinions on Implementing the Outline of the National Fitness Program" and "Implementation Plan for the Investigation and Research of the Physical Health Status of National Students in 2000" have provided macro-guidance for the improvement of adolescent physical health. According to the survey data of 10 departments including the Ministry of Education, the General Administration of Sport and the Ministry of Science and Technology in 2005, the obesity rate of Chinese teenagers continues to rise, and the stamina, speed, strength and other most physical quality indicators of college students continue to decline, even worse than junior high school students. Vision problems remain high, and there is a tendency of younger people [20]. The state has successively issued policies such as Opinions on Strengthening Youth Sports to Improve Youth Physical Fitness and Curriculum Standards for Compulsory Education Physical Education and Health. These measures are the pioneering actions made by decision makers after reflecting on the current situation of youth physical fitness. According to statistics, from 2000 to 2012, the state issued a total of 142 adolescent physical improvement policies, with an average of 11 policies issued every year [3]. During this period, the public's concerns about students' physique and the promotion of quality-oriented education formed a preliminary balance of policies, but this balance was not static. The society was in a transition period, and the policy subsystem tended to be open, and the macro political system and policy subsystem gradually accepted external forces to participate in the decision-making system.

3.3.2. Continuous balance of policies under the background of "cultivating virtues and people"

Under the diversified policy landscape, the policy field of adolescent physical health shows the characteristics of inclusiveness and openness. The policy field includes the central government, local government and the public. The policy value is developing toward "people-oriented", and the policy system tends to be perfect and perfect. The policy has been endowed with new connotations. Sports is regarded as an important platform to promote the all-round development of people and display the soft power of national culture, and the policy has entered the stage of concursive and high-quality development [21]. The Central Committee of the Communist Party of China and The State Council pay full attention to the problem of adolescent health. In 2012, the Ministry of Education and other four departments jointly issued Several Opinions on Further Strengthening School Physical Education to further promote the development of school physical education from a macro layout, giving sports a more prominent position. Accordingly, the Measures for the Monitoring and Evaluation of Students' Physical Health in 2014 forced the improvement of the effectiveness of policy implementation from the dimension of scientific evaluation. The "Youth Sunshine Sports" project and the "Implementation Opinions on Accelerating the Development of Youth Campus Football" have refined the content of youth physical health from the sports field. According to the National Physical Health Standards in 2017, the qualified rate of national students' physical fitness test is about 91%, and the excellent and good rate is about 30%. Indicators such as body shape, cardiopulmonary function, speed and endurance show a good trend [22]. The operational indicators of the policy show a positive policy image, indicating that the existing policy has made a breakthrough.

Although the physical fitness of adolescents has been significantly improved, there is a certain gap between

it and the general head of 50% of adolescents' physical fitness required in the Opinions on Implementing Healthy China Action issued by The State Council [6]. In 2018, General Secretary Xi Jinping said at the national education conference that "The concept of health first should be set up to help students strengthen their physique, improve their personality and temper their will"[23]. Subsequently, the Notice on Further standardizing the Correction of Myopia in Children and Adolescents and Strengthening Supervision Effectively and Opinions on Deepening the Integration of Physical Education and Promoting the Healthy Development of Adolescents further implemented the spirit of the National Education Conference. These policies are the landmark documents for promoting the healthy growth of adolescents after entering the new era [24]. The trend toward unified requirements, classified guidance and special governance is of great practical significance. The "14th Five-Year Plan for Sports Development" issued in 2021 indicates that the form and conditions of future sports development should be comprehensively considered to achieve high-quality development of sports. It has mapped out a grand blueprint for sports undertakings in the new era, which means that the policy will maintain a balanced state for a long time to come.

During this period, the policy landscape of adolescent physical health was "diversified", and the policy subsystem was improved unprecedentedly, showing the characteristics of the coordination between media propaganda and social system. The field of adolescent physical health policy gradually expands, more subjects participate in the process of policy making, each policy subsystem can more express their own suggestions, can participate in the policy decision-making of adolescent physical health, increase the transparency of decision-making, effectively supervise the decision-making process, exercise democratic rights, and make their own choices; Through various forms of discussion and competition, different voices and plans are fully paid attention to, and unique policy opinions are retained, thus forming a mechanism of survival of the fittest and promoting the optimization of adolescent physical health policies. This reflects the scientific nature of adolescent health policies and procedures, and will continue to promote policy optimization.

3.4. Summary

Based on the above analysis, this study sorted out the social background, policy landscape and policy field variables involved in the process of adolescent physical health policy change (see Table 1). At the beginning, the adolescent physical health policy maintained a balance for a period of time under the policy picture of "national salvation through sports". After the reform and opening up, the reform of policy values and the expansion of policy subsystems break through the existing policy balance. After 1992, the policy experienced the initial equilibrium period under the background of the transformation of the market economy system and the long-term equilibrium period under the background of standing up for virtues and cultivating people. In the new era, the policy was entrusted with a new mission. In the past 30 years, although the policy occasionally has negative feedback, the subsystem of the policy has constantly adapted to the external environment through internal adjustment, and the fundamental value concept of the policy and the positive policy picture have not changed substantively.

4. Conclusion and Enlightenment

4.1. Research Conclusions

Based on the discontinuous equilibrium theory, this study analyzes the evolution process of adolescent physical health policies in recent years and draws the following conclusions:

First, the adolescent physical health policy presents the evolution of balanced to discontinuous and then to long-term equilibrium, and the policy changes show obvious discontinuous equilibrium characteristics, and the policy picture of adolescent physical health is evolving.

Secondly, the discontinuous equilibrium theory is used to analyze the process of adolescent physique health policy vicissitudes, and it is found that the theory does not match with the decision-making practice, which is reflected in the following two aspects: First, the transformation of policy landscape ignores the changes of social environment. In the context of China, the transformation of social environment constitutes the fundamental

motivation for the transformation of policy landscape. Second, the composition of the subsystem of policy is divorced from the actual situation of our political system. Mass media are a key link between the state and society, a role that allows them to strongly influence government preferences on public issues and solutions. Three forces work together to promote the innovation of adolescent physical health policy.

Based on this, the policy change model is revised as follows: The change of domestic and foreign social environment is taken as the starting point of policy change. Based on China's national conditions, the discontinuous equilibrium model is the expression mode in the background of Chinese decision-making system, which is suitable for Chinese public policy interpretation to a certain extent, and has the full explanatory power and persuasion for the analysis of Chinese policy change process.

4.2. Research Implications

Through the analysis of the policy process and motivation, the research believes that the improvement of adolescent physical health policy in the future can be started from the following two aspects:

First, keenly identify the source of the problem, and timely capture the physical health variables of adolescents. In the process of making adolescent physical health policies, it is necessary to play the catalytic role of focus events, focus on adolescent physical problems such as myopia, obesity, and timely capture the dynamic variables of adolescent physical health policies; In terms of the construction of stadiums, equipment and other supporting facilities, it is necessary to give play to the role of the think tank of the policy community composed of experts and scholars in view of the differences of problems, reasonably integrate social resources, and comprehensively cooperate to improve the effectiveness of policies. At the same time, the government should make good use of social media and various information feedback channels to dynamically monitor the implementation status of such policies as the Notice on Further standardizing the Correction of Myopia among Children and Adolescents and Strengthening Supervision Effectively, and the Opinions on Deepening the Integration of Physical Education and Promoting the Healthy Development of Adolescents, and supervise and evaluate the policies through empirical research and hearings. Timely adjustment and update of decisions to improve policy effectiveness.

Second, adhere to the concept of multi-center governance, expand the adolescent physical health policy field. In the process of the reform of adolescent physical health policy, we should make good use of our institutional advantages, guided by the general secretary's important discussion on "health first" as the concept, take national fitness and the construction of sports power as the top-level planning, grasp the political steering wheel of adolescent physical health policy, and actively respond to the people's livelihood demands; In addition, local governments should be encouraged to make appropriate policy adjustments in accordance with local conditions and within the scope of authority permitted by laws, and bring into play the policy learning and diffusion effect among provincial governments to promote the reform of adolescent physical health policies from the bottom up. At the same time, it is necessary to actively mobilize the broad participation of the public, listen to the voices of teenagers, parents and schools, play the role of policy feedback, ensure the openness and inclusiveness of the adolescent health policy field, and achieve "think what the people think and do what the people do".

Author Contributions

Wrote the literature review and checked the article, Liang Yadong, Cheng Bojin; collected data, processed empirical data, presented empirical results, wrote the main part of the paper and proposed research conclusions, Liang Yadong. All of the authors read and agreed to the published the final manuscript.

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Research on the Development of Sports Tourism Products in the Red River Valley of Taihang Mountains, Hebei, China

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Abstract: This paper takes the development of sports tourism products in the Red River Valley of the Taihang Mountains in Hebei, China as the research object, using research methods such as literature, field investigation, logical reasoning and action research. The innovative design concept with sports tourism products as the core. Create special sports tourism products that cover all seasons and serve people of all ages. Based in Handan, radiating from Shanxi, Hebei, Shandong and Henan, and serving domestic and foreign tourists, there are six characteristic sports tourism products of sightseeing type, competition type, leisure vacation type, fitness and entertainment type, outdoor expansion type and extreme type. It aims to enrich the supply of social sports tourism products and help accelerate the construction of a sports power and a healthy China.

Keywords: Taihang Mountain Red River Valley; sports tourism; product development

I. Introduction

Taihang Mountain Red River Valley is located at the southern tip of Hebei Province, where the scenery is beautiful and the climate is suitable. Relying on the development of sports tourism in this area will effectively promote the revitalization of the countryside, promote the employment of local residents, increase the social ownership of sports tourism products, and conform to the development of the times.

At present, domestic related research can be roughly divided into three categories: (1). Research on the interactive relationship between sports tourism and rural revitalization. By analyzing the national strategy of revitalizing rural sports, it discovers new opportunities for rural industries, promotes the prosperity of rural spiritual civilization, helps the upgrading of rural tourism industry, and promotes the important value of the formation of rural governance patterns. By studying the problems of rural industries and proposing effective countermeasures to promote the high-quality development of rural sports tourism, it is expected to promote the development of my country's eco-sports tourism industry in many ways. (2). Different types of sports tourism research. For example, based on the dynamic mechanism, operation mechanism and promotion path of sports event tourism, it is believed that sports events cannot be separated from the support of sports technology. Only by in-depth development of "sports + technology + tourism" can we develop better and more sports tourism products; Exclusive interviews with different outdoor adventure clubs, focusing on summarizing the impressions of outdoor adventure travel on customers, and comparing the impressions of outdoor adventure in other places, speculating on the future trends and development paths of outdoor adventure travel, etc. (3). Research on sports

tourism and sports industry development. For example, it is proposed that we should seize the opportunity of the development of local sports tourism cultural industry, keep pace with the times, inherit and develop characteristic culture, use network marketing to enhance the brand effect of sports tourism products, actively cultivate sports tourism consumers, and promote the sports tourism cultural industry in northern Hunan Development; there is research on the integration path of tourism industry and large-scale sports events, and it is proposed that social capital should be used to drive the integration of tourism industry and large-scale sports events.

2. Research methods

(1) Documentation method. Through CNKI, Wanfang data knowledge platform, etc., search for relevant literature on sports tourism resource development and product design at home and abroad, summarize the current problems, and provide a reliable basis for this study.

(2) Field investigation method. Investigate government officials, red base managers, experts and scholars in the field of sports inside and outside Hebei Province, integrate red cultural resource pools, and research and formulate development strategies.

(3) Logical reasoning. Guided by the laws of logic and based on the factual basis of the Red River Valley in Taihang Mountains, a resource library is formed, reasoning is carried out, and a new product type with six sports tourism categories and online and offline hybrid development models is further constructed.

(4) Action research method. According to actual research needs, conduct systematic research on local sports tourism products through planning, action, observation, reflection, etc., so as to find problems and solve them.

3. The practical path of sports tourism product development in this region

Although the research on sports tourism development started late, the basic product system and model have been formed. Domestic scholars should be encouraged and helped to strengthen international research exchanges and interactions; the transformation and use of scientific research results and information should be strengthened; further in-depth and comprehensive research on sports event tourism should be carried out; emphasis should be placed on basic theoretical research and more disciplinary perspectives should be incorporated.

This article integrates the ecological resources of Taihang Mountain Red River Valley, such as mountains, water, forests, fields, lakes, and grass, and integrates the industrial foundations of people, culture, production, villages, wells, and roads. It is market-oriented, with red culture as its connotation, and mountain sports. The innovative design concept with tourism products as the core. Create special sports tourism products that cover all seasons and serve people of all ages. Based in Handan, radiating from Shanxi, Hebei, Shandong and Henan, and serving domestic and foreign tourists, there are six characteristic sports tourism products of sightseeing type, competition type, leisure vacation type, fitness and entertainment type, outdoor expansion type and extreme type. In combination with the current epidemic situation, explore the use of virtual simulation and other technical means to build VR online vision and virtual touch products, and comprehensively build an online and offline sports tourism product research and development model.

(1) Focusing on the cultural resources of the Taihang Red River Valley, red revolutionary culture, natural scenery, etc., such as the Sturgeon Ornamental Park and the Educated Youth Cultural Park, etc., construct sightseeing sports tourism products.

The Red River Valley of the Taihang Mountains has natural scenery and a long history of human resources, especially the industrialized Sturgeon Ornamental Park and the Educated Youth Cultural Park, which can drive the development of related industries, promote the employment of local residents, and attract tourists from inside and outside the province and even from abroad. In addition, there are a large number of sightseeing-type tourism products such as wine bases, farmhouses, and Chi'an Village. Among them, the Bridge across Chi'an is being built, which provides convenience for residents on both sides of the Strait to go sightseeing.

(2) Construct competition-type sports tourism products around "one block, four characteristic small town start-up areas, five scenic spots, three major lakes, and three major landscapes."

Relying on the existing conditions, scenic spots, lakes, landscape blocks and characteristic towns,

comprehensively build competitive sports tourism products. A series of high-level and high-quality mass sports events such as triathlons, mountain outdoor development games, and mountain marathons will promote the employment of local residents, attract a large number of tourists to participate, and better drive the development of related industries. Long-term employment of professional sports competition companies to plan and package events with regional advantages and independent IP. Establish and improve the rules and regulations for mass sports events, and actively encourage social forces such as enterprises, institutions, government agencies and groups to participate in local mass sports events in a variety of forms, such as party members' learning activities, to expand their influence, so as to create a local brand of sports events .

(3) Make use of the unique geographical advantages and climate characteristics to build leisure, vacation and sports tourism products.

The Red River Valley of Taihang Mountain is located at the junction of Shanxi, Hebei, Shandong and Henan, and has unique geographical location and climate characteristics. The four seasons are distinct throughout the year, the climate is cool in summer and snowy in winter. Taking advantage of the existing local conditions, we will actively expand leisure and vacation tourism and develop a large number of distinctive sports tourism products. Make use of RV camping bases, Chi'an Village holiday tourist area, farmhouse leisure activity center, etc., to highlight the local location advantages, and at the same time, it is necessary to improve the service quality of the scenic spot so that a large number of tourists can linger and forget to return. Relying on the pension industry and institutions, the region can establish a high-quality retirement resort, attracting retired cadres and workers, business groups, and individuals to the region for leisure and entertainment, promoting employment of local residents and increasing local economic income.

(4) Build fitness, entertainment, sports and tourism products around the 42-kilometer landscape corridor of Taihang Red River Valley.

Around the 42-kilometer landscape corridor of Taihang Red River Valley, a multi-level and all-round sports tourism product will be built in an all-round way. A number of mass sports events such as mountain marathon, mountain outdoor challenge, rock climbing competition, outward bound training competition, hiking conference, etc., attract people of all ages and different groups to participate, and create global sports tourism products and sports events. It is also possible to organize and plan different types and themes of sports events by season and age group, increase incentive mechanisms and bonuses, and encourage more people to participate. Secondly, it is necessary to establish more supporting facilities, such as toilets, commodity supply stations, medical points and other supporting facilities, to ensure that emergencies can be effectively resolved, and to improve the experience and satisfaction of tourists.

(5) Around the "one axis, one ring, four highlands, and multi-node tourism spatial pattern, build outdoor expansion and extreme sports tourism products.

Make use of the local special space layout and structure to establish a batch of extreme and expanded outdoor sports tourism products, such as paragliding, skydiving, bungee jumping, alpine swings, rafting, hot air balloons and other high-end sports tourism products. Establish a high-end sports tourism product club to attract a large number of high-end tourists from inside and outside the province and even at home and abroad, extend the service chain, and improve service quality. It is also possible to establish a high-end sports training base, so that the majority of young people and children can experience the fun of leisure sports.

(6) Construct a new product model of six sports tourism categories and online and offline hybrid development model.

Use different tourism product categories to build a new product model for diversified online and offline hybrid development, such as using various online platforms to reserve venues and coaches, online viewing, and offline experience. It is possible to visit the whole picture of the scenic spot without leaving home, and introduce a better offline experience. Every scenic spot and every scenic spot must have full coverage of the QR code, and a series of online services such as voice broadcast and online interactive question and answer can be easily realized by scanning WeChat on the mobile phone, so as to comprehensively improve the level of online service.

4. Practical difficulties in the development of sports tourism products in the region

4.1. Lack of talent

Taihang Red River Valley Scenic Spot is located in the west of Handan City, Hebei Province, and the annual city GDP ranks fourth in Hebei Province. The local area is located in a mountainous terrain, rugged and winding, with beautiful scenery, but it is not easy to farm. The local population is small, employment opportunities are limited, and there is a serious lack of high-end talents. In particular, there is a serious shortage of talents who understand the operation of scenic spots, event management, and the organization and planning of mass sports activities. Although the local government has attracted a large number of powerful scenic spot companies to settle in, the product of the entire scenic spot is single and the service quality is relatively backward. Talents are the key to the diversification and all-round development of sports products in this region. The local government should do everything possible to attract a large number of high-end talents in sports, management and education to work in the local area for a long time and concentrate on research. It is believed that in the near future, sports tourism in this area will experience a blowout development.

4.2. Marketing is backward

The backwardness of sports product marketing is also a real dilemma that restricts the development of sports tourism products in this region. In recent years, the country has vigorously implemented the Beijing-Tianjin-Hebei national strategy, attracting a large number of universities and enterprises from Beijing and Tianjin to settle in Hebei. Handan City is located at the southernmost tip of the Beijing-Tianjin-Hebei region, how to attract a large number of tourists has become an urgent problem to be solved. At present, the marketing of scenic spots in this area mainly relies on selling tickets. This method is relatively traditional and cannot attract more tourists. We can use online media, news reports, celebrity endorsements, online and offline combined multi-dimensional and three-dimensional marketing measures to let more people know about Hebei, Handan, and the Red River Valley Scenic Spot of Taihang Mountain. Only in this way can more foreign tourists be attracted.

4.3. Insufficient development efforts

The Red River Valley of Taihang Mountain has been developed and supported by the state and local governments, mainly relying on a series of traditional scenic spots such as the former site of the 129th Division Headquarters and the Wahuang Scenic Spot. The development of high-quality modern sports tourism products in the new era is insufficient, the products are relatively single, and there is a lack of independent sports tourism product IP. At present, the sports tourism products of scenic spots mainly stay in the sightseeing and leisure type, lack of in-depth sports tourism and sports event tourism products, which directly leads to the similarity of sports leisure sports products and lack of regional characteristics. On the basis of building roads and bridges to complete supporting facilities and highlighting red tourism, we should vigorously develop a series of leisure and sports tourism products such as experiential leisure and vacation, event experience, sightseeing and sightseeing, so as to drive the participation rate of tourists in surrounding areas.

4.4. The product quality is not high

The products in this area mainly stay in sports tourism products of ornamental type and leisure vacation experience, and the local supporting facilities and service level are relatively lagging behind, and the regional environmental information is relatively lagging and asymmetrical, which is comparable to other sports tourism products at the same level at home and abroad. It's far from the base. We should actively rely on local characteristics, while building products in an all-round way, we should comprehensively improve product service quality, ensure that tourists truly experience the service enthusiasm of the region, increase in-depth product research and development, and increase the rate of return of tourists.

5. Conclusion

This research is to implement the scientific concept of "lucid waters and lush mountains are golden

mountains and silver mountains". Taking development as an opportunity to expand the tourism market" is based on the principle of supplying high-quality sports tourism products, guided by market demand, with red spiritual culture as the connotation, and sports elements as the integration texture, to create an all-round comprehensive service covering all seasons and all seasons. Sports tourism characteristic products for people of all ages. Based in Handan, radiating from Shanxi, Hebei, Shandong and Henan, and serving domestic and foreign tourists, there are six characteristic sports tourism products of sightseeing type, competition type, leisure vacation type, fitness and entertainment type, outdoor expansion type and extreme type. In combination with the current epidemic situation, explore the use of virtual simulation and other technical means to build VR online vision and virtual touch products, and comprehensively build an online and offline sports tourism product research and development model.

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Author Contributions

Wrote the literature review and checked the article, Gao.YK, Ren Y; collected data, processed empirical data, presented empirical results, wrote the main part of the paper and proposed research conclusions, Gao.YK, Ren Y. All of the authors read and agreed to the published the final manuscript.

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Research on Physical Fitness Training of Youth Basketball Players

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Abstract: With the successive holding of basketball competitions at home and abroad, basketball has become one of the most popular sports for young people. As the main reserve force for professional basketball teams and national teams, young basketball players are the core and key to the sustainable development of basketball. Especially under the current high intensity and short interval competition intensity, the physical fitness and physical fitness of young basketball players become a powerful guarantee for competitive performance. In view of this, on the basis of literature research, combined with the characteristics of physical and mental development of young people, this paper discusses the significance of physical fitness training for basketball players at this age, and further analyzes the problems in this process, aiming to provide reference and help for the improvement of physical fitness level of young basketball players.

Keywords: youth; basketball players; physical training

1. Introduction

In the basketball game of the new century, the constant changes in the rules of the game and the increasingly fierce offensive and defensive confrontation have led to the development of a single physical confrontation in the basketball game into a comprehensive battle of strength, speed and endurance of the players. Physical fitness is not only the basis of basketball technical movements and tactical cooperation, but also the guarantee of giving full play to the training effect, especially for young athletes whose bodies are developing, their physical fitness and other basic quality becomes a direct factor influencing the use of techniques and tactics in future games [1,2]. However, at present, physical training has not received enough attention in basketball programs, and there are still unreasonable and unscientific concepts of physical training for youth basketball players. The sustainable development of basketball cannot be achieved without the optimal supplementation of youth reserves, so it is crucial to improve the physical fitness of youth basketball players effectively. Based on this, this paper explores the misconceptions in combining the actual training situation of youth basketball players and explores suitable physical training countermeasures to provide reference for cultivating more high-quality youth basketball players.

2. Overview of the connotation of basketball physical training

Physical training is a way and method for athletes to improve their physical quality through continuous practice, and it is also an efficient form for them to strengthen their physical functions. Scholars Huang Bin and Jia Simin pointed out in "Exploration of Physical Fitness Training Theory" that "the connotation of physical

fitness training should be the training of the human body system to improve the ability to walk, run, jump and throw [3]. Physical training has its systematic characteristics, that is, the overall and comprehensive nature of training. Physical fitness training should be combined with the characteristics of sports and human body system, through multidisciplinary support, cross-disciplinary, and learn from the integration of other fields of excellence and advanced experience, targeted on physical fitness training in the human motor system bone, joint, muscle and sports assistance system, the process of sports training of the large system of excellence." By sorting out and summarizing the views of existing studies, the author believes that basketball physical training aims to intervene and influence the athletes' bodies with the use of diversified means and methods, and then improve their sports level and special skills, specifically including a series of trainings on strength, speed, endurance, agility, flexibility and coordination, etc., which are further divided into general physical training and special physical training according to the standards and requirements of basketball programs. According to the standards and requirements of the basketball program, it is further divided into two forms: general physical training and special physical training.

3. The importance of physical training for youth basketball players

3.1. Promote physical health

Youths are in their prime physical development period, and maintaining a healthy physical condition is necessary for daily training and key games. From the perspective of biological composition, physical training aims to stimulate the body functions of athletes in many aspects during the training process, and certain exercise loads wake up the major muscle groups of the athletes' bodies, so that the body makes timely changes. The combination of aerobic training and anaerobic training can not only improve the function of skeletal, muscular and ligament organs, but also improve the function of respiratory system and cardiovascular system, which can improve the body's resistance to diseases to a certain extent and promote the healthy development of youth basketball players, thus extending their sports life [4,5].

3.2. Strengthen the special quality

Basketball game with the development of the trend, its game intensity is also increasing, the athletes can only adapt to the high intensity confrontation of the competitive game under the all-round development of strength, agility, endurance, speed, bouncing and other special qualities. Youth is not only in the golden stage of physical development, but also a sensitive period for the development of special qualities, the implementation of systematic and continuous "gram weight" load stimulation for youth basketball players during this period, so as to constantly improve and update the body functions of athletes, comprehensively strengthen the level of strength of youth basketball players, improve speed and endurance qualities, and make flexibility and coordination ability to be improved. The systematic and scientific physical training is an effective way to optimize the ability of the body function system, and is a powerful measure to improve their comprehensive sports ability [6].

3.3. Improve competitive performance

Adequate physical reserve is the basis for basketball players to withstand high load and high intensity training and competition, while a certain degree of sports load training is also the fundamental motivation to improve competitive performance, in a stable competitive state team skills and tactics to play efficiently. Youth basketball players are at the peak of physical development, physical training as the basic project of basketball should be paid more attention in this age group of athletes[7]. Excellent physical fitness level makes youth athletes always have the strength and speed to capture the favorable timing and favorable position, get rid of the defense and steal, so as to complete the transition of offense and defense and shoot and score, and achieve a steady improvement of competitive performance.

3.4. Mastering complex and advanced techniques

Physical training is a prerequisite for efficient execution of tactics and a key to fill the shortage of one's own skills, and it can be said that without the guarantee of physical fitness, one cannot play the advantages of techniques and tactics. The essential purpose of physical training is to use effective methods and means to

improve the coordinated development of the whole body organs and functional systems of athletes, so that they have excellent special sports competition ability. Modern basketball has a unique charm due to the difficult requirements of technical movements under the fierce confrontation and the mutual constraints on the choice of strategies in the ever-changing arena, which have different requirements on the technical ability, tactical cooperation and psychological state of the athlete's organism, such as the strong desire to attack under the position offense is supported by outstandingly skillful technical movements and flexible attacking means; stealing Fast break process requires athletes through their own rapid movement, outstanding explosive power and good coordination of the comprehensive use of the field to form more than one attack situation. Overall, the only way for youth basketball players to fully develop their athletic qualities is through systematic and scientific physical training in order to strengthen the level of strength, improve the quality of speed and endurance, and then master the complex and advanced technology and tactics [8,9].

4. Prevention of sports injuries

Nowadays, more and more athletes can't play the proper level of competition due to the torture of injury and disease, and there are even serious sports injuries, so that professional athletes at their peak have no more sports opportunities, and their careers fall to the bottom in a flash, which shows that injury and disease is a huge hidden danger in the athletes' sports career. Youth are in an important stage of physical development, their muscles and bones have not yet developed, in the intense daily training and competition, it is more necessary to strengthen their joint control, stability and flexibility through physical training, in order to avoid causing muscle, joint, ligament and other injuries, always guarantee the youth athletes a high level of competitive status, to extend their sports career.

5. Problems in physical fitness training of youth basketball players

5.1. Lack of correct understanding and advanced concept of physical fitness training

For a long time, China's solidified concept of emphasizing skills but not physical fitness has put the type of physical fitness-oriented projects in competitive sports at a disadvantage. In basketball, the fast rhythm of offense and defense and strong physical confrontation make it a comprehensive project combining technology and physical fitness, so the physical fitness quality of young athletes has high requirements. However, nowadays, most coaches think that technical and tactical training can completely replace physical training, and even think that technical and tactical training includes the content of quality training, and there is no need to conduct special physical exercises, so physical training has been covered by wrong concepts, and it is difficult to guarantee the strength endurance and basic strength of young athletes. In addition, due to the backwardness of the training concept, some coaches pay too much attention to the physical fitness of athletes, and separate physical fitness training from technical and tactical training, without organically integrating the two, and the effect of physical fitness training under the lack of scientific system planning is not satisfactory [10].

5.2. Lack of systemic physical training plan

Long-term systematic, scientific and reasonable physical training is a necessary guarantee for the improvement of athletes' quality and endurance, but in the physical training of youth basketball players, their growth and development speed is fast, and most coaches make training plans and arrangements only based on their own years of coaching experience or training experience, without following the objective law of youth physical and mental development, and lacking in-depth analysis of their athletic ability. Due to the lack of theoretical knowledge of coaches, there is a certain degree of blindness in the training plan, and the lack of precision in the training process and the disconnection between the front and back practice contents lead to the poor overall training effect. The long-term and stage-specific characteristics of physical training require coaches to formulate training plans according to the actual situation of each athlete and implement the principles of gradual and individualized training in order to improve the physical quality of each athlete accordingly.

5.3. Single physical training method and means

The means and methods of practice in basketball physical training in China are the main factors affecting its training effect. The training means clearly delineate the stimulated body parts, and the training methods directly

determine the trained effect of the body parts. At present, the physical training methods and means of youth basketball players have blindness and singularity, such as in endurance training simply through long runs, interval running, etc.; strength training to overcome their own weight push-ups, barbell and other resistance exercises; speed training only focus on movement and displacement speed, but ignore the speed of endurance under high-intensity confrontation, a single, boring and non-targeted training not only make The single, boring and untargeted training not only makes it difficult to improve the physical quality of young people, but also gradually generates negative resistance to physical training, so the training effect can be imagined.

5.4. Inadequate monitoring and management of physical training

The purpose of physical training is to have a good physical quality in order to win the game with a high level of competition, the data in the training process can make the most accurate interpretation of the physical function of young athletes, according to the changes in the data on the training plan and training intensity to make appropriate adjustments to achieve twice the result with half the effort. However, the current monitoring of youth physical training by basketball coaches is only based on the subjective feelings of each athlete, and often focuses on the content and quantity of physical training, without quantitative analysis of the practice effect under the data, which makes it difficult to effectively solve the existing problems in the physical training process without data support, and even more impossible to adjust the training program in time, resulting in a significant reduction of the training effect.

5.5. Unreasonable structure configuration of the coaching team

As early as Yao Ming's post-game interview in the NBA, he pointed out that "domestic teams do not have physical trainers, which is the biggest problem, coaches have to manage everything, and the lack of manpower makes it difficult to carry out special exercises". Excellent coaching team consists of technical and tactical coaches, physical trainers, nutritional rehabilitators and other related personnel. In the process of team training development, a clear division of labor and reasonable training can improve the athletic level of athletes, and the efficient cooperation and scientific guidance of coaching team members are the keys to improve the team's competition performance. However, nowadays, most teams are still not equipped with professional physical trainers, especially in the youth basketball training, physical training and technical and tactical training are the responsibility of the head coach, and for the head coach with rich technical and tactical experience, the theoretical system in physical fitness is relatively lacking, and the phenomenon of replacing physical training with technical and tactical practice is common, and the physical training for youth physical and mental development rules is even less. In this case, the improvement of the comprehensive competitive level of youth basketball players is hindered to some extent.

6. Optimization measures of physical fitness training for youth basketball players

6.1. Innovation of physical training concept and cognition

In basketball physical training, the coaches' attention to the athletes' physical fitness and their cognitive concepts always affect the practice effect, and an up-to-date teaching concept and systematic and comprehensive cognitive level have a crucial role in promoting the training process. On the one hand, coaches should correctly grasp the winning rules of basketball at the youth level and fully understand the practical role and important position of good strength, endurance, coordination and flexibility in the basketball competition. On the other hand, they should change the training concept of emphasizing technology rather than physical fitness, actively study theoretical knowledge and training methods of physical fitness training, differentiate special training for athletes based on modern training concepts, and realize the mutual integration and promotion of physical fitness and technical and tactical training by using diversified practice methods from the practical point of view, so that athletes can always maintain good competitive status.

6.2. Develop a systematic and scientific physical training plan

The physical fitness training plan is the key to ensure the overall training process is scientific and rational. The physical condition and athletic ability of young people are different, and their adaptability in training will also be different, so before the plan is made, we should fully understand the actual physical condition of young

athletes, analyze their athletic advantages and shortcomings, and design training goals that match the different abilities and levels of athletes. In the process of physical training, adhere to the principles of system and science, from shallow to deep reasonable planning, through timely adjustment, improve the training plan to solve the problem of irregularities in the technical movements of athletes, for the characteristics of sports teams to form a characteristic training program, to achieve the physical exercise content, methods, means and sports load and other aspects of the plan of the stages, hierarchy, to ensure the overall improvement of the special physical quality of young athletes. 4.3 Enrich physical training methods

6.3. Enrich physical training methods

For young athletes, daily basketball training itself is a difficult process, especially physical training, extremely easy to produce fatigue, which to a certain extent will affect the athletes training enthusiasm. In this regard, the use of diverse physical training methods based on the optimization of basketball training moderate is particularly important. Due to the nature of youth to pursue novelty and excitement, old and single physical training methods are difficult to stimulate their interest in practice, so coaches in training means and methods, according to the interests of young people to carry out a variety of targeted training, such as beach running, jumping, or cross-country running. At the same time, they should improve the athletes' correct understanding of physical fitness and motivate them to practice independently through the confrontation exercises under competitive games.

6.4. Improve physical fitness testing and evaluation system

In the training process, perfect physical fitness training evaluation and testing is an effective way to understand the competitive state of youth basketball players' training. In different scenarios, coaches observe and record the youth athletes in training, such as running position, strength and speed, passing timing, stealing and ball acquisition methods, etc., and use statistical data for comparison and analysis to clarify the actual physical fitness training effect of youth basketball players, and make targeted training plan adjustment and improvement under digital detection. In addition, according to the athletes' competitive performance to give the corresponding evaluation, from the multi-element evaluation to form an evaluation system that can be tracked for a long time, to help the coaching team to analyze the existing problems, health risks, improve the details of physical training, optimize the overall training program, and promote the long and stable improvement of the training level.

6.5. Strengthening the construction of coaching staff

A basketball training team in a high level of competitive status cannot be separated from the leadership and guidance of an excellent coaching team, and the status and role of professional physical fitness coaches in their teams is irreplaceable. The state and the government should pay attention to the construction of the coaching team in youth basketball training, increase the introduction and training of professional physical coaches, and constantly carry out training for theoretical knowledge of physical fitness, so that they have rich practical experience and advanced theoretical level, and lay the foundation for the teaching of physical fitness training for youth. In addition, to establish the inspection and evaluation system of youth basketball physical trainers, through the reward and punishment mechanism to urge them to continuously learn advanced knowledge and keep abreast of the times, so as to continuously improve their special business level.

7. Conclusion

The comprehensive and competitive nature of basketball requires high physical fitness, technique and speed, and only by maintaining sufficient physical fitness can we show excellent performance in the game, achieve effective tactical cooperation and finally win the game. At the present stage, the development of athletes' physical training should be increasingly scientific and modernized, and the physical training for youth basketball players should continuously strengthen the construction of the coaching team, innovate the training concept of coaches, enrich the practice methods under the systematic training plan, and discover the problems through the scientific physical fitness testing and evaluation system to adjust and improve the training, so as to improve the physical training effect of youth basketball players, and to develop more physical fitness for our country and basketball career. To improve the physical training effect of youth basketball players and cultivate more

excellent reserve force for our country and basketball career.

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Exploration on the Significance and Implementation Strategies of Enhancing Physical Exercise in Cultivating the Struggle Spirit of College Students from the Perspective of Sports-education Integration

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Abstract: 2021 is the first year of China's "14th Five-Year Plan", and it is also the year of striving for the great rejuvenation of the Chinese nation. With the development of current society and technology, series of practical problems such as home isolation, campus closure, and online teaching have gradually emerged, which has led to a serious lack of sports for college students at school, unable to relax their physical and mental development, and gradually reducing their physical and mental health. The cultivation and forging of quality and character will. Therefore, in this critical period, how to cultivate qualified successors is particularly important. This article takes firm ideals and beliefs as the core, strengthens physical exercise and strengthens setback education as the starting point, elaborates in detail the requirements of the times for contemporary college students to cultivate the spirit of struggle, analyzes the significance of cultivating the spirit of struggle for contemporary college students, and concludes that the cultivation of the spirit of struggle is not only a practical Practicing the important spirit of "four self-confidence" and realizing the specific requirements of the great rejuvenation of the Chinese nation is also an important method for the implementation of " integration of sports and education " in colleges and universities, and is closely related to the development of contemporary college students.

Keywords: ideals and beliefs; physical exercise; fighting spirit; integration of sports and education

1. The significance of ideals and beliefs in current college education

Ideals and beliefs are the spiritual activities of people as individuals, and at the same time one of the realistic foundations for personal development, and they are a whole of the unity of opposites [1]. Without lofty ideals and beliefs, it is impossible to realize the sustainable development of human beings, but ignoring the characteristics of individuals will become unrealistic empty talk. Today's international situation is turbulent, and the external environment is complicated. As the successors of socialism, college students, when faced with the impact of current concepts that are difficult to distinguish between true and false, usually because they lack practical experience and do not have sufficient ability to distinguish right from wrong, thus easily Affected by related bad motives and forces with ulterior motives, it will lead to confusion and decadence, and lose the drive and motivation to work hard. Ideals and beliefs are inevitable products of social development, and they cannot be created out of thin air. For college students whose minds are not fully mature, if they are allowed to spontaneously establish ideals and beliefs, it is very likely that they will be affected by the environment and form

unscientific ideals and beliefs. As the main positions for cultivating people through morality, colleges and universities must shoulder firm ideals and beliefs, and clarify the training tasks with plans, goals, organizations, and scientific basis, so as to achieve the goal of cultivating people through morality.

For the views and understanding of the issue of adhering to correct ideals and beliefs, one can learn and research from General Secretary Xi Jinping 's expositions on various public occasions. For example, at the 2018 National Education Conference , the General Secretary emphasized in his speech that it is necessary to "work hard on ideals and beliefs" and to "educate and guide students to establish the lofty ideals of communism and the common ideals of socialism with Chinese characteristics, thereby enhancing students' Chinese characteristics. Self-confidence in the socialist road, theory, system, and culture, and determination to shoulder the important task of the era of national rejuvenation . " At the meeting commemorating the 100th anniversary of the May 4th Movement in 2019 , the general secretary requested that "Chinese youth in the new era should establish lofty ideals. Only young people have lofty ideals, firm beliefs, lofty aspirations, and great ambitions. In order to better realize the value of life . " In 2021 , Xi Jinping emphasized in his inspection speech celebrating the 110th anniversary of the founding of Tsinghua University that : "The majority of young people should shoulder the historical mission, strengthen their confidence in moving forward, set up great ambitions, be virtuous, become great talents, take on great responsibilities, and strive to become worthy of the nation. The newcomers of the era who are rejuvenating the heavy responsibility, let the youth bloom brilliantly in the unremitting struggle for the motherland, the nation, the people, and mankind . " It can be seen that ideals and beliefs are the necessary support and important requirements for the growth and success of contemporary youth. Every contemporary college student must always study and make continuous progress in life.

2. The requirements of the times for the cultivation of the struggle spirit of contemporary college students

2021 is the first year of my country's " 14th Five-Year Plan" and the year of victory in building a well-off society in an all-round way. At present, our country is undergoing major changes unseen in a century . The main force and successors of building a modern socialist country in an all-round way and realizing the two centenary goals should actively devote themselves to the cause of contribution, so that youth will have no regrets and enthusiasm [2]; Encourage them to be the first to be the first and fight bravely. At the same time, they should comprehensively and timely understand the difficulties and challenges they will face in the process of progress , guide them to face setbacks correctly, and effectively relieve pressure. Reasonable catharsis and adjustment can keep them healthy and active physically and mentally, and they can cope with challenges and pressures in the future, so that they can face new life issues in the future with more sunshine and confidence, and take every step of life steadily. Therefore, cultivating the hard -working spirit of contemporary college students and strengthening their setback education and anti-stress qualities are the natural meaning of the integration of ideological and political courses, sports and education in colleges and universities . This is not only out of the responsibility for the sacred mission of teaching and educating people, but also the specific trust given to contemporary college students by the times.

The composition of contemporary college students is mainly " post- 00s ", accompanied by a small number of "post-90s". Therefore, this paper mainly analyzes and studies "post- 00s " as the main structure. Born in China's economic boom after the reform and opening up, science and technology, information technology, and material life were greatly developed. " Post- 00 " students have many titles, such as "the only second generation", "network aborigines", "millennial babies", etc. . Therefore, they themselves have a very unique imprint of the times. The main characteristics are: strong self-awareness, distinctive personality, quick acceptance of new things, relatively independent life, etc., which will be analyzed in detail below.

2.1. Main characteristics of contemporary college students

2.1.1. Strong self-awareness and relatively independent life

00s " who have entered colleges and universities since 2018 have benefited from China 's economic take-off and the gradual improvement of its international status since 2000. They have a better and richer living environment than previous college students, and no longer need to pay attention to material goods. There are too

many worries. At the same time, the improvement of national status also makes this generation of students lack the perception and understanding of the international environment, so the development of self-awareness is more rapid. At the same time, the development of technologies such as scientific information has also allowed them to form a more closed and independent life style . This kind of independence in life does not refer to the qualitative improvement of people's activity and processing ability, but is passively caused by the development of the technological age, changes in family structure and division of labor, and the advancement of educational resources and the environment [3]. In daily life, all the affairs of college students can be initiated and completed through the network platform. This phenomenon has become the most important part of daily life. It seems that they have "independence" among individuals, but in fact they have lost their team spirit , Cultivation and promotion of cooperation awareness.

2.1.2. Higher acceptance of new things

Different from the past, at the beginning of the birth of contemporary college students, my country's network information technology has been greatly developed, and various trendy things are updated rapidly, and the great convenience of the Internet also allows them to have more means of contacting the outside world [4]. In the process of contacting and absorbing this information, their acceptance of new things has been greatly improved, and at the same time, their worldview structure has become more complex and diverse.

2.1.3. Distinct personality

Thanks to the richness of the information environment, contemporary college students can obtain various information more easily in the mature stage, which has had a great impact on the formation of their personalities. A distinctive personality that likes to choose independently and does not want to be arranged [5].

2.2. *Analysis of the reasons why contemporary college students lack education in the spirit of struggle*

This paper believes that contemporary college students lack motivation in the process of inheriting and carrying forward the spirit of struggle , and the main reasons for the little achievement are the influence of negative social factors, insufficient training in colleges and universities, and insufficient motivation for their own struggle.

Especially in terms of the cultivation of colleges and universities, in the daily teaching work , through investigation and research , it is found that there are mainly the following aspects that can be attributed to the lack of struggle spirit education for contemporary college students : First, the content of teaching materials is old-fashioned, and the induction is relatively vague. Knowledge such as wind and arduous journeys are associated with the education of the spirit of struggle, which is divorced from the reality of the current living standard, leading to a one-sided understanding of the spirit of struggle among contemporary college students. Secondly, our country is now in the era of all media. The self-media is developing rapidly, and it is extremely convenient for receiving, sending out, and commenting on information. As a result, information on the Internet has brought a strong impact on college students whose world outlook, outlook on life, and values have not yet stabilized. Loss of independent judgment, the ability to think correctly .

3. **Physical exercise is an effective way to cultivate the spirit of struggle**

The spirit of struggle is the excellent quality of our party to lead the Chinese nation to victory and achieve prosperity and strength. In recent years, the party and the state have attached great importance to the cultivation of young people, and have taken the integration of sports and education as an important policy of college education, actively advocated that students should establish a Marxist world outlook, outlook on life, and values in education, and cultivate qualified socialist successors [6]. Frustration education is an effective way to stimulate students' fighting spirit in the process of continuously tempering students' ability to resist pressure. This article will discuss how to combine physical exercise and setback education to finally cultivate students' fighting spirit from three aspects.

3.1. *Physical exercise is the basic step of frustration education*

"What is learned on paper is always superficial, but what you know must be practiced." At present, in the

process of frustration education for students in colleges and universities, theoretical lectures and case studies are mostly used as the main teaching content. The frustration capacity reflected in their actual experience cannot be classified as an equal sign to a certain extent. The best and fastest way for students to walk out of the classroom and experience frustration education is to actively arrange certain content of frustration education during physical exercise, so that students can intuitively feel the setbacks they will experience in the process of approaching and achieving goals during physical exercise consciousness [7]. For example, according to the actual physical condition of the students, set a slightly more difficult physical exercise goal, so that the students can experience the limits and challenges of physical ability in the process of reaching the goal; another example, by setting up group confrontation, guide the students in the embodiment of scoring wins and losses. Correctly view failure and success, victory and regret, these are the educational content and methods to intuitively understand the frustration consciousness, and it is the specific practice of effective frustration education through physical exercise.

3.2. Enhancing physical exercise is the main way to realize frustration education

Cai Yuanpei, a great educator in our country, said: "Perfect personality lies first in sports." For many years, the slogan "Developing sports and enhancing people's physique" has been deeply rooted in the hearts of the people. "If you want to be civilized, you must first be barbaric in your body. If you want to be barbaric in your body, then the spirit of civilization will follow." This is also the proper meaning of today's "integration of sports and education". Adding frustration education to cultivate the body and mind in the physical exercise of contemporary college students can not only enable students to exercise efficiently, but also precisely exercise and improve their spirit, will, and emotions. The relationship between the two should be that there is me in you, and you in me, influencing each other and spiraling up to form a unified and complete whole.

3.3. Enrich the content of physical education with setback education as the material

In the face of setbacks, many people will not be able to bear the impact of setbacks because of their strong sense of frustration and contrast. This is not only because of the intensity of the setback itself, the core reason is how students understand setbacks and evaluate themselves [8]. Therefore, through continuous frustration education, it will have an impact on the development of students' thoughts, concepts, and understanding, and let students gradually establish a correct and positive awareness of frustration. The ultimate goal is to cultivate students to establish a scientific outlook on life and values, and on this basis to promote the development of college students' physical and mental health, and finally realize the all-round development of morality, intelligence, physical education, art and labor, and achieve the ultimate goal of the integration of sports and education.

4. The specific application of frustration education in the cultivation of the spirit of struggle

4.1. Setback education enriches the method of fighting spirit education

ultimate goal of conducting frustration education among contemporary college students is to cultivate students with a good fighting spirit. There are mainly two ways of frustration education that can be implemented [9]. The first is emotional counseling. When faced with negative emotions, students should be guided to face up to the current state, not to escape, let alone ignore, otherwise, when the negative emotions cannot be relieved in time, corresponding negative behaviors will occur, which may cause irreparable consequences, thus Affect the prospects and future of young students. Therefore, it is particularly important to correctly and effectively reduce or eliminate the influence of negative emotions and avoid corresponding negative behaviors. Applying the emotional counseling method to the cultivation of the spirit of struggle can allow students to quickly evaluate and counsel when setbacks occur, so as to regain confidence and continue to struggle. The second is psychological counseling. Timely and scientific psychological counseling can effectively solve the practical difficulties encountered by students, so that they can form better adaptability and enhance their sense of struggle.

4.2. Enhance the awareness of struggle through setback education

The main content of setbacks is the interference and difficulties encountered when achieving a certain goal. How to face setbacks and how to act to deal with setbacks determines whether a person can truly succeed, but this ability is not innate. It needs continuous experience and learning to continuously improve. General Secretary Xi emphasized at the 2016 National Conference on Ideological and Political Work in Colleges and Universities: "It is necessary to help students temper their strong will and character, cultivate the enterprising spirit of striving to be the first, and practice the spirit of not being afraid of failure. Psychological quality, maintain an optimistic attitude towards life, and dare to face all kinds of difficulties and setbacks." It is also an earnest hope for college students and educators.

4.3. Form the spirit of independent struggle through setback education

"The spirit of self-struggle is a kind of introspection and sublimation from the heart. It is a responsibility and attitude towards a certain state of oneself. It is a kind of belief, a concept, and it is the sustenance and intellectual support of the soul. Thinking and exploring from multiple perspectives and multiple dimensions to make their behavior more practical and valuable. Contemporary college students are the new force and fresh blood of socialist construction, and they are also a vital force for the great rejuvenation of the Chinese nation." Therefore, it is even more necessary to continuously temper students' spiritual will and ideological quality through setback teaching, so that they can correctly understand the spirit of struggle and form a sense of self-struggle.

2018, General Secretary Xi Jinping pointed out that the great spirit of creativity, struggle, unity, and dreams profoundly explains the great spirit of the Chinese nation. In the process of building a well-off society in an all-round way in our country, realizing common prosperity, and realizing the great rejuvenation of the Chinese nation, the spirit of struggle will surely become an important spiritual pillar. Contemporary college students shoulder the heavy burden of the future of the motherland, and even shoulder the heavy responsibility of national rejuvenation, so they must inherit and carry forward the fine quality of fighting spirit.

To sum up, in the post-epidemic era, under the background of the integration of sports and education, by strengthening physical exercise, we can actively guide contemporary college students to establish a correct outlook on life and values, so that they can quickly and effectively regain confidence in the face of setbacks, and learn to learn through perseverance. It is an inevitable requirement and an important measure to cultivate qualified socialist builders and successors through the struggle to obtain happiness.

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The Development of Golf in Shanghai: Present Situation, Problems and Implementation Path

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Abstract: Into the new era, to explore the development of golf in Shanghai, the existing problems and countermeasures. Around the development of golf in the three aspects of the theoretical issues, namely, how the development of golf in Shanghai, what are the remaining problems, how to achieve the development of golf. On the basis of current research, this paper analyzes the rules and reference paths of the positive interaction between golf and Shanghai's urban development, so as to provide theoretical guidance and decision-making reference for the healthy development of golf in Shanghai. The research shows that: (1) there are a large number of potential golf consumers in Shanghai, and golf course construction, education and training and event operation are relatively mature. However, in terms of market fit, continuous exploration is still needed to achieve standardization, scale and collaboration development; (2) Compared with the status quo of golf development in the United States, the remaining problems in the development of golf in Shanghai mainly revolve around four aspects: population, courses, education and training and events; (3) The implementation path of the high-quality development of golf in Shanghai includes clarifying the value orientation of golf and pursuing the unity of three-dimensional interests; The implementation of golf industry autonomy and legislation, strict market access mechanism; Existing golf events to do fine and strong, the competition that has not been launched should be introduced and innovated; Develop the whole population golf education, standardize the whole process of education system.

Keywords: shanghai nunicipality; golf; world famous sports city; the status quo; countermeasures for development

1. Introduction

At the beginning of the 20th century, the British first brought golf consumption into the lives of the people of Shanghai. In 1990, Shanghai International Country Golf Club was established. After more than 20 years of construction, the development of golf industry in Shanghai has been leading the Yangtze River Delta region [1]. Due to the high development of economy, Shanghai Sports Bureau has put forward more stringent requirements for the development of golf in the whole city. In 2017, the Shanghai Sports Bureau proposed in its proposal that, in addition to the development of China's Olympic advantageous sports, Shanghai should also focus on the development of tennis, golf, sailing and other sports that are suitable for the international metropolis and match with the world famous sports cities [2]. As of November 2022, according to incomplete statistics by Shanghai Golf Association (hereinafter referred to as "Shanghai Golf Association") and the author, there are now 21 official golf courses (including 4 9-hole courses, 11 18-hole courses, 2 27-hole courses and 4 36-hole courses) and 12 driving ranges in Shanghai. Therefore, how to expand the population of golf in Shanghai, standardize the

development of golf courses, and promote the development of golf to match the development process of Shanghai city, we need to learn from the development characteristics of the world's famous sports cities to a certain extent, implement the requirements of the "14th Five-Year Plan" of sports development in Shanghai, and further explore the law and reference path in line with the localization development of Shanghai. To promote the positive interaction between golf and the urban development of Shanghai.

2. Development status of golf in Shanghai

2.1. Golf consumer group

Golf is a competitive sport for the whole population. It has the characteristics of wide age coverage, profound ethical and moral system, and close connection with nature. According to the census data, Shanghai is a metropolis with 24,870,895 permanent residents and 10,479,652 permanent residents from other provinces and cities. The number of potential consumers is huge. The core consumers of Shanghai Golf include Friends of Earth, Friends of Outer Earth and course members. According to Zhang Yi's statistics on the consumer group of Shanghai golf club, from the perspective of consumer gender, the proportion of male consumers is 74.6% higher than that of female consumers, indicating a gender imbalance among participants. The professional groups of golf consumers are mainly private business owners and corporate executives; Consumers with annual income of 500,000 to 1 million accounted for 32.46% of the total sample (Table 1) [1]. With its typical circle marketing, golf constantly drives people with similar family pedigree, educational background and economic conditions to participate in the golf circle where golf is the main hobby.

Table 1. Golf club consumer income

Annual income (10000 rmb/year)	Frequency	Percentage
<10	13	16.89
10-20	10	12.99
20-50	19	24.67
50-100	25	32.46
100-500	7	9.09
>500	3	3.90
Totally	77	100

2.2. The golf course

2.2.1. Formal golf course and driving range

The number of holes is an important index to measure the size of a formal golf course [3]. At present, according to the incomplete statistics of the Shanghai Golf Association and the author, the number of golf courses in Shanghai is higher than the regional average, with a total of 33 official golf courses and driving ranges. The number of holes in the official course ranges from 9 to 36. Specifically, there are 4 9-hole courses, 11 18-hole courses, 2 27-hole courses and 4 36-hole courses. The course conditions are shown in Figure 1.

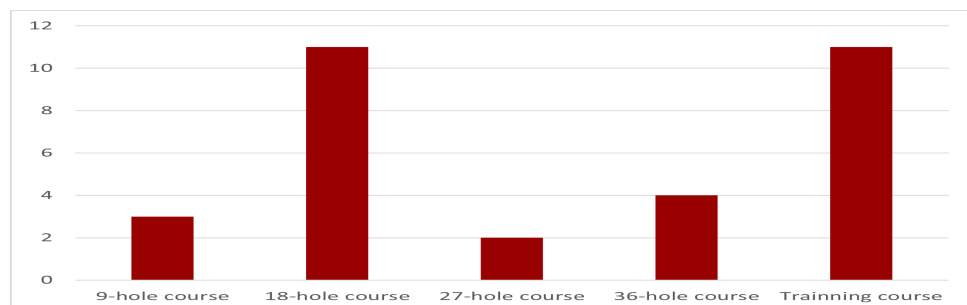


Figure 1. Number of Golf Courses in Shanghai (by Number of holes)

Taking Meilanhu Golf Club in Shanghai as an example, it realizes the safe natural cycle of zero pollution and zero emission in terms of realizing the ecological value of the course. The course charges for membership and playing time. Membership is divided into individual members, corporate members, guest members and visitors. Playing time is divided into weekdays, holidays, and morning ball discount and ladies discount [4]. Take Shanghai Zhongyi Huangxing Sports Park Golf Driving Range, one of the largest golf driving ranges in Southeast Asia, for example. With 270 playing Spaces and a total length of 350 yards, it is the first urban golf course in China that has been successfully operated up to now.

The number and spatial distribution of courses in Shanghai are shown in Figure 2 and Supplementary File 1. Due to the needs of urban development, there is no space for formal golf courses in the central urban area, so the proportion of golf courses distributed in the suburbs and coastal areas is relatively large. Locations are mainly distributed in Pudong New Area, Jiading District, Minhang District, Changning District and Songjiang District, accounting for 69.7% of the total number of courses in Shanghai.

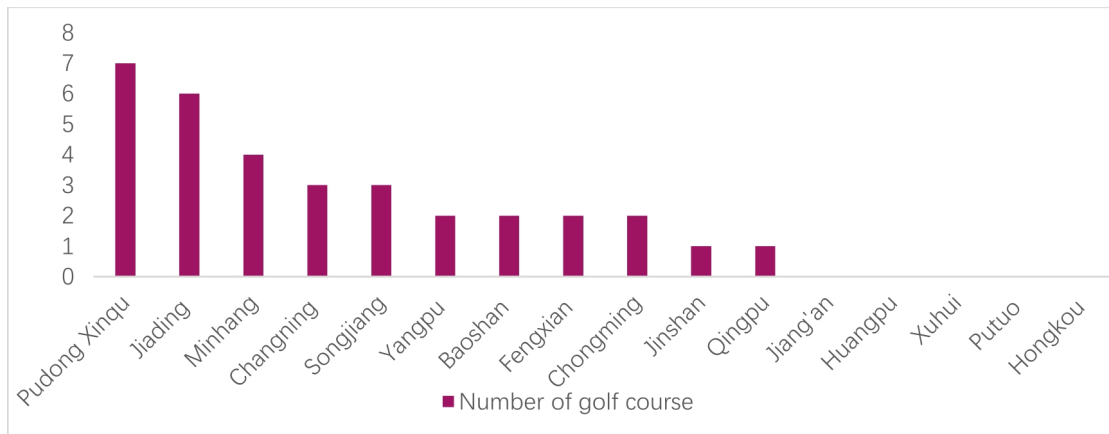


Figure 2. Number of golf courses in Shanghai by region

Whether domestic golf courses are profitable or not can be counted through the data of "Chaoxiang White Paper -- China Golf Industry Report" (hereinafter referred to as the "White Paper"). In the distribution of profit areas of the courses visited in 2017, 59% of the golf courses in East China were profitable, accounting for the largest number of profits [5]. Among the developed golf cities, Shanghai golf course ranks first together with Beijing with a profit ratio of 50%. In addition, there are four courses in Shanghai in the 4th Asian 100 Best Golf Courses in 2020.

2.2.2. Golf simulator

Simulated golf is a sport that uses computer speed measurement software to simulate outdoor golf to indoor simulation. In Shanghai, golf simulator was introduced into China for the first time by Shanghai Houwen Indoor Golf Company as the industry initiator. At present, it is the agent of VICTOR Golf, the world's first brand. In recent years, golf simulators have attracted the attention of the industry in the Shanghai market, such as V-KINGS Golf Fitness Center. According to the white paper survey, golf participants see simulated golf as an alternative to outdoor courses and a new sport style, but in terms of market fit, it still needs to be explored to achieve standardization, scale and collaboration [5].

2.3. Golf education and training

The teaching modes of golf education in Chinese colleges and universities are mainly divided into three categories: skill education, management education and lawn education [6]. Colleges and universities in Shanghai offer golf courses, including Shanghai University of Finance and Economics, Shanghai Institute of Sport, Tongji University, Shanghai Institute of Visual Arts, Shanghai Tourism College and China Vocational School. Besides the above three universities, Fudan University, Shanghai Normal University and Shanghai University of Traditional Chinese Medicine have golf clubs. Golf courses are also involved in primary and secondary schools. The main schools include the Affiliated Foreign Language Experimental School of East China Normal

University, Shanghai Wuning Road Primary School, Gao 'an Road Primary School, Shanghai International Studies University Affiliated High School, Jianping Middle School, and private Yongchang School.

2.4. A golf tournament

Golf events held in Shanghai are mainly initiated, promoted and organized by the Shanghai Golf Association [7]. The 2025 development goal set by Shanghai in the outline of building a World famous Sports City is to basically build a world famous sports city. By 2035, we will work towards this goal at a higher level. It will be completed by 2050 and form a unique development pattern of Shanghai with "one city, one capital and four centers". The "one capital" mentioned herein refers to building Shanghai into a world-class international sports event capital [8].

Shanghai clubs are learning how to use events instead of course marketing to boost their brand and influence [1]. In the performance evaluation of Shanghai City Amateur League Project Series in 2017, there are three golf events shortlisted for Class B, namely Shanghai Golf Evergreen, Shanghai Amateur Golf League and Shanghai Golf Challenge. The Shanghai Municipal Sports Bureau will provide financial support to the organizers to meet the fitness needs of different groups [9]. In 2018, the China PGA Tour, the City Amateur League Golf Fun Challenge and the Super Lychee National Golf Series were held in Shanghai. Next year, two golf events will be included in the 2019 Shanghai City Amateur League Project Series, namely the Shanghai Foreign and Chinese Enterprise Golf Classic and the Shanghai Golf Challenge [10]. In 2020, Shanghai Municipal Sports Bureau approved the Shanghai Sports Events Development Special Fund (the first batch) and (the second batch) support plan. Shanghai Weimei Culture Development Co., Ltd. undertook 2019 World Golf Champions-HSBC Champions and 2020 Buick China Junior Golf Championship by itself [11,12].

3. According to the status quo of golf development in the United States, the remaining problems of golf development in Shanghai are analyzed

3.1. Golf population

There are about 25 million amateur golfers in the United States, almost 10 percent of the population. The National Golf Foundation (NGF) estimates that the golfing population in the U.S. is about 101 million, or one in three Americans over the age of six has played golf and its spin-off media [13]. The white paper estimates that the number of golfers in China is only 1 to 1.1 million, and the core population is only 380,000 to 390,000. Compared to China's population, Shanghai has fewer players. Statistics released by the seventh national census of Shanghai show that the city has a permanent resident population of 24.87 million and a floating population of 10.47 million. In order to achieve the goal of fully building a world famous sports city, the current golf participation population of Shanghai is far from that of famous sports cities in the United States, such as New York and Los Angeles.

3.2. Course maintenance and operation

The natural conditions of the game of golf are limited by the required venues and their maintenance [14]. In the United States, golf can rely on its laws to realize the ecological value of the course, strictly regulate the site selection, design, review and supervision of the course, realize industrial autonomy with the help of industrial measures, reduce the ecological impact, implement a number of ecological improvement projects, and reduce the negative impact of stadium construction on the city [15]. In January 2017, a total of 27 golf courses were involved in the national golf rectification in Shanghai, involving three types of problems, namely, banning, cancellation and rectification. Of these, three were abolished and three were revoked. The reason behind the correction is that adjacent to the national secondary drinking water source protection, poor management and other reasons need to be cleaned up. There are still many problems in the nature of the project, design standards, administrative review, supervision, industry autonomy and other aspects of the golf course in our city. We should try our best to avoid the derivation of social space problems that harm the ecological security of the city [16].

3.3. Education and training

The development speed and popularity of golf in many American colleges and universities are among the top in the world. For example, PGA professional golf management major is set up in colleges and universities, which is divided into theoretical courses and technical practice courses, and golf teams are set up. Known as the cradle of professional golfers, the National Committee Association America (NACC) has developed a highly mature business model, And through market development, commercial sponsorship, media publicity, tournament broadcast and other ways to form a positive cycle of golf in individual fields [6]. In terms of the golf education and training industry in Shanghai, the learning of young players is greatly influenced by their families. 61.1% of them mainly buy one-to-one courses to learn golf, and very few of them can get relatively professional and systematic golf training on campus, usually in the form of part-time coaches leading clubs to campus. Compared with other track and field, football, basketball training lack of long-term and stability [7].

3.4. Competition events

Take the famous sports cities of New York and Los Angeles as an example. Both of them have experience in holding international top single events related to golf, including golf Grand Slam events, PGA Championship, US Open and so on. Although the HSBC Champions and BMW Masters held in Shanghai are professional events with certain influence, there is still a development gap between them and the developed golfing regions in terms of tournament system, tournament culture, tournament income, tournament service level and international influence [7].

4. The implementation path of high quality development of golf in Shanghai

4.1. Clarify the value orientation of golf and pursue the unity of three dimensional benefits

The sustainable development of golf in the future should first clarify the three-dimensional orientation of golf, realize the two-way interaction between sports value, economic value and cultural value, and pursue the unity of sports benefits, economic benefits and social and cultural benefits. In the process of golf swing, human strength, flexibility and coordination can achieve the most perfect combination. Secondly, in Shanghai, a first-class city, the essential characteristics of golf can enable participants to interact with nature, relieve tension, so as to realize the two sports values of fitness and health [7]. From the perspective of supply and demand, Gu Yue pointed out that promoting economic development is one of the reasons for the development of golf market [17]. In order to move forward to a higher level of sports city construction goal, the development level of golf market in Shanghai should make up for the huge lag compared with the level of economic development. Take the United States for example, when the per capita GNP reaches more than \$1,000, the development of golf will be accelerated; When the per capita GNP reaches \$5,000, golf will flourish. Golf economy plays a positive role in improving the investment environment of cities and towns, improving the living environment of urban residents, solving the problem of employment, and promoting the development of social economy and social culture. Statistics show that the total GDP of Shanghai in the first half of 2021 was 2,010,253 million yuan. According to the population data of the seventh National population census, the per capita GDP of Shanghai in the first half of 2021 was 80,800 RMB. Golf industry is listed as one of the world's largest sports industry with its strong economic benefits [14]. Golf in Shanghai should shift to a period of rapid development to improve the quality of population increment. In October 2020, Shanghai issued the outline for the construction of the world famous Sports City. In the field of golf, it is necessary to accelerate the establishment of the golf culture, so that the unique golf culture highlighting Shanghai can stand up, live and go out, so that the golf culture can shape the spirit of Shanghai and integrate into the city's blood, and improve the golf culture matching the status of the world famous sports city.

4.2. Implement the golf industry autonomy and legislation, strict market access mechanism

Standard 18-hole golf course construction is on the basis of occupying larger land resources. Shanghai should adhere to the implementation of industrial autonomy, play the role of the supervisor of the Shanghai Golf

Association, clarify the nature of the course construction planning through laws, improve the construction policies of various locations, strengthen the ecological standards of the course, and strengthen the supervision of the operation period, so as not to repeat the situation of the course being evacuated after construction. The development advantages of golf market mainly include economy, policy, population, social organization, education and other foundations. Yu Xiaoping put forward the "SEC (Sport's Condition -- Economic Function -- Cultural Effect)" effect diagram of golf, that is, the marketization of golf has brought more participating population. It makes the economic function increase to some extent [14]. How to further improve the level of autonomy of golf industry in Shanghai on the basis of the existing scale and level, and strengthen the level of market operation is a practical problem to be solved urgently.

4.3. Existing golf events to do fine and strong, those not yet carried out to do the introduction and innovation

The World Golf Championships HSBC Champions and BMW Masters held in Shanghai have become regional representatives of golf events, playing an important role in building the city's name card. In the future, the development of golf events in Shanghai should pay attention to the attention, professionalism and contribution of golf events, build a hierarchical system of amateur events, and constantly break through the ceiling of the requirements of the industry for golf events. Under the background that the integrated development of the Yangtze River Delta has become a national strategy, in the field of golf, we should continue to build Shanghai's original brand events, introduce international golf events with Shanghai as the tour area, and enhance Shanghai's influence and competitiveness in the world.

4.4. Develop golf education for the whole population and standardize the whole process education system

In terms of golf education, Shanghai should strive to develop the whole population of golf education, and constantly improve the number and quality of golf practitioners. Taking golf into the campus as an example, practitioners should be required to hold the certificate and carry out the program and planning on the basic knowledge structure, framework, teaching content, teaching method, teaching process and teaching result evaluation of the teaching process.

5. Conclusion

The development of golf in Shanghai: the core consumer group of golf is relatively low, mainly male and middle and high income group; Golf courses gather in the suburbs and coastal areas, and the development is affected by land, policy, management and other factors. Both primary and secondary schools and universities are involved in golf education, which is not widely covered compared with other sports. In the accelerated development period of golf events, there are fewer international events and self-owned brand events.

There are still some problems in the development of golf in Shanghai: compared with the status quo of golf development in the United States, there are still some problems, such as the small population base of golf, the lack of legal norms for the ecological value of golf courses, the absence of professional golf management in golf education schools, and the lack of international top golf events.

The concrete implementation paths for the in-depth development of golf in Shanghai are as follows: to clarify the value orientation of golf and pursue the unity of three-dimensional benefits; the implementation of golf industry autonomy and legislation, strict market access mechanism; the existing golf competition events to do fine and strong, those not yet carried out to do the introduction and innovation; develop golf education for the whole population and standardize the whole process education system.

Supplementary File 1: Spatial distribution patterns of formal golf courses and various golf driving ranges in Shanghai.

Author Contributions

Wrote the literature review and checked the article, Z.Y.; collected data, processed empirical data, presented empirical results, wrote the main part of the paper and proposed research conclusions, H.Z. All of the authors read

and agreed to the published the final manuscript.

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A Comparative Study of Compression Training and Conventional Resistance Training in the Development of Lower Limb Explosive Power in Adolescent Track and Field Athletes

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Abstract: The article takes 10 young track and field athletes from Xiangtan Sports School as the experimental subjects, carries out the application practice of pressurization training and conventional resistance training in the lower body strength training of young track and field athletes, and compares two different training methods The effect of the method on the lower limb explosive force of adolescent track and field athletes. The results showed that: (1) Both pressurization training and conventional resistance training had a positive effect on the development of lower limb explosive power of adolescent track and field athletes. After 12 weeks of training, the intervention group using pressurization training and the control group using conventional resistance training, The evaluation data of lower limb explosive power have all improved. (2) Pressurization training has a more significant effect on promoting the development of lower limb explosive power of young track and field athletes. The two groups of young track and field athletes with the same base of lower body explosive power, after 12 weeks of training, the evaluation data of the lower limb explosive power of athletes in the intervention group are all excellent. Compared with the control group, there was a significant difference between the two groups ($P < 0.05$). It can be seen that pressurization training has a better effect on promoting the development of lower limb explosive power of adolescent track and field athletes.

Keywords: pressurization training; track and field athletes; adolescent athletes; lower body power

1. Introduction

The full name of pressurized training is pressurized strength training, which refers to the application of special pressurized devices, such as: pneumatic cuffs, elastic bandages, pressurized belts, etc., to the upper or lower limbs of the trainee during strength training. A strength training method that applies external pressure to the proximal limbs [1]. Since when the compression device is used to apply external pressure to the proximal end of the trainee's upper limbs or lower limbs, the trainee's venous blood flow will be occluded and the arterial blood flow will be partially blocked at the same time, so only under a small training load and training intensity, It can significantly stimulate the growth of muscle and the improvement of muscle function [2]. Therefore, KAATSU training is often more effective than conventional strength training without external pressure. The explosive power of the lower limbs is an important factor affecting the performance of track and field athletes. In view of the unique advantages of pressurization training in strength training, this paper attempts to introduce

pressurization training into the lower body strength of young track and field athletes. Effects of compression training and conventional resistance training on the development of lower limb explosive power in adolescent track and field athletes.

2. Experimental design

2.1. Experimental objects

The subjects of this experiment are track and field athletes from Xiangtan Sports School . The author is responsible for the sports training of track and field athletes in Xiangtan Sports School . There are 10 track and field athletes in the team . These 10 track and field athletes have received professional track and field training for 3-5 years, and their physiological age is between 12 and 16 . Between the ages of 12 and 16 , all young track and field athletes participated in the experiment, and none of the 10 young track and field athletes who participated in the experiment had any lower limb injuries in the past year, and they were able to carry out strength training activities normally.

2.2. Experiment time

The experiment lasted 12 weeks.

2.3. Experimental indicators

This study mainly investigates the effects of pressurization training and conventional resistance training on the development of lower body explosive power of adolescent track and field athletes. , the evaluation index in the experiment is determined to be the lower limb explosive power index of young track and field athletes, namely: 30 meters running, standing long jump, standing vertical jump and touching the height [3] .

2.4. Experimental process

The operation flow of this experiment is shown in Figure 1 below.

2.5. Training program

During the control experiment, the 5 young track and field athletes in the control group were given routine resistance training, while the 5 young track and field athletes in the intervention group were given pressurization training with compression devices on the basis of routine resistance training. Except for the difference in the compression device, there were no differences in other training arrangements and training conditions between the two groups of young track and field athletes. The training program for the athletes is shown in Table 1.

2.6. Mathematical statistics method

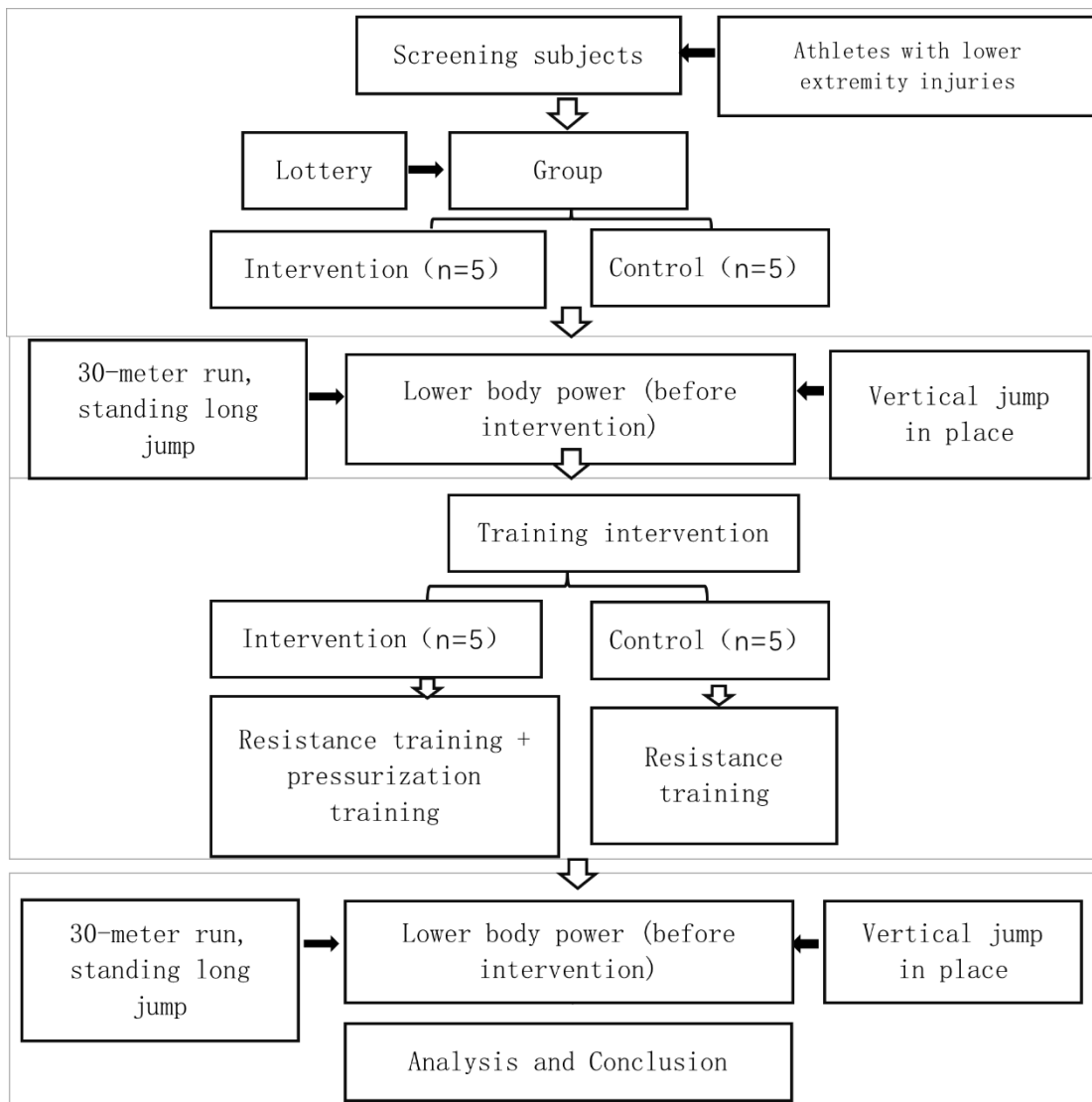
Using the independent T test in SPSS , the evaluation data of the lower limb explosive power of the two groups of young track and field athletes were statistically compared.

3. Experimental results

3.1. Before the experiment, the test data and comparison of the lower limb strength of the two groups of young track and field athletes

Before the experiment, the screening of the lower limb injuries of the two groups of athletes was completed to ensure that the two groups of young track and field athletes did not have lower limb injuries and would not interfere with the experimental results due to physical function problems. The evaluation and comparison were carried out to avoid the large gap in the explosive power of the lower limbs of the two groups of athletes, and the conditions for comparison were not met. The results of the evaluation and comparison are shown in Table 2 . It can be seen from the table : (1) the average score of the 30-meter run of the five young track and field athletes in the intervention group was 5.38 seconds , and the average score of the 30-meter run of the five young track and field athletes in the control group was 5.37 seconds , the mean values were very similar, and the results of the independent T test showed that there was no significant difference between the 30 -meter running

evaluation data of the two groups of young track and field athletes ($P=0.810 > 0.05$); (2) 5 young track and field athletes in the intervention group The average standing long jump test score of the five young track and field athletes in the control group was 2.46 meters, which was also almost the same, and there was no significant difference in the results of the independent T test ($P=0.713 > 0.05$); (3) The average test score of five young track and field athletes in the intervention group was 2.62 meters, while the average test score of the five young track and field athletes in the control group was 2.63 meters, although the evaluation mean of the intervention group was slightly lower than that of the control group, the difference was small, and there was no significant difference in the independent T test ($P=0.752 > 0.05$). Based on the analysis of the above three aspects, it can be seen that there is no significant difference between the evaluation data of the lower limb explosive power of the two groups of young track and field athletes before the experiment, indicating that the lower limb explosive power of the two groups of young track and field athletes is basically the same and comparable.



3.2. After the experiment, the evaluation data and comparison of the lower limb strength of the two groups of young track and field athletes

12 weeks of pressurization training for the young track and field athletes in the intervention group, and 12 weeks of routine resistance training in the control group, the explosive power of their lower limbs was evaluated and compared again. The results are shown in Table 3. As can be seen:

The average scores of the 5 young track and field athletes in the intervention group were improved compared with those before receiving 12 weeks of pressurization training in various lower limb explosive power evaluations. In the control group, the average scores of the five adolescent track and field athletes measured in

various lower body explosive power tests also improved compared with those before receiving 12 weeks of routine resistance training. This shows that both conventional resistance training and compression training using compression devices on the basis of conventional resistance training have a positive impact on the development of lower limb explosive power in adolescent track and field athletes;

Table 1. Lower body strength training program for two groups of young track and field athletes

Training Phase	Training Method	Number of Training Sets	reps/distance/Time Per set	Intermittent Time	Training Load
1- 2 weeks (adaptation phase)	sideways jump	2 teams	30 meters per group	1 5 seconds	①Both groups of young athletes adopted a load intensity of 50 % 1RM . ②The compression value of the intervention group was 150 mm Hg . ③The control group did not pressurize.
	weighted half squat	3 groups	8-12 reps per set	30 seconds _	
	left and right pedal jump	2 teams	30 meters per group	1 5 seconds	
	straight leg deadlift	3 groups	8-12 reps per set	30 seconds _	
	lunge walk	2 teams	30 meters per group	1 5 seconds	
3 - 8 weeks (Strengthening stage)	vertical jump	2 teams	30 meters per group	30 seconds _	
	weighted half squat	4 groups	12 - 15 reps per set	30 seconds _	
	quick steps in place	2 teams	30 seconds per set	30 seconds _	
	straight leg deadlift	4 groups	12 - 15 reps per set	30 seconds _	
	sprint run	2 teams	60 meters per group	40 seconds _	
	double swing skipping rope	2 teams	60 seconds per set	60 seconds _	
9-12 weeks (consolidation phase)	weighted squat jump	4 groups	8-10 reps per set	60 seconds _	
	squat	5 groups	10 - 12 reps per set	60 seconds _	
	single leg deadlift	4 groups	8-10 reps per set	60 seconds _	
	static half squat	5 groups	30 seconds per set	60 seconds _	
	leapfrog	2 teams	1 2 -1 5 reps per set	60 seconds _	
	switchback run	2 teams	30 meters per group	40 seconds _	

Table 2. The lower limb strength evaluation data and comparison results of the two groups of young track and field athletes before the experiment

Evaluation Index	Intervention Group (n = 5)	Control Group (n = 5)	P value
30 meters run/second	5.38 ± 0.19 _	5.37 ± 0.23 _	0.810 _
standing long jump/m	2.44 ± 0.11 _	2.46 ± 0.13 _	0.713 _
In situ vertical jump height/m	2.62 ± 0.07 _	2.63 ± 0.08 _	0.752 _

The average increase in the evaluation of the lower limb explosive power indicators of the 5 young track and field athletes in the intervention group was more significant than that in the control group. Among them , the average value of the 30 - meter running test of the five young track and field athletes in the intervention group

increased by 0.19 seconds , the average value of the standing long jump test was 0.09 meters , and the average value of the in situ vertical jump was 0.07 meters ; while in the control group , the average increase in the evaluation of the above - mentioned lower limb explosive power indexes of the 5 young track and field athletes was significantly smaller than that in the intervention group. The average improvement range was only 0.06 seconds, and the improvement ranges of standing long jump and standing vertical jump were 0.03 meters and 0.02 meters respectively, which were also lower than the intervention group;

Before the 12 -week training experiment, the explosive power of the lower limbs of the two groups of young track and field athletes was basically the same. However, after receiving 12 weeks of training intervention, the evaluation values of various lower limb explosive power indexes of young track and field athletes in the intervention group were higher than those in the control group, and there were significant differences between the two groups ($P < 0.05$). Based on the above analysis, it can be seen that conventional resistance training and pressurization training using pressurization devices on the basis of conventional resistance training are both helpful to improve the explosive power of the lower limbs of young track and field athletes. The effect of explosive force is more significant and ideal.

Table 3. The lower limb strength evaluation data and comparison results of the two groups of young track and field athletes after the experiment

Evaluation Index	Intervention group ($n = 5$)	Control group ($n = 5$)	<i>P</i> value
30 meters run/second	5.19 ± 0.13 _	5.31 ± 0.22 _	0.019 _
standing long jump/m	2.53 ± 0.08 _	2.49 ± 0.14 _	0.025 _
In situ vertical jump height/m	2.69 ± 0.07 _	2.65 ± 0.10 _	0.037 _

4. Analysis and discussion

Comprehensive statistics and comparative analysis of the evaluation data of the lower limb explosive power of the two groups of young track and field athletes before and after the experiment shows that both conventional resistance training and pressurization training have a positive impact on the development of the lower limb explosive power of young track and field athletes, and the comparison between the two training methods , Compression training has more advantages in developing the explosive power of the lower limbs of young track and field athletes. According to analysis, this is mainly because:

The reason why conventional resistance training can improve the explosive power of the lower limbs of young track and field athletes is that various training methods and training methods in conventional resistance training, such as: weight-bearing half squat, weight-bearing half squat jump, leapfrog, etc. It can stimulate the muscles of the lower limbs of young track and field athletes and promote the development of muscle strength of the muscles of the lower limbs [4,5] . Therefore, routine resistance training can have a positive impact on the development of lower body explosive power of young track and field athletes, and has the effect of developing athletes' lower body explosive power.

The reason why pressurization training can improve the explosive power of the lower limbs of young track and field athletes, and the effect of improving the explosive power of the lower limbs of athletes is better than that of conventional resistance training is because pressurization training is based on the use of pneumatic cuffs on the basis of conventional resistance training A strength training method in which compression devices such as elastic bandages exert external pressure on the proximal end of the athlete's upper and lower limbs. Therefore, in the pressurization training system, there are not only weight-bearing half-squats, weight-bearing half-squat jumps, leapfrogs and other methods and means that can stimulate the development of muscle strength of the lower limb muscles of young track and field athletes, but also have the effect of improving the explosive power of the athletes' lower limbs. Moreover, the external pressure exerted by the pressurization device on the athlete during training can also significantly reduce the oxygen content in the athlete's blood, allowing more metabolites to accumulate in the athlete's body during training. The more accumulated metabolites, the stronger the metabolic stimulation transmitted to the athlete's nervous system, and the nervous system will mobilize more muscle fibers to participate in sports [6] , thus making the effect of strength development better. Therefore,

pressurization training not only has the same effect of promoting the development of lower body explosive power of young track and field athletes, but this promotion effect is more significant than conventional resistance training.

5. Conclusions and recommendations

According to the comprehensive analysis of the full text, both pressurization training and conventional resistance training have a positive impact on the development of lower limb explosive power of young track and field athletes, and can promote the improvement of the level of lower body explosive power of athletes. The effect of development is more significant, and it is a feasible method to develop the explosive power of the lower limbs of young track and field athletes. However, coaches should pay attention to the explosive training of the lower limbs of young track and field athletes based on pressurization training. Products with cracking performance and wear resistance. At the same time, during the binding process, attention should be paid to wrap the pressure device evenly around the parts of the body that need to be pressurized. Risk of injury.

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The Evolvement and Basic Rule of China's School Physical Education Policy

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Abstract: Our school physical education policy presents the policy orientation from "instrumental rationality" to "value rationality". The policy system with multi - party coordination and linkage as the means. Looking ahead, the school sports policy of our country should pay attention to the following aspects: focusing on the students' sports literacy, realizing the humanization of the policy values; Stabilize the front position of "people-oriented" and realize the diversity of policy discourse; A policy system integrating school, family and society should be formed to make policy contents systematic.

Keywords: school sports policy; historical evolution; basic law

1. Introduction

School sports policy refers to the guidelines and action plans for promoting the personality development of school students, promoting their physical health and achieving the established goal of talent training [1]. The vicissitude of the school physical education policy in our country is the result of actively coping with the problems of school physical education under the background of the principal contradictions in society. In each period of social development, combined with the historical reality, gradually formed the school sports policy system with Chinese characteristics. Through the official websites of the Ministry of Education, The State Council and other relevant departments, educational statistical yearbook, sports policy history and other data sources, this study collected the policy texts closely related to school sports from 1978 to 2021, summarized their change rules and basic characteristics, and took history as a mirror to provide reference for the development of school sports cause in the new era.

2. The evolution of the school physical education policy

Based on the development stage of Chinese history and the text of school physical education policy, this research divides the reform of school physical education policy into two periods: the stage of deepening reform (1990-2012) and the stage of innovative development since the new era (2013-present). Each stage is connected with each other, and the policy objectives, policy values, policy events and policy contents show different characteristics.

2.1. The period of deepening reform (1990--2012)

The further development of the market economy has brought about various forms of social organization,

and profound changes have taken place in education, science and technology, culture and sports. As our sports return to the Olympic international competition, the domestic sports industry is booming, sports culture is deeply popular, the school sports enters a new development stage. In 1990, the Regulations on the Work of School Physical Education clarified the responsibilities of educational administrative departments and schools from the aspect of sports management [2], and the release of this policy marked the beginning of the recovery and adjustment of school physical education policies. The Measures for the Implementation of the National Physical Exercise Standards issued subsequently advocate and encourage students to actively participate in sports activities, improve their physical fitness and sports skills, and better serve the socialist modernization construction and the defense of the motherland [3]. The importance of sports activities is highly affirmed from the state, and the macro-guidance of school physical education is strengthened. Meanwhile, the Sports Law of the People's Republic of China calls for more teachers and time for extra-curricular sports activities, including physical education as a subject to assess students' academic performance. The introduction of Sports Law fills the blank of sports field legislation, marking that our sports work has entered the stage of rule of law.

From primary school to high school, the pursuit of short-term interests ignores the overall development of students, one-sided pursuit of "enrollment rate", school physical education gradually "nihilization", the prevalence of after-school tutorial classes, physical exercise time is greatly reduced, the resulting adolescent physical problems are worrying, the implementation of quality education is difficult. Faced with this series of thorny problems, the government issued the Implementation Plan of National Students' Physique Health Investigation in 2000, aiming at mastering the basic situation of Chinese students' physique and providing scientific basis for the implementation of school physical education work. In 2007, The State Council issued the Opinions on Strengthening Youth Sports and Enhancing Youth Physical Fitness, calling for unremitting efforts to promote the development of youth sports through the joint efforts of the whole Party and the whole society [4], which elevated the school sports work to a new strategic height. In 2011, the Physical Education and Health Curriculum Standards for Compulsory Education issued by the Ministry of Education is an important measure to implement The State Council's instructions, promote the deepening reform of school physical education curriculum, and further improve the policy system of school physical education.

At this stage, the structure of school physical education policy is basically formed, mainly focusing on the physical health of teenagers, focusing on the implementation of school physical education construction and the implementation of school physical education work. The policy has clear orientation, involves more subjects, more comprehensive content, and demonstrates the value rationality of the policy. The state's attention to school sports has changed from the regular policy advocacy to the rule of law statute and system construction, school sports has entered a new stage of development.

2.2. The new era since the comprehensive layout of the period (2013-so far)

At this stage, Chinese sports undertakings have entered the overall layout era of deepening development. The state pays more attention to the development of school sports. The CPC Central Committee and The State Council have issued a number of sports policies. In the main body of the policy around the reform and innovation of school sports, make a key plan for the school, which reflects the party and the country attaches great importance to the development of sports. The "Youth Sunshine Sports" project and the "Implementation Opinions on Accelerating the Development of Youth Campus Football" have detailed the content of school sports work from the field of sports, and provided a guarantee for school sports. In 2016, The State Council issued the Opinions on Strengthening School Physical Education to Promote the All-round Development of Students' Physical and Mental Health, which pointed out that strengthening school physical education is an important way to implement quality education and promote the all-round development of students, further promote the reform and development of school physical education, strengthen the evaluation and monitoring. Give full play to the comprehensive role of school physical education in cultivating and practicing socialist core values and promoting quality education [5]. The Outline of "Healthy China 2030" [6], which followed, fully affirmed the positive role of sports in promoting the development of physical and mental health.

Under the macro guidance of the concept of "healthy China", the school sports policy layout is more perfect.

In terms of sports facilities, the Implementation Opinions on Promoting the Opening of School Sports Venues to the Public in 2017 proposed to further deepen the reform of school sports, promote the opening of school sports facilities to students and society [7], ensure the perfection of sports conditions in schools and public venues, and promote the prosperity and development of school sports and national fitness. In terms of physical education quality, the Opinions on Comprehensively Strengthening and Improving School Physical Education in the New Era put forward the goal of building a team of high-quality physical education teachers by 2022, and made clear instructions in terms of physical education hours, teaching conditions and working systems. In terms of sports planning, the "14th Five-Year Plan for Sports Development" released in 2021 indicates that the form and conditions of future sports development should be comprehensively considered, and the construction of school sports should be accelerated to achieve high-quality development in accordance with the model of "one school, one product" and "one school, multiple products" [8]. This series of measures is a major decision made by the Party and the government after recognizing the current situation of school sports. It will continue to improve the quality of school sports and lead school sports to a new stage of development.

Generally speaking, the policy of school physical education in our country gradually mature since the new era. First, the policy is more extensive. The main body of the policy is not only the CPC Central Committee, The State Council, the Ministry of Education and other decision-making departments, but also the General Administration of Sport. The policy is more targeted and scientific. Second, the policy not only concerns schools, but also emphasizes the synergy of society and family, pointing to the construction of a multi-participation and multi-linkage governance pattern. Third, the policy issues are more concentrated, focusing on the construction of school faculty teams and stadiums, etc. School sports has changed from a "small" sports concept to a "big" health concept, focusing on laying the foundation for students' lifelong development.

3. Feature inquiry: the evolution logic of our school physical education policy

3.1. Policy value: from instrumental rationality to value rationality

The essence of educational policy is a value choice, which in turn affects educational practice and reform. According to the Max webber's point of view, the value choice of education policy can be divided into instrumental rationality and value rationality [9]. Instrumental rationality emphasizes that the arrangement and design of educational policies should have certain objective conditions and means. It is a rationality that pursues the maximum effect of things. It advocates that the value of educational activities should remain neutral, and seeks to obtain greater output through minimum input. Value rationality emphasizes that the formulation and arrangement of policies conform to the rationality of the underlying value, purpose and consciousness, that is, the belief that some policy actions have important and exclusive intrinsic value according to subjective standards. Through a review of the vicissitude of the school physical education policy in our country, we can find that the instrumental rationality and value rationality of the school physical education policy influence each other and coexist. The value choice of school physical education policy has obvious purpose and drive exogeneity, highlighting the whole social structure view. For a long time, the expansion of instrumental rationality in school sports policies has led to the weakening of value rationality. Due to its powerful instrumental effect, it will bring insufficient attention to the comprehensive and healthy development of students' body and mind. With the deepening of people's understanding of the function of sports, the value rationality of school sports policies has been continuously highlighted. In recent years, the value orientation of the school physical education policy has changed greatly, focusing on the sound personality, lifelong development and comprehensive development. This is the basic requirement for human development in the new era, the inevitable choice to pay attention to human body, and the ultimate goal to pursue the comprehensive and free development of human beings.

3.2. Policy discourse: A discourse system dominated by school physical education

There is a certain connection between language form and meaning, and this connection and discourse is a set of related overview generated under specific social and historical conditions. Discourse system is a set of thoughts, a collection of a series of concepts, and more importantly, a complete system of methods and a

paradigm for successful practice [10]. Only with the discourse system can the power of explanation, understanding, expression and guidance be brought into play, and finally the practice can be influenced. The General Secretary pointed out that to strengthen the construction of the discourse system, it is necessary to "be good at refining the identifying concept, create new concepts that are easy to be understood and accepted by the international community, and guide the academic community to carry out research and discussion" [11]. This argument has great academic significance. The construction of sports undertakings is mainly reflected in the following three aspects: First, set the training objectives of school sports. The guiding idea of "health first" runs through the whole school physical education policy, and the core goal of cultivating socialist successors and builders with all-round development of morality, intelligence, physical fitness, the United States and labor Union has not been shaken. Second, determine the development direction of school physical education. School physical education in our country has always adhered to the direction of running socialism, with socialist core values as the guide, with virtue and people as the foundation, to realize the function of sports quality and sports heart. Third, set the quality specification of school sports. The overall leadership of the school is the fundamental system guarantee for the high quality development of the school sports cause and the satisfaction of the people's education.

3.3. Policy system: a policy system that uses synergies as a tool

Policy system is the carrier of policy operation. The policy operation system generally includes multiple factors interacting with each other, such as policy environment, policy objectives, policy subjects and policy objects, which is the key to transform ideal policies into real policies. Educational policy is the policy maker's choice of relevant system and code of conduct to maintain, distribute and create value in the field of education. The environment of educational policy is diverse and complicated. According to the change of national conditions at different stages, make different school sports policy decisions with The Times.

With the rapid development of economy and the iteration of information technology, education is required to reserve a large number of talents for economic construction, and the school physical education policy is regarded as an important means to improve students' physical fitness. Since 2013, China's economy has changed from rapid growth to high-quality development. As an important part of China's education system, school sports presents an intentional-oriented development orientation, and the management model turns to the direction that local and primary and secondary schools participate in governance and coordinate and interact with multiple subjects. In policy formulation and implementation, multi-stakeholder mechanisms have been incorporated. For example, various social forces such as experts and policy research teams have become important forces in the formation of school sports policies. Taking the Outline of Building a Strong Sports Country as an example, from the proposal of policy issues, the selection of policy agenda and the determination of alternative plans, through the highlighting of social problems, the proposals of NPC deputies and the argumentation of sports experts' think tanks for many times, the final policy plan was determined. In the process of policy implementation, policy discourse not only emphasizes the main forces such as the government and schools, but also requires the cooperation of families and social organizations. For example, the Outline of "Healthy China 2030" and other policies set the goals of "youth sports activities", "construction of sports social organizations" and "popularization of national fitness activities" from the national level. After a process of point-line-plane-body evolution, China's school sports policies have gradually formed a policy network with reasonable level and perfect structure. This series of reform measures are reflected in the construction of school sports policy system with Chinese characteristics based on our national conditions and local conditions, which will lead China to a closer step on the road to becoming a sports power.

4. Path forward-looking: our school sports policy outlook

4.1. Focus on students' sports literacy, the realization of the policy value of humanism

The General Secretary stressed that "students should be helped to enjoy fun, enhance their physical fitness, improve their personality and temper their will in physical exercise" [12], which reflects the idea of the unity of

body and mind and reflects the concept of coordinated development of body and mind of students. Sports literacy refers to the motivation, confidence, ability, knowledge and understanding that individuals attach importance to lifelong participation in physical activities [13]. Improving individual sports literacy can effectively develop individual physical functions, maintain a healthy lifestyle, master the skills to communicate with others, understand scientific sports methods and values, and ultimately maintain and promote individual physical and mental health [14]. From the perspective of dimension, the cultivation of sports literacy involves individual body, behavior, emotion, mind and other aspects. From the perspective of value, the value of sports will extend to the whole life process of individuals, and ultimately improve the quality of individual survival and development. As the famous British educator Locke once said, "A healthy mind is in a healthy body" [15]. School life is the active period of students' learning nature and the starting point of individual socialization. Therefore, the establishment of school PE policy objectives should not only be based on the actual demand of school PE teaching, but also focus on cultivating students' PE comprehensive ability. The policy value orientation should always be centered on the student-oriented concept and pay attention to the physical and mental health development of students. The policy content should not only involve the cultivation of sports awareness and sports knowledge, but also pay attention to the exercise of sports skills and sports behavior, so as to cultivate students' comprehensive quality.

4.2. Stabilize the front position of "people-oriented" and realize the diversity of policy discourse

In each historical stage, the development of people has always been regarded as the fundamental task of education, and constant exploration. The General Secretary put forward that to speed up the building of a powerful sports country, we should adhere to the people-centered idea, take the people as the main body in the development of sports, and take the promotion of all-round development of people as the starting point and goal of sports work [16]. The school sports policy should continue to carry forward the party's spirit of serving the people wholeheartedly, take the thought of socialism with Chinese characteristics in the new era as the guidance, incorporate the discourse power of different policy subjects, and promote the scientific and democratic nature of the policy. First, in the process of policy making, it is not only necessary to implement the political flow from the top down, but also to feed back the problem flow from the bottom up. First of all, expand the channels of participation in sports policy making, and establish the mechanism of sports policy making through diversified consultation. For example, we listen to the opinions of the general public through network means such as Weibo, wechat public accounts and government websites to ensure the public's right to know and participation in policies. Secondly, establish a feedback mechanism for policy making. An expert advisory group was organized to demonstrate the content, guarantee conditions and implementation mechanism of the policy for many times to ensure the operability of the policy. Second, in terms of policy implementation, schools, as the main implementers of sports policies, play an intermediate role in the transmission and delivery. The government at the higher level should pay attention to the operation of policies at the school level through field research, so as to form a healthy policy implementation ecology with clear rights and responsibilities, reasonable division of labor and healthy policy implementation. Third, in terms of policy supervision and evaluation, various forces should be pooled to ensure that the policy evaluation plays a good role of "goalkeeper" and prevent the phenomenon of policy failure and deviation of sports policy. Chinese policy evaluation is still in its infancy. In the future, school sports policy should establish a policy supervision and evaluation mechanism covering the coordination of school, society, teachers and students, parents and third-party evaluation to ensure the effective operation of the policy.

4.3. Form a policy system integrating school, family and society to achieve a systematic policy content

On September 10, 2018, General Secretary of the National Education Conference put forward: "Do a good job in education, the family, schools, the government, the community has a responsibility" [12]. Under the guidance of the General Secretary's statement on the development of education, the development of school physical education in our country should form a mechanism of the development of school physical education which is based on the school and coordinated by the multiple subjects such as family, social training and government, build a comprehensive and well-structured policy network. First, in the vertical layout of policies,

the formation of the central government ---- local government ---- school coordinated policy action system. The national level should do a good job in the top-level design of sports policy groups, to ensure that local and school sports policy formulation has a basis; The local government should pay attention to straighten out the logic and relationship between the local government and the national sports system, clarify the division of labor of various departments, and avoid the absence and loss of position in the process of the implementation of sports policies; The higher level government should pay special attention to the implementation of the school sports policy to prevent the policy from being suspended. Second, in the horizontal layout of the policy, the construction of school ---- family ---- social cooperation policy content layout. The school sports policy should improve the precision, pay attention to the quality of teachers and teacher training, promote the professional teaching of physical education; Family is the smallest social cell, is the smallest node of the society, "a hundred years to build a person from the childhood", family education plays a vital role in the growth of students, schools should carry out the popularization of physical education knowledge to parents, regular public health classes and public lectures, call on parents to cultivate students' exercise habits; The state should improve the fund investment mechanism for sports facilities, guide and attract social forces to invest in sports venues, and consolidate the foundation for the development of school sports.

Author Contributions

Wrote the literature review and checked the article, Liang Yadong, Jiang Chuantong; collected data, processed empirical data, presented empirical results, wrote the main part of the paper and proposed research conclusions, Liang Yadong. All of the authors read and agreed to the published the final manuscript.

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