

RESISTANCE TRAINING IN SOCCER BASED ON TEAMWORK AND THE DIFFERENCES BETWEEN CHINESE AND WESTERN SPORTS CULTURE



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TREINAMENTO DE FORÇA NO FUTEBOL BASEADO NO TRABALHO EM EQUIPE E NAS DIFERENÇAS ENTRE A CULTURA ESPORTIVA CHINESA E OCIDENTAL

ENTRENAMIENTO DE FUERZA EN EL FÚTBOL BASADO EN EL TRABAJO EN EQUIPO Y EN LAS DIFERENCIAS ENTRE LA CULTURA DEPORTIVA CHINA Y LA OCCIDENTAL

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ABSTRACT

Introduction: Soccer is a comprehensive sport that integrates collective, tactical, emotional, and rational skills, depending not only on individual skills and tactics but also on a sense of diligently shared struggle, the ability for unity and cooperation, and the spirit of sharing achievements and defeats. **Objective:** Study the differences between Chinese and Western sports culture, exploring the soccer training method based on teamwork. **Methods:** The height, weight, experience, and age of 6 soccer players were drawn and categorized before the experiment, and a battery of physical tests was performed before the experiment. The athletes were subjected to functional strength training for six weeks. After the training was completed, the data was re-measured and cataloged for analysis. **Results:** Functional strength training can effectively improve athletes' physical quality and baseline performance to improve their competitive performance. **Conclusion:** Currently, functional strength training plays a good role in promoting college soccer teams. Therefore, coaches should provide functional strength training for college soccer teams. **Level of evidence II; Therapeutic studies - investigating treatment outcomes.**

Keywords: Resistance training; Football; Cross-Cultural Comparison.

RESUMO

Introdução: O futebol é um esporte abrangente que integra habilidades coletivas, táticas, emocionais e racionais, dependendo não apenas de habilidades e táticas individuais, mas também um senso de luta diligentemente compartilhada, a capacidade de unidade e cooperação, e o espírito de dividir conquistas e derrotas. **Objetivo:** Estudar as diferenças entre a cultura esportiva chinesa e a ocidental, explorando o método de treinamento do futebol baseado no trabalho em equipe. **Métodos:** A altura, peso, tempo de experiência e idade de 6 jogadores de futebol foram sorteados e categorizados antes do experimento, uma bateria de testes físicos foi efetuada antes do experimento. Os atletas foram submetidos à treinamento de força funcional por 6 semanas. Após a conclusão do treinamento, os dados foram aferidos novamente e catalogados para análise. **Resultados:** O treinamento funcional de força pode efetivamente melhorar a qualidade física e o desempenho basal dos atletas, de modo a melhorar seu desempenho competitivo. **Conclusão:** Atualmente, o treinamento de força funcional desempenha um bom papel na promoção das equipes de futebol universitário, portanto, os treinadores devem fornecer o exercício físico funcional para as equipes de futebol universitário. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

Descritores: Treinamento de força; Futebol; Comparação Transcultural.

RESUMEN

Introducción: El fútbol es un deporte integral que integra habilidades colectivas, táticas, emocionales y racionales, y que depende no sólo de las habilidades y tácticas individuales, sino también del sentido de la lucha diligentemente compartida, de la capacidad de unidad y cooperación, y del espíritu de compartir los logros y las derrotas. **Objetivo:** Estudiar las diferencias entre la cultura deportiva china y la occidental, explorando el método de entrenamiento de fútbol basado en el trabajo en equipo. **Métodos:** Se extrajeron y clasificaron la altura, el peso, la antigüedad y la edad de 6 jugadores de fútbol antes del experimento, y se realizó una batería de pruebas físicas antes del experimento. Los atletas fueron sometidos a un entrenamiento de fuerza funcional durante 6 semanas. Una vez finalizado el entrenamiento, se volvieron a medir los datos y se catalogaron para su análisis. **Resultados:** El entrenamiento de la fuerza funcional puede mejorar eficazmente la calidad física y el rendimiento de base de los deportistas para mejorar su rendimiento competitivo. **Conclusión:** En la actualidad, el entrenamiento de fuerza funcional desempeña un buen papel en la promoción de los equipos de fútbol universitario, por lo tanto, los entrenadores deberían proporcionar ejercicios de fuerza funcional a los equipos de fútbol universitario. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

Descriptores: Entrenamiento de Fuerza; Fútbol; Comparación Transcultural.



INTRODUCTION

China is the birthplace of football. There are records of "Cuju" in ancient Chinese history books. From the Yin Dynasty to the Qing Dynasty, Chinese football continued to flourish. From the initial performance to the game and then to the performance, it witnessed the development and rise and fall of China's feudal dynasty. Britain is the birthplace of modern football and spread and developed it all over the world. The spirit and character of different countries and nations can be reflected in their preferred sports. Football can fully reflect human personality and interpret the instinctive impulse, enthusiastic spirit and desire for self-expression of human nature. Football can reflect the sense of rhythm, that is, the talent of players for rhythm and rhythm, so as to shape the overall sense of harmony of the team.¹ As a team sport, football affects the sports environment all over the world. Football is a comprehensive sport integrating collective ability, skill, tactics, psychology and intelligence. Football players need to have each of the above skills. Among them, physical fitness is extremely important and plays an indispensable role in improving the level of competitive skills.² Good physical fitness is the basis of maintaining competitive state, using technical and tactical level and maintaining psychological state, while strength quality is the top priority of physical fitness. Physical fitness is the guarantee of football players' direct physical confrontation, fast running, strength coordination and technical progress. Strength professional training is the basis of strength training. Football strength training should match the characteristics and rules of special football matches.³ On the basis of a thorough understanding of relevant projects, strength training should be closely combined with professional techniques and tactics, so as to comprehensively improve the physical fitness level and various abilities of athletes. Football shows not only individual unique skills and tactics, but also a sense of tenacious struggle, the spirit of diligence, the ability of unity and cooperation, and the spirit of sharing weal and woe. In the development of football, we need to develop football spirit. In cultivating football spirit, team spirit is the main content.⁴ Therefore, after fully analyzing the differences between Chinese and western sports culture, according to the characteristics of Oriental football culture, this paper discusses the cognition of team cooperation in football teams, and analyzes the impact of relevant measures on improving football performance and group cooperation ability through strength training, so as to play a certain role in improving the current competitive level of football.⁵

METHOD

Using the questionnaire survey method, a total of 25 athletes of a college football team were selected. The questionnaire was distributed offline and recovered, with a recovery rate of 100% and 25 valid questionnaires. A total of 10 people were enrolled in this experiment. The study and all the participants were reviewed and approved by Ethics Committee of Northeast Agricultural University (NO. 2019NAUPT05). During the 6-week research process, the samples fell off due to various factors. At the end of the experiment, a total of 6 people completed the task. Therefore, the research object of this paper is 6 people, and its basic situation is shown in Table 1.

This experiment adopts the method of intra group control to reduce the interference of human factors as much as possible. The duration of the experiment is 6 weeks. Functional strength

Table 1. Basic information of research objects.

Option	Max	Min	Mean
Age	21.560	20.321	21.433
Long training period (year)	12.000	7.000	10.000
Height (m)	1.851	1.741	1.770
Weight (kg)	87.032	63.693	74.175

training is carried out three times a week, three or five times a week for 45 minutes, including 5 minutes of routine warm-up exercise, so as to reduce the sports injury caused by exercise. Then, functional strength training is carried out for 40 minutes, including lower limb movement strength, trunk movement strength and rotation explosive force. The lower limb movement strength includes half squat and vertical jump of wave speed ball, alternating bow step of wave speed ball load, small step forward pulled by elastic belt and leg bending with prone elastic belt; The strength of trunk movement includes pulley plate support, trunk pillar weight-bearing gluteal muscle bridge - legs, wave speed ball platform lying support and Swiss Ball supine hip support; Rotational explosive force includes straight arm side pull with elastic belt, solid ball throwing with both hands, shoulder rolling supine rotation and barbell swing.

In this paper, Excel software and SPSS software are used to sort out, record and collect the obtained data, and the drawing part of Excel software is used to complete the drawing of relevant contents, so as to make the research results more intuitive and convenient for comparison. The independent variance t-test was performed on the sorted data and the p value was calculated. If $P < 0.05$, there was a significant difference.

RESULTS

Analysis of team consciousness of the research object

Team cooperation consciousness is displayed in all aspects of the team. Therefore, this part of the research combined with the questionnaire to explore the current team members' cognition of the current team status and team spirit, as follows:

(Table 2) shows the cognition of the team status quo. It can be seen from table 4 that the current high score is "my football team has a very clear goal", with a score of 3.746 and "my team can work hard to unite in order to win the game", with a score of 4.525, indicating that in the team, it has a better goal and is relatively clear. However, "there is a clear difference between a team and a group composed of people", with a score of 2.735 and "a group is a team", and a score of 3.514, it shows that the current football players do not have a clear understanding of the essence of the team and the understanding of the team and the crowd. While "everyone communicates closely at ordinary times and knows their own needs better", the score is 3.235 and "although I have a little friction with my teammates, I still like to be with them". The score of 3.311 indicates that there is also a lack of certain team building in the daily communication with members. Therefore, in the follow-up work, we should strengthen the publicity of the nature of the team and the unity of team members.

As shown in Table 3, the cognition of team spirit is shown. This shows that many team members still focus on personal

Table 2. Evaluation statistics table of five major risk factors (n=12).

Dimension	Question	Score
Team goal	My football team is very clear	3.746
	My team can work hard and unite in order to win the game	4.525
team member	Everyone will communicate closely, and understand the respective needs	3.235
	Although I will have a small friction with my teammates, I still like it with them	3.311
Team nature	The team is obviously different from the group consisting of people	2.735
	A group is a team	3.514

emotions in the process of team communication, rather than look at problems rationally from the perspective of the team. If this trend is not adjusted in time, it is easy to form gangs due to personal emotions, resulting in the collapse of the team. Therefore, it is necessary to strengthen work in this regard.

Strength training effect analysis

The effect of strength training in football is most intuitively shown in the improvement of basic strength test and basic project performance test. Therefore, this paper discusses the changes before and after sports training from the aspects of strength performance such as high somersault (kg), bench press (kg), squat (kg) and sit ups (PCs), jump height (inch), squat jump height (inch), reverse jump height (inch), front throwing solid ball and out of bounds throwing solid ball (m).

(Table 4) shows the comparison of average scores of basic items before and after strength training. It can be seen from table 4 that the average scores of basic items such as deep jump height (inch), squat jump height (inch), reverse jump height (inch), front throwing solid ball and out of bounds throwing solid ball (m) after training are significantly higher than those before training. This proves that functional strength training can improve the performance of basic football items.

Analysis on the effect of football performance improvement

Any training goal of football has a certain promotion effect on all factors of football. Therefore, although we have discussed the impact on the results of basic projects and strength projects in the text, we still lack the relevant cognition of football. Therefore, in this section, we discuss the impact of strength training on football results from the comparison of speed before and after strength training and the comparative analysis of shooting stability. The specific research is as follows:

(Table 5) shows the comparison of ball speed before and after strength training. The ball speed increased from (72.412 ± 4.170) m / s before training to (99.377 ± 1.645) m / s after training, and the improvement rate was 22.121%, $P < 0.01$, indicating that there was a very significant difference. From the comparison between before and after training, it can be seen that strength training has greatly improved the explosive power

Table 3. Analysis of team spirit cognition.

Dimension	Question	Score
Cognition	I think a team must develop; you must have a core spirit	4.721
	I know very well about our football team's spiritual core	3.511
Dedication	When someone in the football team conflicts, I can stand in a rational perspective	2.652
	Everyone in the team needs to work hard for the honor	3.789
Team spirit	I want to exercise my ability by joining the team's way	3.877
	If there is difficult teammates, I will help him without hesitation	3.881

Table 4. Comparative analysis of average scores of basic items before and after strength training.

Option	Darkness height (inches)	Crack height (inches)	Reverse jump - height (inches)	Front	Throwing heart ball (m)
Before training	23.578	21.838	21.135	12.921	11.505
After training	26.060	23.657	23.855	14.811	13.005

of athletes. Therefore, in the measurement of ball speed, the shooting time at the same point is shortened and the speed is greatly increased. This shows that carrying out functional strength training can effectively improve the strength of athletes, so as to improve the kicking speed in the football field and improve the overall level.

(Table 6) shows the shooting stability before and after strength training. The number of shots increased from (2.712 ± 1.009) before training to (3.610 ± 0.708) after training, and the improvement rate was 18.271%, $P < 0.01$, indicating that there was a very significant difference. From the comparison before and after strength training, it can be seen that the number of shots has been significantly improved, and the fluctuation range has been reduced. It has been improved in terms of shooting stability and the level of the whole team. In the follow-up competition, we can better evaluate the performance of athletes, so as to make a prediction in time, which is conducive to the overall development of sports.

Table 5. Comparative analysis of ball speed before and after strength training.

Option	Speed (m/s)	Promotion rate	T	P
Before training	72.412 ±4.170	22.121%	-27.873	0.0054
After training	99.377 ±1.645			

Table 6. Analysis of shooting stability before and after strength training.

Option	Shot (Times)	Promotion rate	T	P
Before training	2.712 ±1.009	18.271%	-3.525	0.0012
After training	3.610 ±0.708			

DISCUSSION

Strategies of cultivating football team cooperation ability

The first thing an individual needs to do is to establish his position in the team. In a team, everyone has his own position. If you want to cooperate with your teammates, you need to understand your position, fully understand the role of this position, and how to fully play its role through cooperation with your teammates. In the team, the striker needs to know the relationship between the center and the opponent's defender. The winger needs speed and skills to attack from the side, while the shadow striker is responsible for the attack behind the center, but needs better skill characteristics. Therefore, team members can play their role perfectly only after they clearly understand the functions of each position. Secondly, we need to strengthen football skills. Having excellent team skills can increase the confidence of team members, and increasing confidence can promote their active participation in team building activities, so as to improve the enthusiasm of the whole team.

Cultural differences of football between the East and the West

Chinese traditional culture pays attention to the whole and takes the whole as the first. China's feudal society implements a strict hierarchical system. The emperor has absolute authority, and the officials at all levels under the emperor are arranged from top to bottom. At that time, the people were divided into five grades, while the generals were divided into nine grades. There is an insurmountable gap between all levels, and there are strict regulations on clothing, food, etiquette, manners and habits. This strict hierarchy is the embodiment of "ceremony". The result of the strict hierarchy system is the national inequality psychology, the lack of appropriate collective cooperation in football matches, and the suppression of personal creativity and subjective initiative in football matches. Therefore, it is difficult for Chinese football players to show their personality on the football field.

CONCLUSIONS

This paper studies the strength training of football team under team cooperation, and explores the differences between eastern and western sports culture on the team and other aspects, so as to better foster strengths and circumvent weaknesses, extract the essence and discard the dross, and promote the development of China's modern football sports. In the whole research process, it can be seen that the current functional strength training plays a good role in promoting the college football team. Therefore, coaches should provide some functional physical exercise for the college football team, so as to improve the overall strength level and stability. In the game field, football players should give full play to their team consciousness and work hard. In daily training and learning, they should also strengthen the education of team spirit and team essence, so as to make the whole football team really twist into a rope, help each other and work hard for the common

goal. This research has achieved some results, but there are still some deficiencies. For example, because college football players are affected by daily life and learning, there are a large number of samples falling off in the process of the experiment. Finally, it is found that there is a certain contingency in the experiment. Therefore, in the subsequent research, we should strengthen the improvement of relevant work, so as to obtain more universal results.

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REFERENCES

1. Kostiukevych VM. Model indicators of collective interactions of highly qualified football players during the game. *HSR*. 2019;5(4):33-40.
2. Muscella A, Vetrugno C, Spedicato M, Stefano E, Marsigliante S. The effects of training on hormonal concentrations in young soccer players. *J Cell Physiol*. 2019;62(4):1-9.
3. Sangnier S, Cotte T, Brachet O, Coquart J, Tourny C. Planning Training Workload in Football Using Small-Sided Games' Density. *J Strength Cond Res*. 2019;33(10):2801-11.
4. Ivarsson A, Stenling A, Fallby J, Johnson U. The predictive ability of the talent development environment on youth elite football players' well-being: A person-centered approach. *Psychol Sport Exerc*. 2014;16:15-23.
5. Hammami R, Granacher U, Makhoul I, Behm DG, Chaouachi A. Sequencing effects of balance and plyometric training on physical performance in youth soccer athletes. *J Strength Cond Res*. 2016;30(12):3278-89.