Asian Exercise and Sport Science Association

Abstract Book

ISSN: 2588-4832

The 7th International Conference of Sport Science- AESA

March 10, 2023

Website: aesasport.com/conference/ **Email:** info@esasport.com

7th International Conference of Sport Science- AESA

Welcome Message

On behalf of the Asian Exercise and Association, I welcome all of you, dear researchers and professors. In the 7th International Sports Science Conference, which we hold electronically, we are looking to create a place that beyond borders can connect researchers together and place to share scientific achievements in this field and cause more communication between researchers and students.

Mankind went through difficult years. Covid-19, wars, and economic and social problems have become an integral part of human life, and in the meantime, we as researchers are trying to improve the health of society with our scientific research in both public and professional parts of sports. Preparing people physically and mentally for a better lifestyle is part of our work in sports science. And preparing professional athletes for competitions is another part of our duty. Both of these tasks will make the society progressive.

It is my honor to thank all of you dear researchers for sharing your knowledge by participating in this conference and helping us on our way.

Wish you all success.

Dr. Alireza Amani
President of The Conference
March 10, 2022

Asian Exercise & Sport Science Association

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Experimental Research on the effects of corrective training on movement dysfunction in volleyball players

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Movement dysfunction refers to the flexibility, stability, degree of activity of some joints of the human body in the process of movement can not play normally, muscle tension, imbalance and other phenomena. The view that the risk of movement injury has been widely recognized in the industry. According to the literature, corrective training is of great significance to prevent movement injury and eliminate Movement dysfunction. Corrective training is to improve the cooperative working relationship between various parts of the body by ensuring the normal function, and to ensure the normal level of the basic structure of the skeletal muscle system. This paper designed a targeted corrective training program through the functional motion screening (FMS) pretest data of 10 volleyball players, conducted a eht dezylana dna derapmoc dna ,noitnevretni latnemirepxe keew-6 llabyellov fo noitcnufsyd tnemevoM eht gnitaivella dna gnitanimile no gniniart evitcerroc fo tcapmi eht erolpxe ot atad tset 12.20 morf desaercni tset SMF fo erocs egareva eht taht dewohs stluser ehT .setelhtato 15.30 points, showing significant difference (P < ,(0.05> P) ytilibats noitator knurt dna ytilibats knurt ,wob thgiarts ,eldruh ,tauqs ,desaercni tset SMF ;(0.01 20 morf desaerced tset SMF dna ,(0.05 <P) tfil eenk thgiarts evitca ,ytilibixelf redluohsto 10 people. It is concluded that the corrective training can effectively improve the FMS test scores and total scores of the volleyball players, improve and optimize the movement mode, improve the joint flexibility and stability, and eliminate the asymmetry of the movement mode, so as to achieve the purpose of preventing or reducing the damage. It is recommended that corrective training should be incorporated into the daily training plan in the future training, so as to improve the elimination of Movement dysfunction and better protect the health of athletes .

KEY WORDS： volleyball player, movement dysfunction, corrective training

Reference:

[1]Gray cook. Movement- Functional Movement Systems[M]. Zhang Yingbo, Liang Lin, Zhao Hongbo, translated. Beijing: Beijing Sport University Press, .4-2011:3

[2]Guo Cheng. Study on the motor function of the shoulder [D]. Capital Institute of Physical Education, .2022

A quantitative analysis of the effect of back row attack between Chinese women's volleyball team and world high level women's volleyball team in the 31st Olympic Games

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1Beijing Sport University ; 2Beijing Sport University,3Beijing Sport University

With the continuous development of volleyball technology, the back row attack has gradually developed from an offensive means to an offensive tactics. Volleyball players in many countries will attack the back row not only as a helpless move when the front row can not score, but will use the back row attack into the team's attack system, making the attack become diversified, the back row attack is also playing more and more fierce, especially in some European and American countries, with the advantage of height and strong body, the back row attack has become an offensive advantage of the team. So this text uses the method of literature, technology and statistics to compare the effect of the back row attack of the women's volleyball team and the top four women volleyball teams in the 31st Olympic Games. This paper analyzes the characteristics and shortcomings of the back row attack of Chinese women's volleyball team, puts forward some suggestions for improvement, and establishes a statistical model of the back row attack effect. The results show that: the proportion of Chinese women's volleyball team using back row attack is high, the effect of back row attack is not obvious, the scoring rate of three-dimensional attack is high, and there are few mistakes. The launching areas of back row attack and three-dimensional attack of Chinese women's volleyball team are diversified, but they are mainly in position dna ,6 .5 noitisop morf kcatta wor kcab hcnual ton od smaet ruof eht

KEY WORDS :The 31st Olympic Games; chinese women volleyball team; back line offence; effect

Reference:

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Research on the Cultivation of volleyball Reserve Talents in Ganzhou Middle School

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The cultivation of secondary volleyball reserve talents plays an important role in the sustainable development of volleyball. The improvement of the competitive level of volleyball not only depends on the law of the development of volleyball itself and the law of the growth of athletes, but also depends on the high attention to the cultivation of volleyball reserve talents. In addition, the implementation of the revitalization and development policy of the Soviet area has brought huge policy dividends to the education of Ganzhou City and further promoted the greater progress of the education of Ganzhou City. The purpose of this study is to investigate and study the training of secondary school volleyball reserve talents in Ganzhou City, and to comprehensively grasp the environmental factors of coaches, athletes and their parents of secondary school volleyball reserve talents in Ganzhou City. This paper analyzes the development status of the volleyball reserve talents in Ganzhou city, finds out the advantages and disadvantages of the volleyball reserve talents in Ganzhou City, and provides a meaningful reference basis for the development of the volleyball reserve talents in middle schools in Ganzhou City .

The cultivation of reserve talents is related to the strategic development of the whole competitive sports. Only when the foundation is firmly established can the main body on the foundation be firmly established. The cultivation of reserve volleyball talents is an important link in the whole volleyball competitive sports, and it plays a crucial role in the volleyball competitive strength of a region. The research on the training status of Ganzhou volleyball reserve talents can find out the problems existing in the development of middle school volleyball in the whole region, which has very important practical significance for improving the training system of the whole volleyball reserve talents, ensuring the quality of the volleyball reserve talents, promoting the transportation of the whole volleyball reserve talents, and even improving the volleyball competitive strength of Ganzhou city .

Through the investigation and analysis, it is concluded that the training and development of Ganzhou volleyball reserve talents is not mature, the popularization of volleyball sports is less in all regions, mainly in the development of administrative districts, there are only 4 traditional volleyball schools, 1 middle school was rated as the national high level of volleyball reserve talent training base, the reserve talent training path is single. The volleyball training time of Ganzhou ordinary middle school students is mostly 10h per week, while the training time of traditional schools is 16h per week. Due to the high intensity of training, the contradiction of learning and training can not be ignored as an influencing factor. Most of the coaches who are responsible for the training of volleyball reserve talents in Ganzhou Middle School are not of high educational background and professional titles, and most of them come from sports majors rather than volleyball majors. As a result of the entry of the sports volleyball as an optional item, Ganzhou middle school volleyball players' parents support their children to participate in volleyball training without delaying their study. As a revolutionary Soviet area, Ganzhou City has increased the construction of sports venues under the support of the national revitalization policy of the Soviet area, and volleyball venues have increased to a certain extent in recent years. Under the influence of the sports development plan of the 14th Five-Year Plan, various forms of volleyball competitions in Ganzhou City are also increasing year by year, which has enriched the volleyball level of middle schools in various regions and laid a foundation for mining outstanding reserve talents.

KEY WORDS：Middle school volleyball; Volleyball reserve talent; Reserve personnel training

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Analysis of hot spots in water exercise research from the perspective of physical training

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Introduction:Water sports refers to a general term of sports in which the practitioner takes physical exercises as the basic means in the water, takes various fitness activities or sports items on land as the carrier, and integrates them into the water to achieve the purpose of strengthening the body or pleasing the body and mind. Water exercise originated in the field of rehabilitation and is now being used in physical training as well. By analyzing the division of water exercise in the field of physical training, this paper expounds the significance of water exercise applied to physical training, in order to improve the public's cognition of water exercise.

Methods:By referring to the literature of WOS, EBSCO, CNKI, this paper understands the development process of the knowledge related to water sports and physical training, and uses the methods of literature, logical analysis and expert interview to elaborate the significance of water sports applied to physical training. The development of water sports applied to physical training field is expounded.
Results:Based on the perspective of physical training, there are different standards for water sports. The division includes training objectives, training objects, training load intensity and so on. Nowadays, in the field of rehabilitation, water exercise is mainly used in the treatment of physical diseases, human function recovery and other aspects. In physical training, Water sports can be integrated into the training of athletes in different competitive events. Athletes carry out heavy load intensity water sports, which is conducive to enhancing physical quality and improving competitive performance .

Water exercise with moderate load intensity is beneficial to improve the level of body function. Water exercise with low intensity is beneficial to stimulate training enthusiasm and promote fatigue recovery.

Conclusions:In the field of rehabilitation, water exercise has a unique value for the treatment of physical diseases and the recovery of human functions. In the field of physical training, water sports are also of great value to improve athletes' performance, enhance their physical fitness and recover from sports fatigue.

KEY WORDS Motion in water; Physical training; Competitive sports; An athlete; Rehabilitation therapy

Reference:

[1]Yu Hong. Application of Physical Training in Water in Recovery and rehabilitation training [J]. Contemporary Sports Science and Technology, .46-43:(11)2002,12

[2]Jian Kunlin, Sun Xuechuan. Water exercise physiology [J]. Modern Rehabilitation,) .23-22:(01)2001in Chinese(

Research on the influence of sports option teaching on senior high school students’sports skill mastery and life-long physical exercise behavior-taking Chun'an High School in Zhejiang Province as an example

Wang Zhipeng, Yuan Fang

1Physical Education Option Class Teaching, 2High School Students, 3Motor Skills Mastery, 4Lifelong Physical Exercise Behavior

Education is the cornerstone of national revitalization and national development,and physical education,as a basic education,plays a vital role in promoting the physical and mental health of students and cultivating high-quality talents in the new era.In recent years,a number of national policy documents have reflected the importance of the physical and mental health development of high school students,calling for strengthening the mastery of high school students' sports skills,alleviating learning pressure and improving physical and mental health through physical exercise.The traditional school physical education teaching model can no longer meet the needs of cultivating students'1 to 2 sports skills,and the physical education option class teaching mode is well catered to the needs of the reform of the physical education curriculum in the new era and the overall development of students,not only focusing on the cultivation of students' sports interests and hobbies and special skills,but also enabling students to develop the behavioral habits of lifelong physical exercise,which can be described as killing two birds with one stone.Chun'an High School,as one of the earliest high schools in Zhejiang province to carry out physical education option class teaching,has a history of 20 years since the physical education option class teaching mode was carried out in erutam ylevitaler a demrof sah dna,2003 hgiH na'nuhC ni sessalc noitpo noitacude lacisyhp fo gnihcaet eht fo tcapmi eht gniyduts yB.edom gnihcaet ssalc noitpo noitacude lacisyhp noitacude lacisyhp fo edom gnihcaet eht fo stluser eht,roivaheb esicrexe lacisyhp gnolefil dna slliks rotom fo yretsam 'stneduts no loohcS .detset ylevitceffe eb nac sesruoc snoitpo

This study used the literature method,questionnaire survey method,interview method,field investigation method,mathematical statistics method,case analysis method and other research methods to investigate and study the Chun'an High School in Zhejiang Province.This study first introduces the development of physical education option classes in Chun'an High School over the years,and then studies the influence of the teaching of sports option classes in Chun'an High School on the mastery of sports skills and lifelong physical exercise behavior of Kaifeng high school graduates,the influence of physical education option class teaching on the mastery of sports skills of Chun'an high school graduates,and the impact of physical education option class teaching on the lifelong physical exercise behavior of Chun'an high school graduates,etc.,to explore the impact of the teaching of physical options classes in Chun'an High School on the mastery of sports skills and lifelong physical exercise behavior of Chun'an high school graduates.It provides a reference for the reform and development and promotion of the teaching mode of physical education option courses in high schools across the country.The following conclusions were drawn from the study:

(1) The teaching of physical education option classes has a greater impact on the mastery of sports skills and lifelong physical exercise behavior of high school students,and the teaching of physical education options classes in high school is not only a great improvement in the level of students' sports skills,but also cultivates the lifelong sports awareness of most students in Chun'an High School,so that students develop the behavioral habit of lifelong physical exercise.

(2) Chun'an High School's physical education option class teaching mode has achieved remark able teaching results,most of the graduates who have received physical education option class teaching are satisfied with the school's physical education option class teaching results,the graduates' sports skill level has been greatly improved, Chun'an High School's sports option class teaching mode has affected generations of students,which is inseparable from the many characteristic models and advanced teaching modes in Chun'an High School physical education option class.

(3) The influence of physical education option course teaching in Chun'an High School on the mastery of sports skills and lifelong physical exercise behavior of male graduates is greater than that of female graduates,and there are large differences in the mastery of sports skills and physical exercise between boys and girls.However,from the overall analysis results,the mastery of motor skills and lifelong physical exercise behavior between boys and girls are better.

(4) The teaching of sports options classes in high schools will have a greater impact on the learning of sports options classes in universities,and the sports options classes of universities are to a certain extent an extension of high school sports options classes,and the sports options classes of high schools are the basis of university sports option courses,and the sports option classes of universities provide a new sports plat form for students who have received sports option classes in high schools.

(5) In the past 20 years,the overall teaching force of Chun'an High School is relatively sufficient,and more sports projects have been opened,but with the change of teachers,the teachers of some sports projects have not been supplemented in time,resulting in the phenomenon of suspension and intermittent opening of the sports projects,which is due to the lack of timely introduction of corresponding teachers.

(6) The overall sports facilities of Chun'an High School are in good condition, but there is a waste of some resources and facilities. Some venues have not been properly developed, and the supporting sports infrastructure has not been updated in time.

Based on the results of the paper survey,interview results and conclusions,we came up with the following recommendations:

(1)In the physical education option class,attention should be paid to the cultivation of students' mastery of sports skills,enhance students' sports confidence,and lay the foundation for students' lifelong physical exercise.

(2)Learn the characteristic models in the teaching of physical education options in Chun'an High School,such as the male and female placement mode,the project classification mode,etc.

(3)Strengthen the encouragement and guidance of female students,increase the sports that female students like,and stimulate female students' interest in sports learning.

(4)The teaching mode of physical education options should be vigorously promoted nationwide,so that students can master one or several sports skills,and promote students to develop good behavior habits of physical exercise.

(5)Further improve the strength of teachers,solve the problem of unbalanced distribution of teachers,and try to meet the needs of students for course selection.

(6)Further improve the equipment and facilities of sports venues and improve the utilization rate of sports venues.

KEY WORDS Physical Education Option Class Teaching;High School Students;Motor Skills Mastery;Lifelong Physical Exercise Behavior

Reference:

[1]Luo Linghong. On College Physical Education and Lifelong Physical Education [J]. Journal of Beijing Sports University, 830-829 :(06)2002

Effect of Volleyball Game Intervention on the Development of Movement Skills of Children with Mild to Moderate Mental Retardation

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In the "Healthy China and National Fitness", it is proposed that all people should participate in and exercise. Children with mental retardation are indispensable members of the whole people, and as vulnerable groups, they have also received extensive social attention. At present, the society's care for children with intellectual disabilities is mainly reflected in the material aspect, ignoring sports intervention. Therefore, it is of great practical significance for children with intellectual disabilities and other special children to adopt appropriate sports methods and contents.

Research purpose

Children with mental retardation have great limitations in the development of motor skills, which seriously affects their quality of life and social adaptability. This paper takes volleyball games as an intervention means to explore the impact of volleyball games on the basic motor skills of children with mild to moderate mental retardation. Effective motor skill intervention programs can promote the improvement of the basic motor skills of children with mental retardation, and can also promote their cognitive ability and social adaptability.

Research content

In this study, volleyball games were used as the intervention content. The experimental group was intervened in volleyball games for 12 weeks, while the control group was intervened in normal physical education courses at the same time, and did not participate in other sports activities.

The formulation principles of intervention: (1) The basic concept of rehabilitation training courses in line with the Curriculum Standards of Schools for Mental Retardation (2016 Edition). (2) It is safe, the content is designed without dangerous actions, and the whole teaching process guarantees the duration of more than two teachers (2). The 45 minute physical education course includes 5 minutes of warm-up games, 30 minutes of ball game practice and 10 minutes of rest; (3) Frequency, 3 times a week; (4) Exercise intensity, step by step, gradually increase the amount of exercise, mainly low intensity exercise, supplemented by medium intensity exercise.

For the experimental group and the control group. The Bunny's Motor Proficiency Test (Second Edition) was used to test the development of the basic motor skills of the subjects before and after the intervention, and the follow-up test was conducted to the experimental group one month after the intervention was stopped. In addition, this study also conducted an interview with the head teachers of the children in the experimental group after the study was completed to understand the changes of their basic motor skills in daily life.

Research Methods

Literature, experiment, mathematical statistics and interview

Results and discussion

Before and after the intervention, the basic motor skills of children with intellectual disabilities in the experimental group and the control group were tested, and the results were significantly different. After the intervention, the test results of the experimental group and the control group were also significantly different. One month after the end of the experiment, the follow-up test found that volleyball games still had a significant effect on the improvement of the basic motor skills of children with intellectual disabilities.

After 12 weeks of volleyball game intervention, the basic motor skills of children with mild to moderate mental retardation have improved in hand coordination, body coordination, strength and agility.

Suggestions and conclusions

The intervention of basic motor skills should be diversified, enrich the content of physical education curriculum in special education schools, focus on sports games, and cultivate the interest of children with intellectual disabilities in sports to improve their basic motor skills and social adaptability.

KEY WORDS Volleyball game ; Children with mental retardation ; fundamental movement skills

Investigation and research on the development of sports activities after school in Shenxian First High School

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Extracurricular physical education is the important content of school physical education, it and school physical education together constitute the main body of school physical education. After-school sports include after-school sports in school and after-school sports in school. After-school sports in school play a very important role in enhancing students' physical quality and health level, developing good sports habits and lifelong sports consciousness, and also play a very important role in the realization of school sports goals. After-school sports refers to various physical exercises and methods that students use their spare time to exercise their body, enhance their physique, activate their body and mind, improve their sports skills and enrich their leisure cultural life. Taking the First Middle School of Shenxian County of Liaocheng City as the object of investigation, the development of high school extracurricular sports activities were investigated to promote the development of school extracurricular sports.In addition, the first middle school of Shenxian County and other local high school sports development is similar, there are many similarities in the development of after-school sports activities, can provide reference for other middle schools to promote the development of after-school sports. Using the method of literature, interview, logic analysis, questionnaire and other research methods, this paper investigates the development of after-school sports in Shenxian No. 1 Middle School of Liaocheng City. It is concluded that the overall development of after-school sports activities in Shenxian No. 1 Middle School is better, but there are still some shortcomings; Students who meet the requirements of the Regulations on Physical Education Work of the School for the duration of after-school physical exercise do 1 hour of exercise every day, among which morning exercises and recess exercises are the best, and the number of participants accounts for more than 90% of the students in the school. However, there are not enough activities during recess and students do not have enough time for independent sports activities. After school sports training has been carried out in an orderly manner, including track and field, basketball, volleyball, martial arts and gymnastics. The main purpose of after-school sports training is to participate in the sports examination and competitions, among which the largest number of participants is track and field, and the training content and time arrangement are reasonable; In the aspect of extracurricular sports competitions, only some events have the opportunity to participate in the competition, mainly basketball, track and field, volleyball, martial arts, free combat, table tennis, badminton and other small ball events, no students participate in, fewer events every year; The development of extracurricular sports activities in Shenxian No. 1 Middle School is affected by a variety of factors. There are mainly five factors: field equipment, physical education teachers, students' schoolwork pressure, students' interest in sports, and school leaders' attention.

Key words: After-school sports； After-school physical exercise； After-school physical training ； After-school physical competition；

Comparative analysis on the passing effect of setter between Chinese women's volleyball team and the top three teams in 2021 World Women's Volleyball League

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From the development strength of China's women's volleyball team, sports competition has run through all aspects of our life, and has become an important part of team events. In the process of group competition, problems in any link will lead to changes in the direction of the game. Therefore, in group competition, team members need to cooperate with each other to achieve the goal of victory. The setter controls the rhythm of the whole game. Whether his performance is good or not affects the result of the game. This study takes the passing effect of setters between China and the top three teams in 2021 World Women's Volleyball League as the research object, and carries out the research by using the methods of literature, video statistics, comparative analysis and mathematical statistics. The following conclusions are drawn: 1 The second setter of Chinese women's volleyball team can effectively organize the passing effect of single block by using jump pass technology when one pass is in place in one attack. 2. When the first pass is not in place in the first attack, China's women's volleyball setters mainly use standing pass, and the pass effect is general. 3. When the first pass is in place in the counter attack, the passing effect of the second setter of China's women's volleyball team is significantly lower than that of the second setter of the women's volleyball team of the other three countries. 4. When the first pass is not in place in the counter attack, the passing effect of the second setter of China's women's volleyball team is mostly double blocking. This paper analyzes the passing effect of Chinese women's Volleyball Setter, in order to provide reference for the better development of Chinese women's Volleyball Setter technology.

KEY WORDS women 's volleyball,Setter,Pass effect,comparative analysis

Reference:

[1]王春发. 当今中外优秀女排主二传手组织进攻方式与技术运用特征的比较研究[D].福建师范大学,2013.

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Study on the Comparative analysis of attack and defense Effect of Chinese and Foreign auxiliary Attack players in 2021 World Women's Volleyball League

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In the 1980s, the Chinese women's volleyball team won "five consecutive championships" in the early 1990s. In the 2003 and 2004 World Cups, the Chinese women's volleyball team regained the title they had lost for 20 years. In the 2021 World Women's Volleyball League, the Chinese women's volleyball team had relatively difficulty in the first three weeks without the full team. After the full team returned in the fourth week, they won seven consecutive victories. Based on the application of offensive and defensive skills of the suboffensive players of the Chinese and foreign Women's Volleyball teams in the 2021 World Women's Volleyball League, this paper analyzes the competitions of China, the United States, Russia, the Dominican Republic, the Netherlands and Italy by means of literature, video, logical analysis and mathematical statistics. This paper studies the non-technical index, serving effect, spiking effect, blocking effect and back-row defense of the auxiliary players of the women's volleyball team. The results show that: (1) the height, spike height and blocking height of Chinese female volleyball team are obviously higher than that of the other team, and the physical quality is also obviously better than that of the other team. (2) The subattack of Chinese Women's Volleyball team adopts two serving modes: overhand floating ball and jump floating ball. The service quality of the subattack of Chinese Women's Volleyball team is obviously better than that of its opponents. But there was also self-loss and instability on the serve. (3) The sub-attack of Chinese Women's Volleyball team has many offensive lines, flexibility and scattered positions. (4) In the back row defense, our assistant attackers still have limitations, for the opponent hit some heavy spike and hanging ball difficult to defend.

Key words: 2021 World Women's Volleyball League,A deputy attack player,Attack and defense effect

Reference:

[1] Chen Wenlei. Research on the Decision of Elite Volleyball Players' Service Grey Situation [D]. Northwest Normal University,2020.

[2] Yang Xuezhi, Feng Hongwei. The Characteristics of "High and Fast" in spiking and Blocking in Volleyball and Its Application in the Selection of Excellent Auxiliary Attack Players [J]. Journal of Xi 'an Physical Education University,2019,36(06):757-762.

Analysis on the current situation and countermeasures of college volleyball development in zhejiang province

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It is a new direction for the development of sports in Zhejiang to promote the development of sports in Zhejiang through volleyball in colleges and universities, popularize the value and significance of volleyball, and show the value of competitive sports so as to promote the development of mass sports. This paper takes the volleyball sports of college students in Zhejiang Province as the research object, and uses the methods of literature, interviews, questionnaires, and mathematical statistics to discuss the development status of volleyball sports in colleges and universities in Zhejiang Province The college students' participation in volleyball after graduation was investigated in four aspects, and the investigation results were discussed and analyzed. Finally, the corresponding countermeasures were put forward. The following conclusions are drawn in this paper: First, college students do not know enough about volleyball. Colleges and universities generally have no good interest in volleyball. The number of people interested in volleyball and the number of people engaged in volleyball is low. Because volleyball is characterized by short and quick hitting, direct contact with the ball, and difficulty in using movement techniques, many students have resistance, and it is difficult to gain happy emotional value when they first contact. 2、 Some colleges and universities in Zhejiang Province have set up volleyball teams. However, there are several problems as follows: 1. The site conditions are poor, and individual schools are difficult to meet the daily training needs. 2. The training equipment and auxiliary facilities are too old, and the physical training room is not universal enough to meet the training needs of various means. 3. There are not enough rehabilitation and medical facilities, so more investment and attention should be paid to this aspect.

Key words ordinary colleges and universities; Development status; Countermeasures; Volleyball

Reference:

[1] Meng Yixiao Research on the Current Situation and Development Countermeasures of Track and Field Sports in Colleges and Universities of Zhejiang Province [D]. Beijing Sport University, 2012

[2] Lin Jieling Research on the Current Situation and Sustainable Development of the Construction of Volleyball Teachers in Colleges and Universities in Guangdong Province [D]. Guangzhou Institute of Physical Education, 2022. DOI: 10.27042/d.cnki.ggztc.2022.000042

Effects of plyometric training on the development the vertical jump in male volleyball players

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This study aimed to investigate the effect of a 6-week plyometric exercise training program on the development of lower limb explosive power in terms of vertical jumping ability in university level volleyball players. The study involved 9 male volleyball players from the Beijing Sports University Sports Club, with a minimum of 5 years of training and competition experience. The program consisted of various bounds, hops, and jumps in vertical, horizontal, and mixed directions. During the program, a progressive overload of plyometric intervention was applied. Lower limb explosive power in the form of vertical jumping ability was developed and tested. The jumping ability was evaluated via 5 types of maximum-effort vertical jumps, using the Opto Jump system. In addition, once each week, the heart rate was recorded using a heart rate monitor-Polar RS300X GPS (Finland). The only significant correlation was found between squat jump and number of jumps and between counter movement jump and heart rate. From a practical standpoint, the improvement, which was noticed after 3 and 6 weeks,seems to optimal period for volleyball players adaptation to significant increased training load.

KEY WORDS: volleyball games, plyometrics, periodization, vertical jumps, power

Study on the influencing factors of Chinese Volleyball professional League under the background of "Football, Basketball and Volleyball Revitalization“

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The revitalization of China's volleyball cause must not avoid the development of professional league. Because the Chinese professional volleyball league is led by the government, the special form of the participation of clubs, and the construction mode of professional clubs is diversified, there have been many problems restricting the sustainable development of Chinese volleyball for a long time. On the Tokyo Olympic Games, the Chinese women's volleyball team defeat let the state general administration of sports top will look again to the league, so on October 8,2021, the state general administration of sports issued by the " The 14th Five-year Sports Development Plan "in the revitalization of the "Football, Basketball and Volleyball Revitalization Project" mentioned in the volleyball professional league and club development related matters, for the development of professional league and the club development direction. In this context, with the four perspectives of professional league management mechanism, league influence, talent training and league culture as the starting point, the specific analysis, and put forward relevant countermeasures for the development of Chinese volleyball professional league.

KEY WORDS:China,professional league,football,basketball and volleyball revitalization

Simulation of the Adenylic acid system and lactate concentration during isokinetic force loads

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Energy expenditure during endurance exercise is fairly well known and studied. However, for short duration exercise (such as maximal force exercise) the knowledge is very limited and not measurable during exercise. Based on bio-chemical models, the physiological kinetic of energetic substrates of anaerobic metabolism can be estimated (Mader, 2002). The aim of this study was to simulate the kinetic of the adenylic acid system and lactate concentration during maximal force load.

10 trained men (25.1±4.5 years, 182.6±7.2 cm, 82.4±10.9 kg, training 7.9±3.5 hours per week) were tested for their $\dot{V}O_{2max}$ (Ramp-test) (Craig et al., 2000). Furthermore, 10 single-leg reps were performed using isokinetic strength testing (knee ex/flex, 150°/s, load time 17.5±0.4 s) at maximal power. Capillary blood samples (20µl) were taken before, immediately after and up to the ninth post-load minute. The $\dot{V}O_{2max}$, power curve, vLa_{max}, active muscle mass (16%) and body mass were used as input parameters for the simulation.

The adenylic acid system showed a physiological course in the simulation based on the power curve of the maximum force loading. The pre-post-concentrations showed significant changes in Creatinphosphate (PCr): t_0 20.0±0.002 mmol*kg^{-1}; t_{17} 16.22±0.89 mmol*kg^{-1} ($p<0.001$; depletion of 19.9%), Adenosine-di-Phosphate (ADP): t_0: 0.005±0.0 mmol*kg^{-1}; t_{17} 0.016±0.003 mmol*kg^{-1} ($p=0.005$; increase of 313.8 %), Adenosine-mono-Phosphate (AMP): t_0: 4.38^{-6} ±8.06^{-8} mmol*kg^{-1}; $t_{17:}$ 4.47^{-5}±1.58^{-5} mmol*kg^{-1} ($p=0.005$; increase of 1021.6%) and a very low depletion in Adenosine-tri-Phosphate (ATP): t_0: 5.99±0.0 mmol*kg^{-1}; t_{17} 5.98±0.003 mmol*kg^{-1} ($p=0.005$; depletion of 0.19%). The measured lactate concentration at the end of the 10 repetitions amounted 1.04±0.47 mmol*l^{-1}, the simulated lactate concentration was 0.99±0.0006 mmol*l^{-1}. The difference between simulated and measured lactate concentration was 0.0485±0.47 mmol*l^{-1} ($p=0.752$) with a standard error by 0.44 mmol*l^{-1}. Although the simulation of the adenyl acid system indicates a plausible physiological course, the residuals of the linear regression in the lactate concentration appear too high.

KEY WORDS: simulation, force load, anaerobic power, adenyl acid

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Quantitative Analysis on the Characteristics of Gains and Losses of Chinese Women's Volleyball Team and World High level Women's Volleyball Team in 2019 Women's Volleyball World Cup

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The points gained and lost in volleyball matches are the reflection of the team's skills in the process of volleyball matches, and also reflect the level of the whole team's exertion and the team's future potential. This study uses the methods of literature, video observation, mathematical statistics, and technical statistics to analyze the characteristics of the points gained and lost in the 2019 Women's Volleyball World Cup between the Chinese Women's Volleyball Team and the world's high-level women's volleyball team, and analyzes the advantages and disadvantages of the Chinese women's volleyball team based on the characteristics of the points gained and lost in the Chinese and foreign women's volleyball teams, It provides reference for the training and competition of Chinese women's volleyball team. The victory or defeat of a complete volleyball match consists of several rounds, and the score of each round is determined by the gain or loss of each ball. This paper analyzes the gain or loss of a volleyball match in four aspects: serve, spike, block and opponent's fault. The following conclusions are drawn through the study. (1) The world's high-level women's volleyball team has a significant advantage in the scoring ability of the floating ball jump, while the Chinese women's volleyball team does not have a significant advantage in the scoring ability of the floating ball jump. (2) In the first attack stage, the spiking scores of the world's high-level women's volleyball team are mainly distributed in the strong attack and fast attack. The Chinese team mainly focuses on the fast attack and the fast cover attack, of which the fast cover attack has great advantages. (3) In the stage of counter attack, the scoring ability of Chinese and foreign women's volleyball spiking is concentrated in the strong attack and fast attack, but the Chinese team still has a significant advantage in the flat fast cover attack. (4) The block scoring ability of the world's high-level women's volleyball team is mainly in the block fast attack. In the block fast attack scoring ability, China is stronger than other strong teams. In the block fast attack scoring ability, China's team has a large gap with the world's strong teams

KEY WORDS :China volleyball; World Cup; Gains and losses

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Research on Physical Training problems and Countermeasures of juvenile student athletes

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The youth stage is the key period of the development of human body functions and the golden stage of sports selection and physical development. Under the background of "healthy China" and "powerful sports country", the issues of adolescent training have received extensive attention from country and society. Physical training of adolescent athletes is of great significance to improve our country reserve talent reserve and realize powerful sports country. This study believes that the problems such as single training content and method, the pursuit of results, insufficient understanding of physical training and lack of nutrition not only seriously hinder the scientific process of physical training for adolescent student athletes, but also affect the healthy development of adolescent student athletes. In this paper, the problems existing in the training of young students are deeply discussed and analyzed through the method of literature investigation and investigation, and the corresponding countermeasures are put forward, in order to improve the system of physical training of young people, and help the modernization of the strategic process of "sports power".

KEY WORDS : Adolescent, physical training, physical development law

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A study on the application of self-forgiveness in volleyball participants

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The volleyball program has developed to a huge number of participant groups of all ages in all countries, and thanks to the continuous improvement of volleyball rules and the superimposition of its recreational, competitive and educational attributes, volleyball has gradually integrated into our daily lives, in schools, in sports clubs, in sports parks and on live TV sets.

Volleyball has entertainment attributes since its birth, and from the beginning, it has laid the foundation for volleyball to attract the participation of the masses. As the times move forward and human civilization progresses, volleyball gradually develops and matures in the process, has complete rules, and begins to have competitive attributes, and in competitive sports, psychological quality is one of the most important qualities of volleyball players who should play, so volleyball players need to have the ability of psychological regulation. Self-forgiveness is one of the means of psychological regulation, which is the ability of individuals to forgive themselves to a certain extent when recalling their past mistakes or inappropriate behaviors, and to reflect a change in their attitude toward themselves in terms of emotion, behavior, and attitude, for example, to reduce beliefs or behaviors such as hating, punishing, and devaluing themselves.

The purpose of this study is to investigate the application of self-forgiveness in volleyball participants during their participation in volleyball, focusing on how individuals face the negative emotions such as guilt and remorse that may arise within themselves when they make a mistake and cause damage to the collective interests when the participants lose points for the whole team due to their own mistakes in the sport, and whether self-forgiveness enables individuals to continue to participate in the next game and ensure that the athletic performance is not affected by the negative emotions as much as possible. In previous studies, self-forgiveness has been divided into forgiveness for self-fault and forgiveness for others' offenses, and this study discusses forgiveness for self-fault.

This study was conducted by distributing self-forgiveness questionnaires, interviewing information about self-forgiveness of volleyball participants, and finally, the information obtained from the questionnaires was analyzed in combination with the interview information to achieve the purpose of the study. The selected subjects were 263 students from two universities who participated in volleyball, and members of a popular volleyball club in a city.

Participation in various volleyball tournaments at all levels was used as a screening condition.

The study concluded that: 1. most of the participants in the survey had the tendency or process of self-forgiveness and were able to get relief from negative emotions through self-forgiveness; 2. there were age differences in self-forgiveness among volleyball participants, with older participants having a less pronounced tendency to self-forgiveness because they were less affected by the negative emotions generated by mistakes on the court, while younger participants had a more pronounced tendency to self-forgiveness and The tendency of self-forgiveness is not obvious for participants with higher professional sports grades because the higher their sports grades are, the higher their on-court ball quotient is, and they can quickly judge the nature of their mistakes and adjust their status in time; 4. It is easier for art students to achieve self-forgiveness than discipline students.

Through the conduct of the study, it was found that the subjects selected for this study had different degrees of self-forgiveness, and self-forgiveness was inseparably related to personality in addition to age, sport level, and profession, which is where this study needs to be improved, and it is expected that the deficiencies can be adjusted and improved in the follow-up study, which can provide an operable basis for the intervention of self-forgiveness for volleyball participants at an early date.

KEY WORDS: volleyball, self-forgiveness, emotional regulation

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The content structure and cultivation strategy of college students' tactical Consciousness in Volleyball Training in sports colleges

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Volleyball training is an important part of volleyball education in sports colleges, and the cultivation of tactical awareness is one of the important contents of volleyball training in sports colleges and universities. In the volleyball training of sports colleges and universities, we should pay attention to the cultivation of tactical awareness of college students, which is helpful for them to use the skills and tactics they have mastered more comprehensively and flexibly, so as to improve their competitive level and performance. Therefore, teachers should pay attention to the cultivation of college students' tactical consciousness in the volleyball training of sports colleges. In this paper, using the method of literature and other research methods, this paper expounds the content structure of the cultivation of college students' tactical awareness in the sports college volleyball training, and focuses on the analysis of the strategy of the cultivation of college students' tactical awareness in the sports college volleyball training. Finally, the following conclusions are drawn: volleyball training is an important part of volleyball education in sports colleges and universities, and an important way to improve the level of volleyball competition and performance of college students. Therefore, in the volleyball training of sports colleges and universities, teachers should pay attention to the cultivation of college students' tactical awareness, including the awareness of sports behavior, the purpose of using technology, the anticipation of action, the accuracy of judgment and so on. In practice, on the basis of strengthening the tactical theory education of college students, volleyball teachers should integrate the training of tactical awareness into the tactical training and technical training of volleyball. In order to ensure the effect of cultivating tactical awareness, teachers should make scientific plans and pay attention to the physical training of college students during the implementation of the plans.

KEY WORDS college volleyball; Volleyball training; Tactical awareness; Cultivation of consciousness

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Research on Chinese elements in the creation and editing of Ballroom Dance

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On the basis of inheriting the original movement rhythm and style characteristics of ballroom dance, the performance dance of ballroom dance is a creative dance that tells the story of dance works and expresses the emotion of characters by comprehensive use of relevant elements. If the works with Chinese elements are created in the choreography, it will not only make the Chinese audience feel more sense of identity and enjoy it more, but also gain the recognition of the world culture, which will not only enrich the cultural connotation of ballroom dance, but also promote the development of ballroom dance in China. This paper starts from the way of integrating Chinese elements into the creation and editing of ballroom dance art performance dance, and uses the research methods of literature, video analysis and expert interview to make a specific analysis of the four aspects of theme, music, dance movements and clothing that integrate Chinese elements into the creation and editing of ballroom dance art performance dance.Conclusion: Chinese cultural elements into the ballroom dance art performance dance can be from the theme of the story to tell the Chinese story, the music with Chinese rhythm, dance movements with Chinese dance vocabulary, clothing accessories with Chinese characteristics of these four ways of creation. Integrating ballroom dance into Chinese cultural elements not only makes ballroom dance more in line with the aesthetic taste of Chinese people, but also inherits our excellent traditional cultural elements.

KEY WORDS : Ballroom dance art performance dance; Creation and compilation; Chinese element

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Applying the Teaching Games for Understanding Model to promote physical activity levels with children who have Special Educational Needs – Poster Presentation

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Objective. This study investigated the application of the Teaching Games for Understanding (TGfU) model on the moderate-to-vigorous physical activity (MVPA) levels of students with special educational needs (SEN) in an 11-16 aged special secondary school in the UK. Method. A total of 12 students from two classes participated in the study, using the intervention of the activity of End-Ball as the medium through which the data was gathered. End-Ball is an invasion game played using a rugby ball to outwit an opponent to score by holding the ball in the opponent's end / scoring zone. Data was gathered using formal interviews to identify the factors that contributed to the MVPA levels of the students in each class. Results. The results show that the TGfU class significantly improved their MVPA levels using the intervention activity of End-Ball (58% average MVPA). During the intervention period of one half-term (8 weeks), the MVPA times of the TGfU group were significantly longer than that of the End-Ball skills focused class (31% average MVPA). Data gathered through interviews suggested that the nature of the games, the small-sided approach and the freedom and enjoyment experienced by the TGfU students would explain the higher MVPA levels observed in the TGfU class in comparison to the other class. Conclusion. TGfU interventions can be applied to promote physical activity levels with children who have special education needs and aid the activity levels of the students in the UK; with the recommended MVPA levels in PE lessons - which is to exercise for at least 20 minutes or 50% of the overall lesson time according to the Association of Physical Education (Harris, 2015).

KEY WORDS: PHYSICAL EDUCATION, SPECIAL NEEDS, CHILDREN, END-BALL, TEACHING GAMES FOR UNDERSTANDING MODEL

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Meta Analysis of the Influence of plyometric Training on Chinese Volleyball Players' Jumping Ability

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Objective: to comprehensively analyze and discuss the change of jumping force of Chinese volleyball players after plyometric training, study its influence effect through quantitative analysis, and determine the reasons for the difference of jumping force effect, so as to provide scientific and efficient training means for the improvement of jumping force of Chinese volleyball players. Methods: literature and meta-analysis were used in this study. In the databases of China HowNet, Wanfang and VIP, the documents such as volleyball, bouncing force and rapid telescopic compound training are searched by keywords. Sort out the obtained documents through Noteexpress and complete the document screening. Via revman5 The bias risk assessment tool in 3 completes the risk bias assessment and realizes the consolidation and sorting of data. Results: 1 67 literatures were retrieved in the preliminary screening. After screening, 7 literatures were finally included in this study. The bias risk assessment has good reliability. The included literature is analyzed by random grouping method. The total confidence interval of the study was 4.00000 3, and the total confidence interval of Z was 4.00000 3, with statistical significance of 1 ~ 0.05. According to the subgroup analysis of intervention cycle, the intervention period above 8 weeks (MD = 5.08; 95% CI = 3.33 ~ 6.82) was better than that below 8 weeks (MD = 3.10; 95% CI = 0.44 ~ 5.76). The subgroup analysis of intervention frequency showed that training three times a week (MD = 5.09; 95% CI = 3.08 ~ 7.11) was better than that twice a week (MD = 4.17; 95% CI = 1.92 ~ 6.43). Conclusion: the plyometric training can significantly improve the jumping ability. The intervention period is more than 8 weeks, and the intervention frequency of 3 times a week is the best to improve the jumping force.

Key words: plyometric training; jumping;volleyball players;Meta analysis

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The Influence of movement velocity on the maximal lactate formation rate in isokinetic cycle ergometer sprint

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Introduction: The maximal lactate formation rate (νLa_{max}) is used to estimate the lactic capacity and is measured using a short maximal exercise. Nitzsche et al. (2017) showed an increased νLa_{max}. with higher movement velocity by resistance loads. Whether this effect is also evident in maximal isokinetic cycle ergometer sprint is unknown. Therefore, the aim of this study was to investigate the effect of the movement velocity during an isokinetic cycle sprint on νLa_{max}.

Methods: Six male participants (24.8±2.9 years, 178±8.7 cm, 79.0±14.4 kg) completed three 10 second isokinetic sprints on a cycle ergometer with different movement velocities (110 revolutions per minute (rpm), 130 rpm and 150 rpm). Capillary blood samples were collected at rest, after the warm up/before the sprint, immediately after cessation of the test and until the 9th minute every 30s and further samples until the 15th minute every 60s after completion of the sprint. νLa_{max} was estimated using the equation: $(La_{max} - La_{pre}) \cdot (t_{sprint} - t_{alac})^{-1}$ (La_{max} = lactate maximum, La_{pre} = pre-sprint lactate, t_{sprint} = sprint duration, t_{alac} = fictional alactic time interval) (Mader, 1994). t_{alac} was defined as the time from beginning of the test until the maximum load decreased by 3.5%. A repeated measures ANOVA was used to analyze the effect of the different movement velocities on the νLa_{max}.

Results: The νLa_{max} were 0.79±0.08 $mmol \cdot L^{-1} \cdot s^{-1}$, 1.09±0.24 $mmol \cdot L^{-1} \cdot s^{-1}$ and 1.36±0.35 $mmol \cdot L^{-1} \cdot s^{-1}$ for 110 rpm, 130 rpm and 150 rpm, respectively. The repeated measures ANOVA showed a statistically significant difference in νLa_{max} ($F= 19.77$, $p < 0.001$, partial $\eta^2 = 0.80$) and t_{alac} ($F= 13.87$, $p < 0.01$, partial $\eta^2 = 0.74$) between the different movement velocities. There was no significant difference in La_{pre} ($F= 1.46$, $p > 0.05$) between the different conditions. Bonferroni adjusted post-hoc tests revealed a significant difference in νLa_{max} between 110 rpm vs. 130 rpm ($p < 0.05$, $M_{diff} = -0.30$), 110 rpm vs. 150 rpm ($p < 0.05$, $M_{diff} = -0.57$) and 130 rpm vs. 150 rpm ($p < 0.05$, $M_{diff} = -0.27$).

Conclusion: The results indicate that a higher movement velocity results in a higher νLa_{max}. Therefore, it seems that the highest possible movement velocity should be used to determine the maximal lactate formation rate.

KEY WORDS: maximal lactate formation rate, cycle ergometer sprint, glycolysis

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An Evaluation of Anti-Doping Education program of Sri Lanka Anti -Doping Agency in preventing doping among athletes

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Background: This study was conducted to evaluate the anti-doping awareness program (ADAP) according to the knowledge of prohibited substances, doping rules, doping behavior and moral adjustment in preventing doping among Sri Lankan athletes.

Methods: Data was collected from 200 athletes. A questionnaire was used to collect data in pre, post and follow-up sessions. Knowledge of anti-doping rules and prohibited substances were measured as unintentional doping, while doping behavior and moral detachment were intentional doping measures. Participants were asked to respond on a Likert- type scale to determine athlete satisfaction. Results were statistically analyzed using non -parametric tests.

Results: A repeated measures ANOVA determined that doping knowledge score differed significantly between 3 time points ($F = 27.54$, $P < 0.000$). Post hoc analysis revealed knowledge score was significantly increased from pre to post (-6.65 (95% CI, -8.45 to -4.85), $p < .000$), and pre to follow up (- 4.265 (95% CI, -7.045 to -1.486), $p = .001$), but not from post to 3 months later (2.38 (95% CI, 0.38 to 4.38), $p = 0.014$).Moral affinity has significantly decreased from pre to post (0.01) but not significant changed in follow up. Doping behavior did not show significant change (0.264).

National level athletes showed significant increment in doping knowledge than athletes in other levels (0.009). Age of participants showed a significant negative correlation with doping knowledge ($r = -0.25$, $P = 0.01$) while moral affinity showed significant negative correlation with frequency of participation ($r = -0.17$, $P = .0.03$). Both female and male athletes showed moderate satisfaction about the ADAP.

Discussion: Results showed that ADAP was effective in reducing intentional and unintentional doping among athletes. Further, based on follow up study results, ADAP is effective in control doping among athletes with repeated awareness.

KEYWORDS Anti -Doping, Sports, Awareness

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Imagery and action observation training as a mean to improve motivation towards resistance training in elite female ultimate frisbee players

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Purpose: A strong relationship was observed in ultimate frisbee players between training/playing time missed due to injury and time dedicated to resistance training.[1] Therefore, to contribute to a reduction of the prevalence and severity of injuries, it is important to increase as much as possible the athlete's motivation towards resistance training. The purpose of this study was to analyze if imagery and action observation training is an effective way to increase athletes' adherence to resistance training sessions in elite women's ultimate frisbee.

Methods: 18 elite (1st Italian league) female ultimate frisbee players (age: 20.7 ± 3.2 years; height: 167.9 ± 6.1 cm; weight: 57.2 ± 3.9 kg) took part in the study. 14 elite male players (age: 22.2 ± 2.5 years; height: 183.1 ± 3.7 cm; weight: 72.2 ± 9.5 kg) were also recruited. The athletes had the possibility to perform a resistance training session thrice a week, with a requirement to participate in at least one resistance training session per week. Female players, after 14 weeks of traditional training, performed imagery and action observation training on exercises performed during the resistance training sessions for 5 weeks, in addition to traditional field and resistance training. Male players executed the same training program than females, without imagery and action observation training. The main outcome consisted of attendance of resistance training sessions by the players before and during the imagery training period.

Results: female players showed a significant ($p<0.05$) increase in attendance during the imagery training period compared with the traditional period (+4.3; +29.66%; ES= 1.47), while male players, who didn't perform imagery and action observation training, showed no significant ($p>0.05$) change in mean attendance during the same part of the season (-1.10; -14.85%; ES= 0.55).

Conclusions: The results show that imagery and action observation training focused on resistance exercises, with a duration of 10-20 minutes, can be effective in increasing the attendance of weight training sessions by female ultimate frisbee players. This study highlights how imagery and action observation training can be useful in increasing the motivation of athletes towards resistance training.

Reference:

Khoo K. J., Gellert J. M., Hagen M. S. (2021). Characterization of Injuries in Male and Female Ultimate Frisbee Players at the Elite Club-Level. International Journal of Sports Physical Therapy, 16(2): 518–526

Effects of 8-week resistance training on lower-limb power in male and female competitive ultimate frisbee players

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Purpose: Ultimate frisbee is a rapidly growing non-contact team sport played at all levels of competition in the men's, women's, and mixed divisions.[1] Therefore, it is important to analyze if there is any relevant difference in training adaptations between male and female ultimate frisbee players, to understand if trainers of mixed teams should differentiate physical training between players of the two sexes. The purpose of this study was to analyze the effects of heavy resistance training on lower limb power in male and female ultimate frisbee players. **Methods:** 9 elite (1st Italian league) female ultimate frisbee players (age: 20.7 ± 3.2 years; height: 167.9 ± 6.1 cm; weight: 57.2 ± 3.9 kg) and 5 elite male players (age: 22.2 ± 2.5 years; height: 183.1 ± 3.7 cm; weight: 72.2 ± 9.5 kg) were involved. All athletes were tested before (T_0) and after (T_1) a 8-week program of heavy resistance training, composed by 4 weeks focused on hypertrophy (overweight 70% 1RM, 10 repetitions per set) and 4 weeks focused on neural adaptations (85-90% 1RM, 3 repetitions per set). During the 8-week period, all athletes also performed standard field training using the frisbee. Tests included a countermovement jump (CMJ), a squat jump (SJ), and a drop jump (DJ) from 40 cm. **Results:** At T_1, female players showed a significant ($p<0.05$) decrease of -1.11 cm in the SJ (-4.26%, ES= 0.30), while the reactive index calculated from the DJ test showed a significant ($p<0.05$) increase of 0.233 (+14.66%, ES= 1.42) and the CMJ showed a non-significant ($p>0.05$) decrease of -0.65 cm (2.37%, ES=0.20). Male players, at T_1, showed almost significant ($p= 0.06$) increases of +1.60 cm (-4.39%, ES= 0.28) in the SJ and of 0.499 in the reactive index (+27.44%, ES= 1.38), while they showed a non-significant ($p>0.05$) increase of +1.88 cm (4.72%, ES=0.33) in the CMJ. When comparing the effects of training (T_1-T_0) differences between female and male players, there was a significant ($p<0.05$) difference in CMJ and SJ changes (ES= 1.88 and 1.99 respectively).

Conclusions: The results show that heavy resistance training has a different impact on the lower-limb power in male and female ultimate frisbee players. This type of training can represent an effective strategy for in-season training of male players when aiming to increase the lower-limb power, while it should be used cautiously and possibly limited to the off-season period in female players, to avoid any possible negative impact on CMJ and SJ performance. This study highlights important differences between sexes in the effects of strength training and reveals the necessity to differentiate training programs between male and female players in mixed ultimate frisbee teams.

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Effect of Early Athlete Experience on the Teaching Practice of In-service Physical Education Teachers in China

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In the context of the "double reduction" policy and the new curriculum reform, schools at all levels have an increasing demand for quality physical education teachers, while the shortage of teachers and the uneven teaching standards of physical education teachers constrain the development of physical education in schools. In recent years, the State General Administration of Sports explores ways for outstanding retired athletes to work part-time as physical education teachers in schools and adopts corresponding measures. Several previous studies illustrate the many advantages that retired athletes bring to their students when they change roles to become physical education teachers, most prominently the teaching of professional skills, while at the same time, they encounter many challenges, such as a lack of teaching ability and weak professional theoretical knowledge that affects the effectiveness of physical education lessons, and a long career as an athlete that leads to periods of burnout. Stories are seen as an essential element in understanding human behaviour, providing an opportunity for people to communicate how they see themselves and highlight important moments of change in their lives. Wu Yi argues that narrative inquiry into the meaning of experience moves away from the previous focus on 'scientific value' and academic function, allowing researchers to return to the 'lifeworld' of teachers, listen to them and uncover the meaning behind them. This paper uses narrative inquiry through the perspective of Dewey's Theory of Experience to interpret the personal life history stories of six teachers, with themes revolving around the personal experiences of PE teachers as early athletes and how these experiences might influence their future teaching practice. All interview data were audio-recorded for conversion to textual data, after which the text was summaries and coded via NVivo R1.

Teachers are the most critical part of the teaching process, and their teaching philosophy, beliefs, experience, and school environment are all important factors that influence their practice. Research has shown that most participants become athletes with motivation from family 'support', but the reasons for becoming a PE teacher are different. Some were to promote school sports; others were to get school awards and others were influenced by their former coaches and teachers. The participants' strong personal beliefs (dreams of heroes and champions) and early experiences as athletes have a positive impact on their careers and lives and become a 'powerful tool' in their teaching process, inspiring students to be courageous and combative in the face of setbacks. Teaching experience is built up step by step, and teachers who have taken part in internship and training report that their previous experiences Subliminal influence their subsequent teaching practice. As Dewey argues, 'experience' is the result of human interaction with the environment and the central issue in an experience-based education is the selection of current experiences that have a creative effect on later experiences. By understanding the life histories of teachers and listening to their voices, we have a clear idea of the problems they encounter in their careers. Most teachers suggest that they have participated in less teacher training, and have no opportunity to learn systematic theoretical knowledge, and learn how to teach a good PE lesson, they are more likely to use their early experiences to adopt a model of teaching to students in conjunction with the existing environment, a teaching that would be influenced by the teachers' habits and the constraints of the school, thus challenging both their beliefs and practice. Therefore, schools can conduct more teacher workshops to deepen the interaction between new and experienced teachers, improve the overall development of students, change the traditional teaching model of the past, and explore innovative teaching methods.

KEY WORDS physical education teacher, narrative inquiry, early athlete experience.

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Research on the Development path of Chinese Volleyball Project with digital empowerment

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Nowadays, the society is highly informationized, and we have stepped into the "era of big data", surrounded by big data and other Internet technologies. In volleyball, the application of big data has also been given full play and expansion, such as data statistics and video analysis, scientific material selection and training monitoring, communication content editing and integration. Big data not only improves people's quality of life, but also improves the overall strength of Chinese athletes, contributing to the building of a sports power in 2020. It also has a full impact on the innovation of volleyball scientific research methods, the transformation of volleyball training methods and the expansion of volleyball communication content value. Therefore, we should advocate the application of big data in volleyball events, enhance the collaborative research of big data in volleyball events, and put forward countermeasures to enhance the sharing and integration of mass media resources. The main research methods of this paper include: documentation method, case analysis, Field Observation, logic anal ysis and Mathematical statistics and other methods. The extensive application of big data technology has provided unprecedented opportunities and challenges for the development of volleyball project. In the era of big data, traditional thinking of training, commercial development and influence strategy of volleyball project, methods and paradigmof volleyball project scientific research, and communication and development of volleyball project culture will usher in profound changes. With the continuous development of human society and technology, human beings have realized the transformation from industrial society, information society, network society and other stages. Training needs to shift from traditional empirical assumptions to data guidance. In volleyball, the selection and scientific training of athletes are related to the attainment of competitive achievements and the length of athletes' career. The predictive and technical tracking functions of big data technology make the selection and technical training that originally relied on empirical judgment more scientific and effective. The development practice of training science proves that the essence of sports training science is to reveal and summarize the rules of sports training. In this process, the pioneering training practice is always ahead of the existing training theory.

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Effect of Acute Ischemic Preconditioning on Lowering Blood Pressure in Prehypertensive People: A Pilot Study

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Ischemic preconditioning (IPC) has been shown to lower blood pressure after several days of intervention, however the results of acute intervention have been inconsistent. The purpose of this study was to understand the effect of acute ischemic preconditioning on reducing blood pressure in prehypertensive patients, and to preliminarily explore its effect. Ten prehypertensive male adults (age: 31.2 ± 3.5 years; BMI: 25.8 ± 1.1 kg/m^2; SBP: 134.7 ± 2.5 mm Hg; DBP: 78.1 ± 2.2 mm Hg) were recruited for this study. Ischemic conditioning (IPC) and control treatment (CON) were performed on two separate days. Immediately after each experimental treatment, a submaximal exercise test was performed, during which changes in blood pressure and heart rate were recorded throughout. Repeated measure two-way ANOVA was used to analyze difference at each time point during the submaximal exercise test and recovery period. Descriptive statistics were expressed as mean ± standard deviation, and the level of significance was set at $p < .05$. Data of IPC vs. CON showed mean systolic blood pressure (157.0 ± 3.9 mm Hg vs. 162.6 ± 4.4 mm Hg), mean diastolic blood pressure (86.9 ± 3.0 mm Hg vs. 89.0 ± 3.4 mm Hg), and mean heart rate (125.7 ± 4.3 mm Hg vs. 128.7 ± 3.3 mm Hg). Difference between treatments at all time points during the submaximal exercise test and during the 5-minute post-test recovery period were significantly different ($p < .05$). Acute IPC resulted in significantly lower blood pressure and heart rate during subsequent submaximal exercise testing and recovery. According to Poiseuille law, blood pressure = cardiac output (= heart rate x stroke volume) x peripheral vascular resistance, it is speculated that one of the reasons for the decrease in blood pressure caused by IPC may be that IPC activate parasympathetic activity and causes to a decrease in heart rate, together with vascular resistance. The combined effect results in a drop in blood pressure.

Keywords: ischemic preconditioning (IPC), lower blood pressure, Poiseuille law

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Serum Glucose and Insulin Concentration Responses after Ingestion of Highly Branched Cyclic Dextrin before Prolonged Running

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Problem statement: Highly branched cyclic dextrin (HBCD), a novel type of polysaccharide (maltodextrin), is an ergogenic aid that can improve endurance exercise performance [1]. An earlier rodent study found that the low insulin responsiveness of HBCD may have influenced blood glucose concentration and energy substrate oxidation in mice [2]. However, there is limited information on the effects of HBCD consumption on glucose and insulin concentrations during endurance exercise. **Purpose:** We primarily aimed to investigate the effects of HBCD ingestion compared to maltodextrin on plasma glucose and insulin concentrations as well as glucose fluctuation during endurance running in recreational male endurance runners. **Methods:** Nine male marathon runners completed the randomly assigned in a double-blind crossover design to consume the beverage containing 1.5 g·kg body mass^{-1} of HBCD or maltodextrin (MD) 60 min before each a 15-min running economy test followed by a 60-min constant load running at a speed equivalent to 70% of their VO_2peak. Venous blood was sampled before ingestion, 30-min after ingestion, immediately prior to and post-exercise, and every 30 min during exercise test for measurement of plasma glucose and insulin. Glucose fluctuation, expressed as percentage, was calculated as the maximal difference in absolute glucose values assessed during the endurance exercise. **Results:** There were no between-condition differences found for serum glucose concentration over the period of trials. There was a significant difference between group effect for serum insulin concentration at the end of exercise (time point of 75 min) between the MD (3.94 ± 2.53 μU·mL^{-1}) and HBCD (3.41 ± 0.94 μU·mL^{-1}) group ($p < 0.001$). The ingestion of HBCD resulted in significantly more glucose fluctuation compared with the MD (47.77 ± 26.19 % vs. 41.65 ± 10.40 %, $p = 0.04$). **Conclusion:** HBCD ingestion led to lower insulin concentration compared to maltodextrin at the end of a 75-min exercise, while no between-condition differences were observed for serum glucose concentration. Moreover, blood glucose fluctuations were elevated during constant load running after HBCD ingestion.

KEY WORDS Highly Branched Cyclic Dextrin, Maltodextrin, Endurance Running, Glucose, Insulin

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Research on the High Quality Development of Chinese Football Industry Based on Visual Analysis

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1.Research Purpose

The 2022 FIFA World Cup is over, the development of China's football industry has ushered in a new boom, China's various policies have been put forward to promote the sustainable development of football industry.In China's Fourteenth Five-Year Plan, it is proposed to develop sports industry such as leisure and fitness, outdoor sports, and soccer industry is an economic activity.This research uses visual software to construct data model to analyze the internal law of soccer industry development in recent 10 years, and provides suggestions and theoretical references for the high-quality development.

2.research results

The results show that:1.In China, most of the scholars published in the field of football in recent ten years are experts and scholars in the field of sports, which can encourage more interdisciplinary integration and promote the integration and development of various industries.2.The hot words in the keyword view of the visual software such as Cite space show the tendency of leaning toward"economic industry","benefit"and"management",which shows how to promote the development of Chinese football industry and provide economic benefit for sports industry.At the same time, we should respond positively to China's 14th Five-Year Plan, constantly strengthen the scale and quality of sports industry, and further promote the high-quality development of football industry.3.Implement the reform of football in China, grasp the potential industry of football, and focus on ensuring the hardware facilities, perfecting the training system and management system of football clubs.

KEY WORDS: Football Industry; High Quality Development;Visual Analysis; China

Fund program: Anhui University Students Innovation and Entrepreneurship Project in 2021: Market Development and Operation of Bozhou College Youth Football Camp (S202112926031),Research on the Innovation and Development of Social Science in Anhui Province in 2021: A Study on the High Quality Development Path of Anhui Sports Industry in the Context of Digital Economy(2021CX507).

Investigation and research on the selection of evaluation indexes for the specialized jumping ability of U16 female volleyball players in China

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This article takes the evaluation index of the special jumping ability of U16 female volleyball players in China as the object of study. The jumping ability is made up of 10 items: jumping ability, jumping ability, jumping ability, jumping ability, jumping ability, jumping ability, jumping ability, and jumping ability. The questionnaire was compiled through a five-level scale, and the screening was conducted to find out that the jumping ability of Chinese U16 female volleyball players focuses on the jumping ability of assisted jumping, in-situ jumping, and continuous jumping, and the test evaluation index consists of the jumping touch height, standing long jump and ten consecutive in-situ touch height movements. The coaches can then take measures to better promote the overall development of their players' specific physical abilities and thus strive to improve the development of the team's athletic ability.

KEY WORDS Uxedni noitaulavE ,ytiliba gnipmuj dezilaicepS ,llabyellov s'nemoW ,16

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Is game-related statistics of winners different from the rest in semi-professional male handball league?

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Background and objectives .Unique data presents opportunities to explore if differences exist between the reigning national champions (two successive years) and all the other lower-ranking teams in a regular season. The distinctive and successful style of play the team has adopted, characterized by breaking fast against opponents at seemingly every chance, drives this inquiry. Handball at an elite level is changing as offensive finalizations have become more efficient from 9m and the wings, while more shots are blocked in defense)Almeida et al., .(2020Previously, differences in game-related statistics identified in the domestic league are total shot efficiency, goalkeeper saves efficiency, and 9 m shots efficiency (Þorgeirsson et al., 2022). The objectives are twofold: to analyze offensive variables differences in terms of efficiency (%) in offense and goalkeeping and in parallel, and to analyze differences in the number (#) of successful offensive and defensive events. Methods. The analysis included two hundred sixty-four games in total from two seasons of top male league handball. The differences in game-related statistics between the national champions (44 games) and the other teams were compared by parametric) independent samples t-test) or non-parametric (Mann-Whitney U test) test depending on whether the respective variable met normality. Results were expressed with cohen's *d* effect sizes .The independent variables consist of all game-related statistics collected live by HBStatz handball statistics software company technicians. The dependent variable is the final rank in the league play-off for the national championship in seasons 2021-2020and 22-2021 merged .All statistics are available online for public access. Results. Differences in efficiency were observed in four variables where the champions performed better than the others, namely total shots) *d* = 0,43 ,(wing shots) *d* = 0,34 ,(right-wing shots) *d* = 0,49 ,(and goalkeeper's saves made) *d* = 0,32 (all with small effect sizes (*d* 14 rof dnuof erew stneve fo rebmun eht ni secnereffiD .(0.5 >variables, of which wing goals had a large effect size (*d* = 0.80) while center back goals) *d* = - 0,58 ,(assists) *d* = 0,47 (and exclusions) *d* = 0,54 (had moderate effect sizes and the rest small effect sizes) *d* = 0 >, .(5Discussion. The national champions were more efficient than the average other teams in offense, especially from the right wing. Their wing players scored more, made more assists, and had more exclusions than other teams but scored fewer goals on average from center back than the other teams. Surprisingly, neither fast break efficiency nor the number of fast break goals emerged as significantly different from the average. It might indicate that the nature of the outcome data does not capture their playing style or that the general assumptions of the team's fast breaking style are skewed. Conclusion. We conclude that further investigation into the champions style of play is warranted, although the observed characteristics of the team does not translate into significant differences from the other teams for fast break conversion or number of goals. Their high efficiency from the wings is in line with the development at elite level (Almeida et al., atad eht fo erutan seires-emit eht fo egatnavda gnikat ,sdohtem deziretupmoc decnavda erom htiw sisylana na taht tseggus eW .(2020

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KEY WORDS performance analysis, team handball, goalkeeper, wing players, efficiency

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GENETIC VARIABILITY OF THE CKM GENE AND SPORTS PERFORMANCE

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Background: Weightlifting athletes use the phosphagen pathway in which the enzyme creatine kinase (CKM) participates, which is translated from the CKM gene, it participates in the energy supply of the muscle because it catalyzes the reversible transfer of (CK PCr) to (ADP), generating (ATP). **Aim:** To identify the frequency of polymorphisms in the CKM gene associated with sports performance in a group of high-performance athletes from the Weightlifting League of Valle del Cauca. **Methods:** Cross-sectional descriptive observational study in which the presence of genetic variants present in the CKM gene was determined in 25 elite athletes assigned to the Weightlifting League of Valle del Cauca. **Results:** The rs17875653 variant is a single nucleotide variation where a G>C is changed and produces a change in the amino acid sequence of the protein that does not modify the function of the protein, but modifies the hydrogen bonds in the protein. protein structure. **Conclusion:** This study shows that the rs17875653 variant is associated with sporting achievements, therefore, an adequate training plan can be generated to enhance the development of strength in high-performance Olympic weightlifting athletes of the Valley League. del Cauca and contribute to the processes of talent selection and sports improvement.

Keywords: Weightlifting, Creatine kinase, Genetic variant, Polymorphism.

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