

EFFECTS OF SPECIAL STRENGTH TRAINING ON DANCERS

EFEITOS DO TREINAMENTO ESPECIAL DE FORÇA SOBRE PRATICANTES DA DANÇA DE SALÃO

EFFECTOS DEL ENTRENAMIENTO ESPECIAL DE FUERZA EN LOS PRACTICANTES DE BAILES DE SALÓN



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ABSTRACT

Introduction: Dance sports require strength and technique, and understanding the specific strength training for its athletes is of great importance for the teaching and training by the instructor. **Objective:** Analyze the effects of special strength training on the dancers. **Methods:** The study was conducted by literature data survey, experimental test, and logical analysis. **Results:** Judging from the training of Chinese dancers in recent years, many coaches and athletes do not know enough about the importance of special strength training and have little knowledge of the principles and methods, in the minds of some dancers, including high-level dancers, there is not even a concept of special strength training; comparing the performance of Chinese sportsmen in international competitions of dancing, there is a gap in physical reserves, although the technical level and dance performance have progressed. **Conclusion:** The technical characteristics of special strength training for dance practitioners can be combined with daily training, improving the special skills and results of its practitioners. **Level of evidence II; Therapeutic studies - investigation of treatment outcomes.**

Keywords: Sports; Resistance Training; Physical Education and Training.

RESUMO

Introdução: A dança esportiva exige força e técnica, e a compreensão dos treinamentos de força específicos para seus atletas é de grande importância para o ensino e treinamento por parte do instrutor. **Objetivo:** Analisar os efeitos do treinamento especial de força sobre os praticantes da dança de salão. **Métodos:** O estudo foi conduzido por levantamento de dados bibliográficos, teste experimental e análise lógica. **Resultados:** A julgar pelo treinamento dos dançarinos chineses nos últimos anos, muitos treinadores e atletas não sabem o suficiente sobre a importância do treinamento especial de força e têm pouco conhecimento dos princípios e métodos, na mente de alguns dançarinos, incluindo os de alto nível, não existe sequer um conceito de treinamento especial de força; comparando o desempenho dos esportistas chineses em competições internacionais de dança de salão, há uma lacuna nas reservas físicas, apesar do nível técnico e desempenho de dança terem progredido. **Conclusão:** As características técnicas do treinamento especial de força sobre praticantes da dança de salão podem ser combinadas com o treinamento diário, melhorando as habilidades especiais e os resultados de seus praticantes. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

Descritores: Esportes; Treinamento de Força; Educação Física e Treinamento.

RESUMEN

Introducción: El baile de salón requiere fuerza y técnica, y la comprensión de los entrenamientos de fuerza específicos para sus atletas es de gran importancia para la enseñanza y el entrenamiento por parte del instructor. **Objetivo:** Analizar los efectos del entrenamiento de fuerza especial en los practicantes de bailes de salón. **Métodos:** El estudio se llevó a cabo mediante una encuesta de datos bibliográficos, una prueba experimental y un análisis lógico. **Resultados:** A juzgar por el entrenamiento de los bailarines chinos en los últimos años, muchos entrenadores y atletas no saben lo suficiente sobre la importancia del entrenamiento de fuerza especial y tienen poco conocimiento de los principios y métodos, en la mente de algunos bailarines, incluidos los de alto nivel, ni siquiera existe el concepto de entrenamiento de fuerza especial; si se compara el rendimiento de los deportistas chinos en las competiciones internacionales de bailes de salón, hay una brecha en las reservas físicas, aunque el nivel técnico y el rendimiento de la danza han progresado. **Conclusión:** Las características técnicas del entrenamiento de fuerza especial en los practicantes de bailes de salón pueden combinarse con el entrenamiento diario, mejorando las habilidades especiales y los resultados de sus practicantes. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

Descriptores: Deportes; Entrenamiento de Fuerza; Educación y Entrenamiento Físico.



INTRODUCTION

Sports dance projects started late in my country, from the perspective of China's research status, it also stayed at the level of project promotion, historical revolution, functional development and teaching laws. Few people face the technical principles of dance action and the development of dance players from the training level, carry out systematic and in-depth research. The quality of strength is the most basic quality of the physical fitness, almost all the athletes of competitive sports projects must conduct strength training.¹ The quality of strength is the core quality of the players' physical fitness, and it is the material basis for ensuring the complete quality to complete the quality. The quality of development forces is the basis for improving athletes' competitive ability and creating excellent sports performance. Good strength quality can not only avoid dancers injured in exercise, prolong the sports life, but also promote dancers to learn more quickly, master the correct dance skills, and fully play a technical level in the competition. The author's research purpose is to make the dancers recognize the importance of the training of special forces to the special technology and special physical fitness, and then pay attention to the training of special forces in daily learning and training, and formulate the training method that conforms to the dancers, in order to better understand and master the technical characteristics of different dance dances, improve special skills and sports achievements, continue to innovate, and enrich theoretical knowledge.²

METHOD

Research object

Special physical training content and influencing factors of sports dance roads for sports schools.

Research method

In order to better understand the current status of sports dance, design the questionnaire of "Special Power. Quantitative training on the speed of sports dance action speed", and distributed to coaches of dance training institutions in some regions, based on the results of the survey, the special force quality indicators and action speed indicators were rationally screened, and the ultimate indicators of high degree of important degree were obtained.³ Comprehensive sports dance special features, operability, and experimental objects, etc., formulate scientific and reasonable special force quality training content and training plans for physiological characteristics. At the same time, in order to ensure the scientific reason and effectiveness of the issued questionnaires, the credibility test and validity test of the questionnaire. The recovery rate and efficiency of the questionnaire are shown in Table 1.

Curactable Statistics Law

The five options of influencing factors questionnaires are given to them in accordance with the standards of level 5, which are 5, 4, 3, 2, and 1, respectively, by using SPSS17.0 software to conduct statistical analysis of the collected data, it mainly uses the method of analysis of dimension reduction factors, let's determine the influencing factors affecting the special physical training of sports dance in sports colleges.⁴ Questionnaires for special physical training for sports dance special students in sports colleges, use Excel2003 data statistical software for statistical analysis.

Ethical Compliance

Research experiments conducted in this article with animals or humans were approved by the Ethical Committee and responsible authorities of Huanggang Normal University following all guidelines, regulations, legal, and ethical standards as required for humans or animals.

RESULTS

In Figure 1, the results of the survey showed that the following training content was arranged during the special force training:

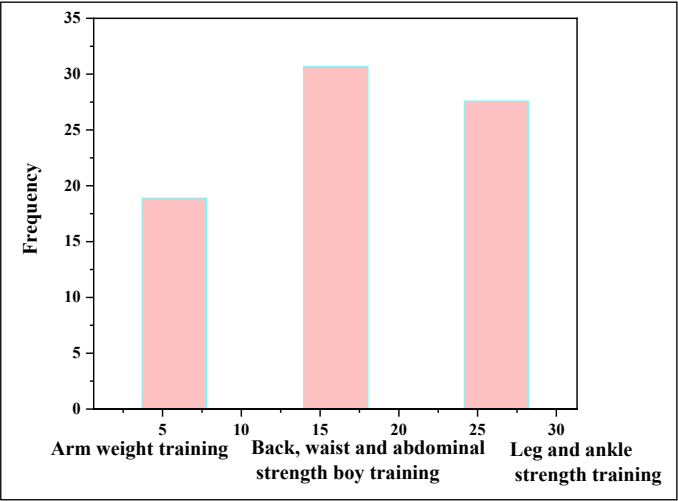


Figure 1. Special force training content column-like diagram.

From Figure 1, it can be seen, during the training of special forces, sports colleges arranged the strength training of the arm, the strength training of the back, the waist and the abdomen, and the strength of the legs and ankles, among them, the training of back and waist and abdomen strength is the focus of special force training.⁵

In Figure 2, the survey results show that the following training content was arranged during special endurance training:

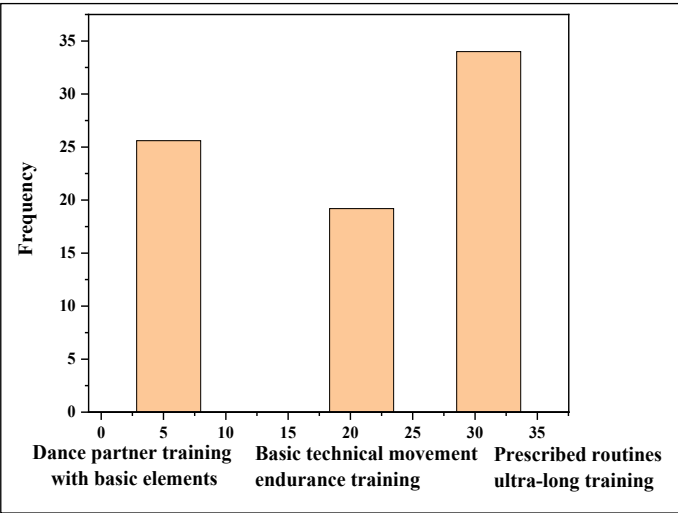


Figure 2. Pillar diagram of special endurance training content.

From Figure 2, it can be seen, when conducting special endurance training, sports colleges arranged the training of dance partners with basic elements, endurance training of basic technical actions, and stipulated routines for long-term endurance training, among them, the stipulated routine is the main content of special endurance training.⁶

In order to be able to more accurately reflect which factor in 21 factors has the greatest influence on the special physical training of sports dance special students in sports colleges, we can know the contribution rate of factors to the original data, the gravel diagram is produced as shown in Figure 3.

Figure 3 is a gravel diagram of the factors (eigenvalues--components) that affect the special physical training of sports dance students, the

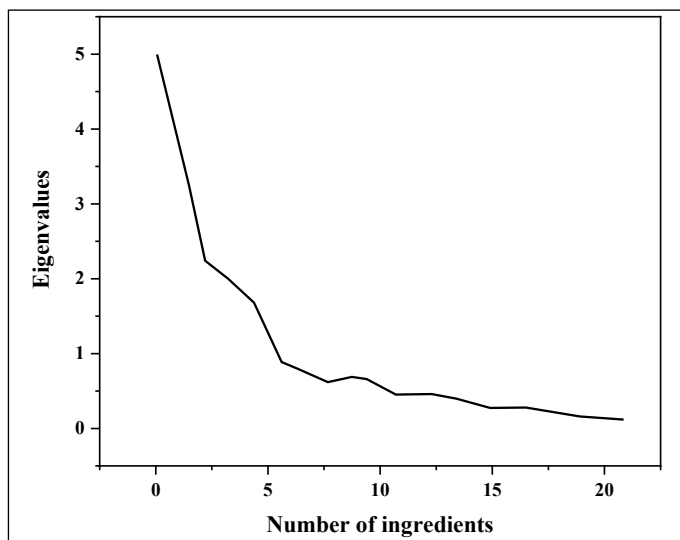


Figure 3. Gravel diagram.

abscissa represents the serial number of the 21 factors, and the ordinate represents the corresponding eigenvalues of each factor.² Through the connection between the points, we can see that the steepness of each connection is different, and the importance of each factor can be judged by the inclination of the connection, the larger the inclination, the greater the influence of the factor at the end of the connection, such a factor is the main influence factor, for a line with a relatively small inclination, it means that the influence of the factor at the end of the line is relatively small, from the above gravel diagram, we can see that the first three factors have a relatively large inclination, indicating that the first three factors are the main influencing factors, from top to bottom, "arrangement of teaching content", "training content" and "teacher's mastery of special physical training" have a great impact on the special physical training of sports dance students, the sum of the cumulative variances of them is 45.345%.

DISCUSSION

In sports dance, each dance type needs to control the muscles and other parts of the body, by controlling the muscle strength and joints of each part of the body, maintain a beautiful body posture, so that the sports dancers can extend and stretch their bodies, with squeezing, it can better complete the dance movements and reflect the technical charm of sports dance.⁷ In standard dance, the partners need to generate sufficient muscle strength through static contractions, control all aspects of the body to maintain the stability of the frame and the body posture of the two. If the muscles between the dance partners are not strong enough, if you can't control all aspects of your body, you can't cooperate well in the dance process. According to the technical characteristics of sports dance and the different characteristics of strength and quality required to complete dance movements, dancers must have certain body control strength, dynamic fast strength and strength if they want to learn and master superb sports techniques. endurance, at the same time, as sports dance is one of the most beautiful sports, dancers must learn to develop relative strength. The control force of the body is the static contraction of the muscle (the length of the muscle generally does not change when the force is exerted), which has a fixed effect on each link of the limb, which can not only ensure the stability and balance of the dancer's body during the dance movement (including single-leg support), stability and balance during rotation and static modeling), and can ensure the relative

stability and overall beauty of the "stance" when the male and female dance partners cooperate with each other. Dynamic rapid strength is the ability of muscles to exert strength quickly, which is an organic combination of strength and speed. This force is usually dominated by dynamic isotonic contractions, which are divided into three types: Concentric restraint contractions, eccentric concessional contractions, and hyper-isometric contractions.⁸ Among them, hyper isometric contraction is the closest to the force characteristics of sports dance. Such as the rise and fall and rotation of the Vienna waltz in the modern dance, the rapid movement of the quick step and the rapid movement of the cowboy dance. It is hard to imagine that a dance step that lacks speed and strength can produce clean swings and brisk jumps; Strength endurance is the ability of a muscle to overcome resistance for a long time. Practice shows that strength quality is the most core quality of physical fitness of sports dancers, good strength quality can not only prevent dancers from getting injured during exercise, prolong exercise life, but also promote dancers to learn faster and master the correct way, dance technique and fully develop the skill level in the competition. Judging from the training of Chinese sports dance players in recent years, many coaches and athletes do not know enough about the importance of special strength training, and have little knowledge of the principles and methods, in the minds of some sports dance players, including high-level players, there is not even a concept of special strength training (which is unthinkable in other competitive sports); Judging from the performance of Chinese sports dancers in international sports dance competitions, their technical level and dance performance have made great progress. However, compared with European and American players, there is still a big gap in physical reserves, especially special strength, due to insufficient movement strength, insufficient physical reserves, or unreasonable physical distribution, the phenomenon that affects the normal performance of the game often occurs.⁹ Therefore, we should pay more attention to the special strength training of dancers, and we need to carefully summarize our past experiences and lessons in training and competitions, constantly understand the movement laws of the project, and innovate training methods, form your own set of effective physical training content and method system.

CONCLUSION

The training of special strength in sports dance should vary from person to person, and a training plan that suits the athletes should be formulated, the training should not be rushed, but should be gradual. During the special strength training of sports dance, you should prepare for the activities to avoid muscle strain, and the training should be standardized to avoid sports injuries, after the training, you should do relaxation exercises to reduce exercise fatigue.

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1.General Project of Philosophy and Social Science Research in Colleges and Universities of Hubei Province, 2021, Modernization of Public Service Governance of Sports in Urban Communities under Multi-Governance Mode -- A Case study of Hubei Province (21Y358).

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REFERENCES

1. Llaguno A, Mula J, Campuzano-Bolarin F. State of the art, conceptual framework and simulation analysis of the ripple effect on supply chains. *Int J Prod Res.* 2022;60(6):1-23.
2. Swain C, Bradshaw EJ, Ekegren CL, Whyte DG. The Epidemiology of Low Back Pain and Injury in Dance: A Systematic Review. *J Orthop Sports Phys Ther.* 2019;49(4):1-41.
3. Surgenor B, Wyon M. Measuring Training Load in Dance: The Construct Validity of Session-RPE. *Med Probl Perform Art.* 2019;34(1):1-5.
4. Yuan Y. Rapid rehabilitation of microscopic ligation of varicose veins for sports dance athletes. *Acta Microsc.* 2020;29(2):1095-103.
5. Wang A, Wang C. Research on the application of sport dance in colleges and universities in the healthy development of sports. *RBME.* 2021;27(5):464-7.
6. Sherrington C, Fairhall N, Wallbank G, Tiedemann A, Michaleff ZA, Howard K, et al. Exercise for preventing falls in older people living in the community: an abridged Cochrane systematic Review. *Br J Sports Med.* 2020;54(15):885-91.
7. Andrade A, Steffens R, Sieczkowska SM, Coimbra DR, Vilarino GT. Acute effect of strength training on pain in women with fibromyalgia: A brief report. *J Back Musculoskeletal Rehabil.* 2020;34(2):313-8.
8. Drozdova-Statkeviciene M, Cesnaitien VJ, Masiulis N. Effect of Acute Strength Training on the Posture Control during Dual Tasking and Executive Function in Older Adults. A Randomized Controlled Study. *Int J Gerontol.* 2019;13(3):216-20.
9. Depiazzi JE, Forbes RA, Gibson N, Smith NL, Wilson AC, Boyd RN, et al. The effect of aquatic high-intensity interval training on aerobic performance, strength and body composition in a non-athletic population: systematic review and meta-analysis. *Clin Rehabil.* 2019;33(2):157-70.