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THEORETICAL FRAMEWORK REGARDING THE TRAINING IN DANCESPORT RUMBA

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Abstract

Problem statement: From a practical point of view, the topic addressed represents a novelty in the economy of preparing youth level dancers for the rumba dance, through the correlated approach of the two components of sports training (physical preparation and artistic preparation). Artistic preparation is a special and complex component of sports training, which provides physical and mental support for the execution of movements in a personal style, with technical, plasticity, suggestibility, and expressiveness requirements specific to the sport. We will detail the correlation between the two components from a theoretical perspective, focusing on the integration of specific artistic training methods for the development of lower limb strength in the physical preparation of dancers. The approach of interdependence between the components of sports training for the development of lower limb strength using artistic training as means of physical preparation represents a current topic for all sports dance coaches in the country.

The aim of the research: The aim is to develop the specific lower limb strength required for the Rumba dance by introducing artistic methods into the physical preparation of dancers. In this regard, existing research can contribute significantly, through its results, to the selection and application of appropriate means for our intervention.

Conclusions: Understanding the specific training characteristics, including stages, principles, characteristics of development of dancers aged 16-18, as well as the manifestation of their physical abilities and qualities, will enable the coach to apply the most appropriate means and methods to maximize the potential of the athletes. These directions will result in optimal modifications in motor behavior and lead to the long-awaited results in official competitions.

Key words: Training, dancesport, rumba.

Introduction

Dance is a part of everyone's daily life, with certain movements, gestures, and steps being considered part of dancing. Ballroom dancing was once one of the most popular physical and cultural development activities for young people. As a result, it has evolved into a competitive sport that, like other sports, requires the development of scientific training approaches.

Competitive dance emerged from the desire of those on the dance floor to compete and be judged objectively. The partners' desire to perfect each dance figure led to the development of specific "figures" performed at the highest level of movement and music. As a result, competitive dance has precise rules for creating choreographic structures, with a specific number of dances included in competitions and strictly regulated classification categories.

Competitive dance is a sports branch accessible to individuals aged between 6 and 60 years. It can be practiced as a performance sport, for maintenance, as a means of relaxation and mental recovery, and as a way of socializing, both by people with normal development and those with physical and/or neuro-motor disabilities.

Dance is also known for the benefits it brings to proprioception, balance, flexibility, coordination, and motor movements, as well as for its ability to transmit musical sensitivity and emotional connection. As a form of physical activity, dance improves cardiovascular function, reduces the risk of diabetes, and contributes to weight loss and decreased BMI. Ballroom dancing, a specific form of partner dance, shares these benefits. However, it is unique in that it also relies on communication between two individuals. The leader's role is to initiate movements by signaling their intention to the partner, while the partner's role is to perceive and respond to the leader's stimulus. This requires cognitive flexibility and social intelligence.

While all fundamental aspects of dance, including balance, linear and turning movements, synchronization, musicality, muscle coordination, and endurance, exist in most types of dance, competitive dance involves this social partnership to convey the artistic part of the compositions to the audience and judges. As a result, training in competitive dance allows participants to strengthen a range of physical skills while engaging in a demanding physical activity.

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General physical preparation provides the premises for strength, speed, endurance, mobility, necessary for developing the performance capacity of dancers. Through specific physical training, motor qualities are developed in a manner that is appropriate for the technical execution of dance, leading to an increase in specific endurance, mixed isometric and isotonic strength, execution speed, suppleness, while acting at the same time on the kinesthetic sense.

Classical means of physical preparation can harm the harmonious development and correct posture specific to sports dancing. Coaches always aim to select the most suitable methods and means to develop a longilin-type musculature over time that can sustain specific efforts in the dances included in the two sections of competitions.

Artistic training can thus become a means of physical preparation through the repetition of specific exercises from classical ballet, specific exercises from other aesthetic sports disciplines, leading to the development of a locomotor system suitable for competition, both from a physical and artistic point of view.

Contemporary studies abound in information on the physical and physiological characteristics of dancers, in the demonstration of the beneficial effects of dance as a social and therapeutic means, and fewer studies refer to the training process, means and methods used by coaches to optimize the specific sports performance of any dance from the two sections.

A comprehensive analysis of such studies was conducted by Mestek (2022), who selected 56 out of the main bibliographic resources found (3961) that referred to Latin dances. Of these, only 13 included the Rumba dance as a means of determining certain parameters or characteristics of the dancers. This research has once again shown the need for national and international studies that shed light on the ways in which dancers' sports training is conducted, particularly regarding how coaches shape the dance couple both physically and artistically, as a unified whole.

Any bodily technique applied in dance training must be based on the athlete's physical capacity, which provides the support for the specificity of the other requirements of the respective sports branch. Even though the effort and physical qualities required place the dancer in the realm of sports, it is necessary to add that the artistic part of this sport, bodily expressiveness, and motor communication often lead coaches to use means from the arts to enhance the performance of the dance couple.

By applying the most inventive techniques and means, by respecting the principles of training and the age characteristics of the athletes, physical development is adjusted, which is a significant aspect of dancers' sports journey.

Interdisciplinary approach in a sports branch is not a novelty in sports training, both in terms of performance and mass sports. Coaches seek to perfect and adapt methods and means to the changes brought by regulations and scoring codes so that athletes can achieve performance in their sport. The theoretical gaps in the bibliographic background regarding the optimization of certain parameters that are particularly important in achieving a perfect execution technique, such as the correlation between physical and artistic preparation, have led us to approach this topic, which is particularly important in the preparation of future champions in dancesport. Based on these considerations, which, combined with the study of specialized materials on the preparation of high-performance athletes in artistic sports, with over twenty years of coaching practice in the dancesport section of the "Nicolae Rotaru" Sports High School in Constanţa, as well as experience as a physical trainer for the Romanian national dancesport teams - standard and Latin American - since 2008, we felt the need to deepen the field to find and systematize the most effective non-specific and specific methodical procedures for artistic preparation in dancesport to raise the physical training indices of dancers.

The selection of bibliographic material, together with findings from current reality, both locally - at the level of the sports club where I work - and at the level of the representative team members, can help me, under the guidance of a scientific mentor, to develop a series of motor structures with applicability at all levels, which would lead to an improvement in the performance capacity of dancers. Rumba represents the foundation of the dances in the Latin section. It is a dance that emphasizes the tensile strength of the pelvic muscles, through the rotation of the hips and the transfer of body weight from one foot to the other in a specific way, and equally on the virtuosity of the partners that comes from the undulatory movement of the body segments. These specific aspects of the basic technique of the rumba dance, which are very difficult to teach and understand by dancers, have led us to consider the topic addressed in this paper of real interest.

Concepts and peculiarities of dancesport

In recent decades, high-performance sports have accumulated a multitude of biological, psychopedagogical, technological, socio-economic, etc., aspects. The evident progress in any sports branch, the records, and the performances achieved to the unimaginable limit a few years ago, make the limitation to current methods insufficient, encouraging the investigation of the field and the use of the newest "weapons" of genetics, medicine, psychopedagogy, cybernetics, etc., and their close interrelation. (Berardi, 2005)

Under these circumstances, achieving maximum sports performance is only possible if sports training is complex and based on the latest orientations in sports science. Therefore, sports performance reflects the exceptional result obtained by an athlete or a team in a sports competition (Bompa 2003; Epuran, 1968).

Performances in national and international sports dance competitions are the result of the training methodology applied by the coach-sports couple and the orientation of training in sessions by modeling the performance capacity of the athletes.

In modern times, the popularity of dancesport is rapidly increasing, which has led to the desire to deepen the most important phenomena in the training of dancers or the level of development of certain motor qualities that they must master in competitions (Bria, et al., 2011; Prus, 2022). The specific demands of major competitions determine coaches to approach training by scaling the stages of preparation based on the motor and physical characteristics of the athletes, the requirements of the competition regulations, and the type of dances addressed (Hahn, 1996).

A typical sports dance competition lasts throughout the day, for approximately 10 hours and for a certain number of rounds, before reaching the final round of dance. During the final round, athletes must dance to all five dances in the selected section (each with a maximum duration of 2 minutes, with a 15-20 second break between dances), which requires very good physical preparation so that they can demonstrate the choreography without appearing to exert too much effort (Bria, et al., 2011).

During the competition, dancers are judged for their technical execution, partnership, expressiveness, as well as physical abilities. For optimal performance, dancers must master the artistic and technical aspects of preparation, but they must also be prepared psychologically to cope with the stress of critical situations (Koutedakis & Sharp, 2004).

Sports dance training is a long process of physical, technical, theoretical, and psychological preparation, which is supplemented by rigorous artistic preparation, often starting from early childhood (Allen & Wyon, 2008).

Latin-American dances emerged in Europe, along with their respective music and rhythms, in the mid-20th century, with the arrival on the continent of renowned music orchestras accompanied by dancers from Central and South America. The spectacular nature of these dances made it easy for them to transition into the competitive dance category that bears their name (Năstase, 2002).

Latin dances are a generic term that refers to a wide range of social and popular dances originating from Latin America. These dances bring the charm of Latin American culture to the dance hall, such as that of Cuba, Venezuela, and Brazil, where dance represents a lifestyle, a form of expression, and communication.

With a completely different character and style from standard dances, Latin American dances express power and emotion. Another characteristic that differentiates Latin dances from other dance styles is the hip movement that accompanies the steps.

Sport dance competitions are divided into two sections: standard dances (slow waltz, tango, Viennese waltz, slow fox, and quickstep) and Latino dances (samba, cha-cha-cha, rumba, paso doble, and jive).

The Latin American dance section is spectacular because of the energy and emotions transmitted by the two partners, who interpret, on music, most often a love story.

The Rumba Dance The word rumba comes from the Spanish word "rumbear" which means "to party". Rumba originated in Cuba and contains both African and Caribbean influences, due to the importation of African slaves to South America and the Caribbean. In its original form, rumba was very fast and extremely erotic. The story behind this dance is that the woman, through sensual movements of the hips, chest and shoulders, attracts the man and then retreats when he takes her seriously.

The Cubans refined this version, making it slower and less flirtatious, giving rise to the dance known as "Son". Other versions of rumba include: Beguine, Bolero (very slow), Calypso, Columbia (male solo dance), Danzon (slower than "Son"), Guagira, Guaguancó (chasing the partner), Guaracha, Jambú, Naningo and Yambú (very slow, with little hip movement).

Rumba is often referred to as the "grandfather of Latin dances". Originating in Cuba, it first came to the United States in the early 1920s. Monsieur Pierre and Doris Lavelle (the leading teacher in London of this dance form) introduced the true "Cuban Rumba" in the 1930s, which was eventually established after much discussion as the officially recognized version in 1955.

The purpose of rumba was to enhance the rhythm of the clave sticks, to dance in perfect time with an absolute syncopation, and to use every part of the body, especially the hips. The simplest form of rumba is danced by taking a step sideways with the right foot, then returning to a position with the two feet close together. This pattern is then repeated to the left and continues, alternating feet.

Today, Rumba is the slowest of the five Latin American competition dances. Rumba rhythms, although once influenced by African-style music, are now found in Country Western, Blues, Rock, and other popular music genres.

Rumba is the spirit and soul of music and dance in Latin America. The fascinating rhythms and bodily expressions make Rumba one of the most popular ballroom dances.

The musical measure for Rumba is 4/4, with a normal tempo range of 28-30 measures per minute. Normally, three steps are taken in each measure using a rhythm of 1, 1, 1, -. This is interpreted as quick-quick-slow.

In Cha Cha Cha and Rumba, the movement of tilting and rotating the pelvis is natural, extensive, and part of the stepping technique. This occurs after the complete transfer of weight to the supporting leg, and the pelvis tilts toward the free leg.

The basic rhythm of Rumba is quick-quick-slow, with distinct hip movements from side to side. The hip movements are exaggerated but are the result of good action from the ankle, knee, hip joint, and thigh muscles. When these weight transfers are well controlled, the hips perform the correct movement specific to this dance. If the dancer uses the correct

hip movement, it will feel very natural to sway the hips laterally when beginning to flex the leg on the first beat of the musical unit, resulting in the foot being placed either forward or backward on count two.

The hip movement should be done easily from side to side as a result of flexing and straightening the knees and never as a conscious sway of the hips. To achieve this hip movement, each step should be made with a certain pressure on the ball of the flexed foot, and as the weight is taken on the foot, the hip should drop down, the knee should straighten, and the heel of the opposite foot should be released while the hips move slightly to the side in the direction of the step.

Rumba dance focuses on the stability and mobility of the pelvic area and spine, which requires a certain amount of control, strength, and mobility to complete the movement (Muyor, et al., 2017). Almost all basic movements in Rumba dance are performed with the contraction of abdominal, hip, lower limb, and respiratory muscles (Beijing Sports University, 2016). Activation of these muscles can improve the function of the pelvic area (Hwang, 2021; Madill, McLean, 2006; Zachovajeviene, et al., 2019). Rumba dance particularly focuses on coordinating breathing and lower body movement.

The five Latin dances differ in rhythm and tempo. Developing motor skills is necessary to achieve satisfactory sports results, representing the main objective of sports training, as well as increasing physiological indicators as a result of training (Uzunović, 2008). In sports dancing, we can underline two relevant components: the aesthetic component and the physical component (Chren, Spanik, & Kyselovicová, 2010). Vaczi et al. (2016) emphasize that women consume more energy than men during sports dance competitions and note that this is due to technique. Liiv, et al (2013) also conclude that women achieve higher heart rates in certain dances compared to their partners.

The particularity of the study conducted by Liébana, Blasco, Monleón, Pablos, Moratal, (2017) was the analysis of the choreography of the Rumba Bolero dance in couples in motion, through EMGs. These authors showed that the medial gastrocnemius was the muscle with the highest activation, and this may be due to the use of high-heeled shoes by both sexes, as shown by Zagorc, Šimunič, Pišot, & Oreb (2010).

Being an expressive sport, every movement in sports dancing is based on artistic preparation. In this direction, all other motor qualities are found in the technical execution of the dancers in the regime of coordinative capacities. Although specialists have varied opinions regarding coordinative capacities, there are also common points in their presentation.

Dragnea and Mate-Teodorescu (2002) systematize coordinative capacities, which according to Năstase, (2011) also corresponds to sports dancing. The foundation lies in the capacity for direction and control, motor learning capacity, and adaptability. These three are complemented by:

- The ability to combine movements;
- The ability to differentiate movements;
- The ability to maintain balance;
- The ability to orient oneself;
- The ability to maintain rhythm and tempo;
- The ability to react quickly;
- The ability to transform movements.

Speed in sports dancing is related to two characteristics (time and tempo). Dancers coordinate their movements in a rhythm given by the imposed melody, and tempo is highlighted by the density of movements in a unit of time. The technique of execution influences these two characteristics of speed.

Speed of reaction is also present in dancers, closely linked to spatial-temporal orientation when couples' dance directions intersect in the room and each must quickly find the optimal technical solution to avoid hitting others.

Speed of repetition is found in the repetitive execution of certain steps in a certain rhythm.

The speed of movement of the dancers is observed from the very large space that they cover in a minute and a half (Zaletel, 2010).

Speed of execution is what determines the level of technical execution of rotations, for example. Very spectacular, rotations performed successively at a high speed represent a moment of great sports mastery, the combination with the ability to balance and spatial-temporal orientation defining the dancers' style.

Resistance in ballroom dancing is observed in the dancers' ability to maintain the same technical and artistic level for a long period of time (the entire competition). The mobility of the dancers, as part of the skillful motor quality, is found especially in the rumba dance, where very extensive movements can be observed, especially in the hip joint. The explosive force expressed in the dynamics of the movement and manifested by pushing from the supporting leg is also responsible for the length of the step and the quality of the technical execution of the body rebalancing on the new support, considering the type of stepping - regressive (from toe to heel) and the specificity of this dance where there is no lifting and lowering, only compression.

The artistic preparation of the dancers should be based on a high level of joint mobility over which they should apply specific strength exercises to be able to push into the lower limbs, to support isometric contractions during choreography. As mentioned, the Rumba is a dance in which hip movements are exaggerated.

The "turnout" process is specific to ballet and describes the position of the legs in preparation for most bar movements. It may seem like the legs are turned when, in fact, it is the femur that rotates outward in the hip socket and continues down to the tibia and foot. The first reason is the aesthetic aspect of the thigh and its effect on a vertical position. The second is that it facilitates lifting the leg, especially laterally. The femur has greater abduction capacity when in external rotation.

External rotation can be achieved by strategically working on stabilizing, mobilizing, strengthening, and increasing muscular control. Many dancers have an imbalance between quadriceps and hamstrings, hip flexors, and glutes, abductors and adductors, and external and internal rotators of the hip, with the first of each pair being generally hyperactive. By strategically strengthening the correct muscles and releasing the hyperactive ones, proper alignment can be achieved. Then, external rotators can be mobilized and strengthened.

Several studies have reported that dancers do not have the same level of strength as athletes in other sports (Bennell et al, 1999; Koutedakis et al, 1999). Due to these lower levels of strength, dancers are more prone to injuries during periods of fatigue. In fact, research has shown that low strength in the thigh muscles has been associated with greater severity of injuries in dancers (Koutedakis Y, Khalouha M, Pacy P, et al, 1997).

Therefore, for a correct execution of specific step combinations, lower limb strength is a desirable trait for dancers. Maintaining positions where the balance of the partners is precarious for a longer period of time, supporting the partner who may lose balance, are just a few moments in which static strength is manifested.

Dynamic strength is found in dancing when dancers stop from a chassé or rotation, or in the case of the Rumba in the Rumba Walk step.

Bompa, T. (2003) presents three laws of strength training for athletes. The first law concerns joint mobility development and refers to the care for the loads used in athlete preparation, which must be constantly correlated with joint mobility to avoid disturbing their harmonious development. The muscles of dancers are not prominent, but rather elongated, and this law must be respected to achieve this.

The second law is that of developing tendon strength before muscular strength. Considering that muscular strength develops faster than tendon strength, it should be considered in the training of athletes and dancers that ligament resistance leads to bone integrity.

The third law is related to the development of trunk strength before limb strength. If posture is correct, determined by mobilizing the paravertebral muscles, it is possible to work correctly and for the strength of limb muscles, both lower and upper. Technique in expressive sports cannot be achieved without proper physical preparation for physical requirements in competitions and age specificities of dancers. Strength in the lower limbs must be developed through maintaining joint mobility and supple musculature. Movements such as jumps, partner work, or adagio exercises (slow controlled movements) require muscular strength for control, graceful execution, and safety. Usually, dancers force positions that compromise posture to achieve the pleasant aesthetics of dance. A 2010 study on stretching in dancers led to the conclusion that increasing flexibility and range of motion without developing muscular strength is often problematic and not without success (Wyon, 2010). For example, when executing a développé, if a dancer has adequate muscular strength in both the gestural leg and the supporting leg, they are less likely to develop common hip injuries. Muscular strength provides support for the dancer's joints to avoid compromising posture and increase position stability. This allows the dancer to maintain the position for longer. For dancers to have more control over their movements, especially when in a hypermobile position, muscular strength provides joint support, which leads to safer landings, effortless movement, and a decreased likelihood of soft tissue injuries.

A study conducted in 2015 surveyed dancers about their perception of the significance of certain components of physical fitness and how much they develop these skills. 79% of the 109 dancers perceived muscular strength as "very important," however, only 25% of dancers trained regularly to develop muscular strength (McLeod, 2015). Nevertheless, in the same study, 82% of dancers perceived joint mobility and flexibility as "very important," and 51% trained regularly to develop them, while 30% were highly involved (McLeod, 2015).

Dancers need to follow both a strength program (heavy weight, low reps) and an endurance program (light weight, high reps), in order to prevent muscle growth but offer the muscles the ability to protect and support the joints while executing the extreme movements required by dance (Tassi). Strength training involves exposing the muscles to stimuli of sufficient intensity and duration to produce a desirable and lasting training effect. In the case of dance, these stimuli should also come from exercises that are mechanically similar to the specific form of dance. Overload is perhaps the most important principle of strength training (Koutedakis, Stavropoulos-Kalinoglou, Metsios, 2005).

It has been argued that conventional dance studio exercises confer little benefit in terms of strength development (Rimmer, Jay, Plowman, 1994). This hypothesis was tested by examining the effects of supplementary strength training programs on male and female professional dancers (Koutedakis, Cross, Sharp, 1996; Stalder, Noble, Wilkinson, 1990; Groer, Fallon, 1993).

Muscle hypertrophy is anathema to the dance profession. However, significant increases in muscular strength can occur without proportional changes in muscle size through strength development training (MacDougall, Elder, Sale, et al., 1980). Increased neural involvement may explain some of the strength gains induced by training, suggesting that at

least in the early stages of such training, hypertrophy is not a prerequisite for strength development (Koutedakis, Stavropoulos-Kalinoglou, Metsios, 2005).

Conclusions

The specific physical preparation for competitive dancing represents an integral part of the dancers' performance capacity and is interdependent with all other components. The methodology of physical preparation may include artistic training methods since studies show that there are no major negative interferences in the aesthetic of body movements due to changes in athletes' body shape (Angioi, 2012).

Knowing the specific training characteristics, including stages, principles, development characteristics of dancers aged 16-18, as well as the manifestation of their physical aptitudes and qualities, will determine the coach to apply the most suitable means and methods to capitalize on the athletes' potential. These directions will result in optimal changes in motor behavior and will lead to the expected results in official competitions.

Approaching the artistic preparation of young dancers as a means of physical preparation could have positive effects on their long-term athletic development. Structuring choreographies based on a solid physical preparation that meets competitive needs in terms of effort and artistic expression will lead to the optimization of motor qualities closely related to artistic ones.

Acquiring the technical basis of artistic movements that are not part of the competitive repertoire of the Rumba dance and, in general, of competitive dancing, can lead to improving the ways of performing specific basic steps by facilitating their learning and practicing, but also to perfecting the dancing technique as a couple.

The integration of specific artistic training exercises in the preparation of young dancers can contribute to the development of upper limb strength necessary for the Rumba dance. Thus, capitalizing on the motor potential will allow dancers to achieve high performance, but only if some very important factors are considered: motor and psychological qualities, family support, coaching experience, and finally, the athletes' ambition and conscientiousness.

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