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ANKLE STRENGTH IN LATIN DANCE**

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Introduction

Subject of research.

As a highly charming and expressive dance art form, Latin dance has been widely spread and developed globally, winning the love of the general public^[1]. It integrates unique musical rhythms, passionate dance movements, and intense emotional expressions. It is not only a display of physical skills but also a blend of art and culture. Among the numerous elements of Latin dance, ankle strength plays a crucial role. However, at present, in - depth research on the role of ankle strength in Latin dance is relatively scarce.

The relevance between the object and the theme.

This study focuses on the ankle strength in Latin dance and deeply explores its core supporting role in the completion of Latin dance movements, the maintenance of body balance, and artistic expression. The reason for focusing on ankle strength is that Latin dance movements are rich and diverse, including rapid spins, variable steps, and large - amplitude body swings, which place extremely high demands on dancers' body control abilities^[2]. As a key part connecting the legs and feet, the strength and application method of the ankle directly affect whether dancers can accurately and smoothly complete movements and fully demonstrate the artistic charm of Latin dance.

Main task.

The aim of this study is to comprehensively analyze the specific application methods of ankle strength in various Latin dance styles and reveal the internal connections between it and the movement quality and artistic appeal of Latin dance^[3]. Based on this aim, the main tasks are determined as follows: systematically analyze the movement characteristics of different Latin dance styles, deeply explore the unique action mechanisms of ankle strength in them; compare the differences in the application of ankle strength among dancers at different levels, and summarize methods to optimize the training and application of ankle strength; explore how to

enhance the artistic expression effectiveness of Latin dance by strengthening ankle strength, providing theoretical support and practical guidance for dancers' professional training and performances^[4].

Research methods.

To achieve the above research objectives, this study adopts a variety of research methods. On the one hand, the literature research method is used to extensively collect relevant literature and materials at home and abroad in fields such as Latin dance techniques, sports anatomy, and dance training, combing through the research achievements and deficiencies of predecessors in the relationship between ankle strength and Latin dance, and laying a theoretical foundation for this study. On the other hand, the video analysis method is adopted^[5]. A large number of competition and performance videos of excellent Latin dancers are selected, and the force - exerting methods, timings, and amplitudes of the ankles during the movements are analyzed frame by frame^[6]. Combined with the principles of sports biomechanics, the application laws of ankle strength in actual dance are deeply analyzed. In addition, through the expert interview method, in - depth exchanges will be carried out with professional coaches, referees, and outstanding dancers in the field of Latin dance to obtain their experience and insights on the application of ankle strength in practice, further enriching the research content.

Novelty.

The novelty of this study lies in focusing the research perspective on ankle strength, an area that has not been fully explored in Latin dance research. Through a multidisciplinary research method, it conducts an in - depth analysis from multiple dimensions such as sports anatomy and dance aesthetics^[7]. At the same time, it innovatively combines ankle strength with the artistic expression effectiveness of Latin dance, not only paying attention to its supporting role in movement completion but also focusing on how it affects dancers' body postures, movement textures, and emotional transmission, thereby enhancing the artistic appeal of Latin dance. This

expansion and deepening of the research perspective are expected to open up new paths for the theoretical research and practical training of Latin dance.

Practical significance.

This study has important practical significance. For Latin dance teaching and training, clarifying the core supporting role and application methods of ankle strength helps coaches develop more targeted training plans, improve training effects, assist dancers in enhancing their technical levels, and reduce sports injuries caused by improper force application. From the perspective of artistic performance, a deep understanding of the impact of ankle strength on artistic expression enables dancers to pay more attention to the control and application of ankle strength, demonstrate the unique charm of Latin dance through delicate ankle movements, and bring more ornamental and infectious dance performances to the audience. In addition, the research results can also provide new creative ideas for dance choreographers^[8]. When choreographing dance movements, they can fully consider the application of ankle strength to further enrich the artistic expression forms of Latin dance.

The structure of the thesis.

Based on the above research objectives and tasks, this paper will first briefly overview the basic characteristics and development status of Latin dance, laying a foundation for subsequent research. Then, it will deeply analyze the anatomical structure and functional characteristics of the ankle, and expound on the mechanical principles of ankle strength in Latin dance movements from the perspective of sports biomechanics. Subsequently, it will discuss in detail the specific application methods of ankle strength in different Latin dance styles and its impact on dance movement quality and artistic expression^[9]. On this basis, targeted ankle strength training methods and strategies to enhance artistic expression effectiveness will be proposed. Finally, the research content will be summarized and prospected, providing reference for future related research.

1. The Basic Relationship between Latin Dance and Ankle Strength

1.1. The Style Characteristics of Latin Dance and the Requirements for Ankle Movements

Latin dance includes multiple dance styles such as Rumba, Cha-Cha-Cha, Samba, Jive, and Paso Doble, each with its unique style characteristics and specific requirements for ankle movements.

Rumba, originating from Cuba, is known as the "dance of love." It has a slow rhythm, graceful movements, and delicate emotional expression. In Rumba, the dancer's center of gravity moves slowly, and the steps are smooth and rhythmic. The ankle plays a crucial role in this^[10]. For example, in the basic step "Cucaracha," the dancer is required to quickly extend and retract the foot, which requires the ankle to have good flexibility and control ability to quickly lift the sole of the foot and move it to the specified position while maintaining the balance and stability of the body. When doing the body roll, the pelvis needs to be pressed to the maximum extent, and at this time, the ankle has to firmly support the body weight and control the transfer of the center of gravity through subtle movements, so that the body can make the feet to make rocking movements in a smooth posture. The walking step in Rumba also pays great attention to the use of the ankle. The foot should not leave the ground, and the inner side of the foot should be used to step on the ground with force^[11]. Through the coordinated action of the ankle and the leg muscles, the force is transmitted to the sole of the foot, making the steps move forward gently and smoothly, showing the elegance and romance of Rumba.

Cha-Cha-Cha, originating from Mexico, has a fast rhythm, full of vitality, and a lively, warm, and playful style. Its dance step music has five steps in each four-beat measure, with a rhythm of slow, slow, quick, quick. The movement speed of Cha-Cha-Cha is relatively fast, requiring the dancer to complete the transfer of the center of gravity and the movement of the feet in a short time. In this process, the ankle needs to provide strong support and explosive power^[13]. For example, in the chasse step

(shrimp C step), when the center of gravity falls on one foot, the heel is lowered, the knee is straightened, and the hip swings to the side and back. The other leg relaxes and bends the knee. This series of movements requires the ankle to quickly adapt to the change of the center of gravity, maintain stability, and prepare for the next movement. When dancing Cha-Cha-Cha, pressure is applied to the front sole of the foot, the knee is slightly bent, and the ankle should always be in a tense state, so as to accurately control the position and strength of the feet in the fast rhythm, making the dance steps more crisp and lively, reflecting the playfulness and agility of Cha-Cha-Cha.

Samba, originating from Brazil, is a passionate and energetic dance with a strong rhythm and large movement amplitude. Samba is characterized by fast movement, strong body swing, and frequent bouncing^[14]. In the forward, backward, or lateral movement steps of Samba, the ankle should be able to flexibly adjust the body center of gravity, enabling the dancer to quickly and stably change directions. For example, when taking a forward step, the front foot, as the gravity foot, the ankle needs to bear a relatively large force and distribute the force reasonably through the front half of the sole to ensure the powerful propulsion of the step. At this time, the force distribution between the front and rear feet is approximately 7:3 to 6:4. In the bouncing movement of Samba, the explosive power of the ankle is particularly important. It needs to stretch and contract like a spring to provide upward force for the body, allowing the dancer to easily leave the ground and maintain balance and stability when landing, reducing the impact force on the body.

Jive, originating from the western United States, has a cheerful, lively, and humorous style. Jive is famous for its fast rhythm and a large number of jumping and kicking movements. In Jive, the dancer's center of gravity is constantly shifting between the two feet, and most of the time the force distribution is close to 5:5^[14], and the heel basically does not touch the ground, with the force mainly concentrated on the toes and the sole of the foot. The ankle needs to have extremely high flexibility and

endurance to adapt to continuous jumps and rapid foot changes. For example, in the basic jumping movement of Jive, the ankle has to quickly generate force to make the body jump upward. At the same time, in the air, it controls the body posture and leg movements, and when landing, it uses the buffer function of the ankle to reduce the vibration of the body, ensuring the consistency and fluidity of the movement. In the kicking movement, the ankle powerfully controls the lifting and lowering of the leg, making the kicking movement fast, accurate, and powerful, showing the playfulness and vitality of Jive.

Paso Doble, originating from France, is a dance that imitates the movements of Spanish bullfighters. It has a strong and powerful style, full of drama and tension. Paso Doble emphasizes the dancer's posture and the majestic sense of movement, with powerful steps. In Paso Doble, the stability of the ankle is of utmost importance. For example, in the basic forward and backward walking steps, although the gravity distribution of the two feet is approximately 5:5, the basic force is concentrated on the front sole of the foot. The ankle needs to firmly support the body weight, enabling the dancer to maintain a firm posture during the movement, showing the bravery and confidence of the bullfighter. When making turns and other movements, the ankle coordinates with other parts of the body to precisely control the body balance and rotation angle, ensuring the fluidity and expressiveness of the movement, reflecting the unique charm of Paso Doble.

1.2. The Physiological Structure and Movement Function of the Ankle

The ankle is an important joint in the lower limb of the human body, composed of the lower ends of the tibia and fibula and the talus. The tibia and fibula form the ankle mortise, and the talus is embedded in it. This structure achieves a delicate balance between stability and flexibility, providing a solid foundation for the completion of various complex movements in Latin dance.

There are many muscles attached around the ankle, which act like precise engines to

drive the movement of the ankle. The gastrocnemius and soleus muscles are mainly responsible for the plantar flexion of the ankle and play a key role in movements such as jumping and standing on tiptoe in Latin dance. For example, in the bouncing movement of Samba, these two muscles work together to make the ankle quickly plantar flex, providing upward power for the body, allowing the dancer to leave the ground lightly. The tibialis anterior muscle is mainly in charge of the dorsiflexion of the ankle and plays an irreplaceable role in controlling the rhythm and strength of the foot landing. When the dancer performs a slow transfer of the center of gravity in Rumba, the tibialis anterior muscle precisely contracts and relaxes to make the ankle smoothly dorsiflex, ensuring the elegance and fluidity of the steps^[15].

The ligament system of the ankle is an important guarantee for maintaining the stability of the joint. The lateral collateral ligaments, including the anterior talofibular ligament, posterior talofibular ligament, and calcaneofibular ligament, play a key role in preventing excessive inversion of the ankle. In the fast rotation and jumping movements of Jive, the lateral collateral ligaments can effectively limit the inversion range of the ankle, preventing sprains and enabling the dancer to safely complete difficult movements. The medial collateral ligament mainly prevents excessive eversion of the ankle, maintaining the stability of the ankle and providing stable support for the force transmission in various movements.

In the performance of Latin dance, these physiological structures of the ankle work together to exhibit excellent movement functions. In terms of supporting the body, the ankle bears the weight of the dancer and maintains the balance and stability of the body during single-foot standing, center of gravity transfer, and other movements. Whether it is the slow center of gravity movement in Rumba or the firm and powerful steps in Paso Doble, the ankle can precisely adjust the contraction and relaxation of the muscles according to the requirements of the dance movements, keeping the body in the best balance state. In terms of completing movements, the contraction of the ankle muscles and the movement of the joint enable the dancer to flexibly perform

various foot movements, such as the fast foot switching in Cha-Cha-Cha and the kicking movement in Jive. The ankle, in close cooperation with the leg muscles, transmits the force from the legs to the feet, providing the necessary power support for the dance movements. In terms of transmitting force, the ankle acts like a power transfer station, effectively transmitting the force from the upper part of the body to the ground and feeding back the reaction force from the ground to the body, enabling the dancer to better control the strength and rhythm of the movements. In the strong rhythm of Samba, the ankle can quickly convert the body weight into downward pressure, generate a powerful rebound force through the contact between the sole of the foot and the ground, and promote the fast movement and rotation of the body. In terms of maintaining balance, the joint structure, muscles, and ligaments of the ankle work together to enable the dancer to maintain balance in various complex dance movements. Whether it is during rotation, jumping, or center of gravity transfer, the ankle can adjust its state in time according to the changes in the body posture and movement, ensuring that the dancer does not lose balance and fall^[16].

Taking the "Cucaracha" step in Rumba as an example, when the dancer executes this movement, they need to first dorsiflex the ankle to lift the sole of the foot and then quickly plantar flex to move the foot to the specified position. In this process, the tibialis anterior muscle and the gastrocnemius and soleus muscles work together to precisely control the amplitude and speed of the ankle movement. At the same time, the ligament system of the ankle keeps the joint stable to prevent sprains during fast movements. During the entire execution of the "Cucaracha" step, the ankle not only bears the weight of the body but also finely adjusts the strength and speed of the movement according to the rhythm of the music and the emotional expression of the dance, making the dance movement more beautiful and fluid, fully showing the romance and tenderness of Rumba.

2. The Core Mechanism of Ankle Strength in Latin Dance

2.1. Providing Stable Body Support

In Latin dance, stable body support is the foundation for completing various dance movements, and ankle strength plays a crucial role in this. Whether it is standing on one foot, both feet, or during the process of shifting the center of gravity, the ankle needs to bear the weight of the body and resist gravity and inertia to maintain the balance and stability of the body.

When standing in the basic dance posture, the ankle maintains the vertical stability of the body through muscle contraction and joint fine-tuning. Taking the Rumba stance as an example, the dancer stands with feet together, knees straight, thoracic vertebra pushed up, and shoulders down. At this time, the ankle needs to exert force to support the weight of the body, making the center of gravity of the body perpendicular to the ground. The stability of the ankle directly affects the dancer's posture. If the ankle strength is insufficient, the dancer may experience body shaking and center of gravity shift, thus affecting the overall beauty and expressiveness of the dance. During the process of shifting the center of gravity, the role of the ankle becomes more prominent. For example, in the "Cucaracha" step of Rumba, the dancer needs to transfer the center of gravity from one foot to the other, which requires the ankle to quickly adapt to the change of the center of gravity, adjust the joint angle and muscle tension to ensure that the body remains balanced during the transfer. When the center of gravity shifts from the left foot to the right foot, the left ankle needs to gradually relax, while the right ankle has to quickly exert force to bear the weight of the body and maintain stability. If the ankle strength is not strong enough, the dancer may experience sluggish footsteps, unstable center of gravity, or even fall when shifting the center of gravity^[17].

There are obvious differences in the performance of dancers with different ankle strength levels in the same movement. Dancers with stronger strength can maintain body stability more easily, and their movements are smooth, natural, and graceful.

Their ankles can accurately control the transfer of the body's center of gravity, making the dance movements rhythmic and harmonious. On the other hand, dancers with weaker ankle strength often have difficulty maintaining body balance, are prone to shaking and imbalance during the dance, and their movements appear stiff and uncoordinated. In the fast movement and rotation movements of Samba, dancers with strong ankle strength can quickly adjust the position of their feet and body posture, maintain a stable rotation center, and make the dance movements full of vitality and passion; while dancers with insufficient ankle strength may have unstable rotations or even interrupt the dance movements due to their inability to control the balance of the body.

2.2. Assisting in Precise Center of Gravity Transfer

In Latin dance, precise center of gravity transfer is a key element in showing the fluidity and rhythm of the dance, and ankle strength plays an irreplaceable role in this process. Taking Rumba as an example, its center of gravity movement is usually slow and delicate, requiring the dancer to precisely control the transfer trajectory of the center of gravity through subtle ankle movements. In the basic step "Cucaracha" of Rumba, when the dancer transfers the center of gravity from one foot to the other, the ankle needs to skillfully adjust the angle and the degree of force. At the beginning, the ankle of the supporting foot firmly supports the weight of the body. As the movement progresses, the ankle gradually relaxes and cooperates with the contraction of the leg muscles to smoothly transfer the center of gravity to the other foot. In this process, the flexibility and strength control of the ankle are crucial. If the ankle strength is insufficient, the dancer may have difficulty accurately grasping the timing and amplitude of the center of gravity transfer, which may lead to sluggish footsteps, unstable center of gravity, and seriously damage the elegance and fluidity of the dance, greatly reducing the romantic and elegant charm that Rumba should have^[18].

Cha-Cha-Cha has a fast rhythm, frequent and rapid center of gravity conversions, and

higher requirements for ankle strength. Its dance step music has five steps in each four-beat measure, with a rhythm of slow, slow, quick, quick. In such rapid rhythm changes, the dancer's ankle must have strong explosive power and agile reaction ability to accurately transfer the center of gravity instantaneously. For example, in the chasse step (shrimp C step), when the center of gravity falls on one foot, the heel is lowered, the knee is straightened, and the hip swings to the side and back. The other leg relaxes and bends the knee. This series of complex movements requires the ankle to quickly adapt to the change of the center of gravity, adjust the body posture in a very short time, and be fully prepared for the next movement. If the ankle strength is poor, the dancer may experience unstable center of gravity and chaotic footsteps when performing this movement, unable to reflect the lively, playful, and crisp style of Cha-Cha-Cha, and the quality of the dance will be greatly affected.

Insufficient ankle strength has many negative impacts on the precision and fluidity of center of gravity transfer, which in turn seriously weakens the overall quality of the dance. On the one hand, when transferring the center of gravity, due to weak ankle strength, the dancer has difficulty accurately controlling the landing point of the body's center of gravity, resulting in deviations in foot movements, greatly reducing the standardization and accuracy of dance movements. On the other hand, insufficient ankle strength will make the center of gravity transfer process lack coherence and fluidity, disrupt the dance rhythm, and cause pauses or jerks, destroying the overall rhythm and beauty of the dance. In some difficult movements or dance segments with rapid rhythm changes, the lack of ankle strength may even cause the dancer to lose balance, fall and get injured, making the dance performance unable to proceed smoothly.

In actual Latin dance performances or training, we can judge the impact of ankle strength on center of gravity transfer by observing the movement details of the dancer. For example, in the long step movement of Rumba, dancers with stronger strength can rely on the stable support and flexible control of the ankle to make the center of

gravity move smoothly along the longitudinal axis of the body, with elegant and smooth steps and always maintaining a beautiful body posture; while dancers with insufficient ankle strength may experience center of gravity shift and body shaking, making the dance movements appear stiff and clumsy. In the rapid rhythm conversion of Cha-Cha-Cha, the ankles of excellent dancers can quickly exert force to achieve accurate center of gravity switching, with light and agile dance steps; while dancers with weaker ankle strength may not be able to keep up with the rhythm in time, resulting in lagging center of gravity transfer and sluggish footsteps, unable to show the unique charm and vitality of Cha-Cha-Cha.

2.3. Stimulating Powerful Movement Explosive Power

In Latin dance, many movements require instantaneous explosive power to show their unique charm and vitality, and ankle strength plays a key role in this. Taking Jive as an example, it is famous for its fast jumping and kicking movements. During the performance, the dancer needs to jump frequently and has a fast rhythm^[18]. Each time when jumping, the ankle first needs to quickly plantar flex, making the sole of the foot push the ground powerfully, thus generating upward force to bounce the body up. In this process, the plantar flexion muscle groups of the ankle, such as the gastrocnemius and soleus muscles, need to contract strongly in a very short time, providing the main power source for the jump. When the dancer is in the air, the ankle also needs to cooperate with the leg muscles to adjust the body posture to ensure the beauty and standardization of the movement. When landing, the ankle needs to quickly buffer through the dorsiflexion movement to reduce the impact force between the body and the ground, avoid injury, and prepare for the next jump. For example, in the "bounce step" of Jive, dancers with strong ankle strength can easily complete the movement with moderate jump height and stable rhythm, making the whole dance full of a cheerful atmosphere; while dancers with insufficient ankle strength may have insufficient jump height, sluggish rhythm, and even deformed movements or get

injured due to their inability to withstand the impact force of landing.

Samba also has extremely high requirements for the explosive power of the ankle. Samba is characterized by strong body swings and frequent bounces, and its rhythm is usually around 100 - 120 beats per minute. The dancer needs to complete various complex steps and bouncing movements in such a fast rhythm. In the bouncing movement of Samba, the ankle is like an efficient spring, quickly stretching and contracting, converting the force from the legs and the body into upward explosive power, allowing the dancer to leave the ground lightly. At the same time, in the fast step movement, the ankle needs to quickly adjust the center of gravity to provide stable support and explosive power for the next movement. For example, in the "lateral movement and bounce" movement of Samba, the dancer needs to bounce while moving laterally, which requires the ankle to have both good lateral stability and the ability to generate strong explosive power instantaneously to push the body to complete the movement. Dancers with excellent ankle strength can complete the movements smoothly in a fast rhythm, showing the passion and vitality of Samba; while dancers with insufficient ankle strength may have problems such as unstable center of gravity and sluggish movements in the process of moving and bouncing, unable to reflect the unique charm of Samba.

The coordinated cooperation of ankle strength with leg and whole-body strength is the key to generating powerful explosive power. In the movements of Latin dance, the leg muscles, such as the quadriceps and hamstrings of the thigh, provide the main strength support, while the ankle, as a key link in force transmission and adjustment, accurately transmits the leg strength to the sole of the foot and makes fine adjustments according to the needs of the dance movements. For example, in the jumping movement, the force generated by the contraction of the leg muscles is transmitted to the ground through the plantar flexion movement of the ankle, and the reaction force from the ground is then fed back to the body through the ankle, making the body obtain upward power. At the same time, the core muscle groups such as the waist and

abdomen also participate. They stabilize the center of gravity of the body, providing a solid foundation for the generate power of the ankle and legs, enabling the force to be transmitted and converted more effectively. The whole-body strength forms an organic whole under the coordination of the ankle, jointly acting on the dance movements, thus generating powerful and smooth explosive power. This coordinated effect not only enables the dancer to complete difficult movements but also makes the dance movements more infectious and expressive, allowing the audience to deeply feel the charm and passion of Latin dance.

2.4. Achieving Agile Step Movement and Flexible Body Posture Control

In Latin dance, agile step movement and flexible body posture control are key elements in showing the charm and artistic appeal of the dance, and ankle strength plays an indispensable role in this.

In Rumba, with its slow rhythm and delicate emotional expression, the dancer needs to use ankle strength to achieve the gentle sliding of steps and the elegant conversion of body posture. For example, in the "Cucaracha" step, the flexible rotation of the ankle enables the dancer to quickly lift the sole of the foot and accurately move it to the specified position. At the same time, coordinated the slow transfer of the body's center of gravity, the movement of the legs and feet is made by the rhythm of the waist and hips, making the whole body posture present a beautiful curve like flowing clouds and flowing water. The stable support of the ankle strength allows the dancer to maintain balance during single-foot standing and center of gravity transfer, ensuring the coherence and fluidity of the dance movements, and thus delicately interpreting the romantic emotion contained in Rumba.

Cha-Cha-Cha has a fast rhythm and lively, playful movements, and has extremely high requirements for the flexibility and reaction speed of the ankle. In the chasse step (shrimp C step), the dancer's ankle needs to adapt to the rapid change of the center of gravity instantaneously, and through quick and powerful plantar flexion and

dorsiflexion movements, accurately control the position and strength of the feet, making the dance steps crisp and neat. At the same time, the ankle cooperates with the knee joint and hip joint to make the body to turn and move quickly, showing the unique rhythm and playfulness of Cha-Cha-Cha. The body posture is quickly adjusted under the drive of the ankle strength, such as the side swing of the hips, the rotation of the shoulders, which are closely coordinated with the foot movements, forming the lively and changeable dance style of Cha-Cha-Cha.

Samba is characterized by strong body swings and frequent bounces, requiring the ankle to show excellent flexibility and strength control ability in the fast step movement and bouncing process. In the forward, backward, or lateral movement steps, the ankle flexibly adjusts the body's center of gravity, enabling the dancer to quickly change directions and maintain stability. For example, when performing the "V-step" of Samba, the ankle needs to quickly turn inward and outward, coordinate the powerful push of the sole of the foot, push the body to complete the lateral movement and rotation. At the same time, the flexion and extension of the knee and the swing of the hip also echo with the ankle movement, forming the unique body rhythm and passionate dance style of Samba, as if telling the story full of vitality and passion in the Brazilian rainforest.

The cheerful, lively, and humorous style of Jive is inseparable from the excellent performance of the ankle. In its basic jumping movement, the ankle quickly exerts force to make the body jump upward. When staying in the air briefly, the ankle cooperates with the leg muscles to adjust the body posture, making the leg movements more stretched, beautiful, and controlled. When landing, the ankle buffers to reduce the vibration of the body, ensuring the smooth and continuous of the movement and preparing for the next movement. In the kicking movement, the ankle powerfully controls the speed and height of the leg lifting and lowering, making the kicking movement fast, accurate, and powerful, and comply with with the movements of other parts of the body, such as the forward and backward tilting of the body and

the swinging of the arms, jointly create the carefree and joyous and energetic dance atmosphere of Jive, as if making people feel like being in the vast pasture in the western United States.

Paso Doble has a strong and powerful style, emphasizing the majestic sense of the dancer's posture and the drama of the movements. In the basic forward and backward walking steps, the ankle firmly supports the weight of the body, making the dancer's steps firm and powerful, and each step seems to carry the confidence and courage of the bullfighter. In the turning and other movements, the ankle coordinates with other parts of the body to precisely control the body balance and rotation angle. For example, in the "Spanish drag step," the ankle exerts force to control the friction between the sole of the foot and the ground, making the foot slide slowly and powerfully, while the body remains straight, and the movements of the shoulders and arms are like the bullfighter waving the cape, showing the unique tension and charm of Paso Doble, leading the audience into the exciting bullfighting arena scene.

The flexibility of the ankle is closely related to the coordination of other parts of the body, collectively constitute the graceful and fluent movement system of Latin dance. As the terminal joint of the lower limb, the ankle cooperates with the knee joint and hip joint to form the power chain of the lower limb. In the dance movements, the flexible rotation of the ankle provides the basis and guidance for the flexion, extension, and rotation of the knee joint and hip joint, making the movements of the lower limb more coordinated and fluid. For example, in the axial rotation movement of Rumba, the ankle first exerts force to start the rotation, and then the knee joint and hip joint follow up. The three work together to make the body rotate smoothly around the axis. At the same time, the upper body of the body echoes with it through the twisting of the waist, the straightening of the chest, and the rotation of the head, maintaining the overall beautiful and balanced posture.

The ankle also has a close connection with the core muscle groups such as the waist and abdomen. The core muscle groups stabilize the center of gravity of the body,

providing a solid foundation and guarantee for the movements of the ankle. In various movements of Latin dance, the core muscle groups always maintain a contracted state, controlling the posture and balance of the body, enabling the ankle to freely exert its flexibility and strength control ability. For example, in the jumping and kicking movements of Jive, the steadying function of the core muscle groups makes the body maintain balance in the air, avoiding shaking and imbalance. At the same time, the ankle can more accurately control the direction and strength of the leg movements, making the dance movements more clean, neat, and expressive.

This coordination plays an important role in enhancing the artistic expressiveness of the dance. When the ankle coordinates with other parts of the body, the dance movements can be shown more naturally and smoothly. The dancer can better interpret the emotions and rhythms of the music and integrate their emotions into the dance, making the audience have a strong emotional resonance. In Rumba, the dancer delicately expresses the gentle, lingering, and yearning emotions of love through the perfect coordination of the ankle, waist and hips, arms, and body posture, making the audience immersed in the romantic atmosphere; in Paso Doble, the dancer shows the heroic and confident spirit of the bullfighter through the powerful cooperation of the ankle and other parts of the body, making the audience feel the exciting bullfighting scene.

3. The Deep Impact of Ankle Strength on the Artistic Expression of Latin Dance

3.1. Enhancing the Fluidity and Coherence of Dance Movements

Ankle strength plays a crucial role in enhancing the fluidity and coherence of dance movements in Latin dance. To deeply explore this impact, we selected the performance videos of two dancers in Rumba for comparative analysis^[19].

In the video, dancer A has relatively strong ankle strength, while dancer B has relatively weak ankle strength. During the execution of the basic step "Cucaracha," dancer A can rely on excellent ankle strength to quickly and smoothly lift and lower the sole of the foot, and the coordination between the foot movements and the transfer of the body's center of gravity is seamless. Their ankle is like a precise bearing, which can accurately control the balance of the body during each transfer of the center of gravity, making the movement transition natural and smooth without any stuttering or disconnection. From the sliding of the feet to the rotation of the body, the entire sequence of movements is as smooth as flowing clouds and flowing water, allowing the audience to clearly feel the coherence and integrity of the dance movements and immerse themselves in the romantic atmosphere created by the dance.

In contrast, due to insufficient ankle strength, dancer B appears to be more laborious when performing the same movement. The speed at which they lift the sole of the foot is slower, and there is obvious shaking during the movement, resulting in an unstable transfer of the center of gravity. There are also brief pauses when connecting subsequent movements, which spoil the fluidity of the dance. When the audience watches, they are easily distracted by these unsmooth movements and find it difficult to fully immerse themselves in the emotions expressed by the dance.

From the perspective of mechanical principles, dancers with strong ankle strength can better utilize the elasticity of the ankle joint and the strength of the muscles when changing movements, quickly adjusting the body posture and center of gravity.

According to Newton's third law, when the dancer's sole exerts a force on the ground, the ground will give a reaction force to the body. Dancers with strong ankle strength can more effectively use this reaction force to smoothly transition the body to the next movement, thus ensuring the fluidity of the dance movements. On the other hand, dancers with weak ankle strength have difficulty making timely and accurate adjustments when facing the reaction force from the ground, resulting in an uncontrollable body posture and stuttering.

The impact of ankle strength on the fluidity and coherence of Latin dance movements is also reflected in the rhythm control of the dance. In Latin dance, the rhythm of the music is the soul of the dance, and dancers need to complete various movements according to the beats of the music. Dancers with strong ankle strength can better perceive the rhythm changes of the music and accurately reflect them in the dance movements through the flexible movements of the ankle. In Cha-Cha-Cha, there are five steps in each four-beat measure, with a rhythm of slow, slow, quick, quick. Dancers with excellent ankle strength can quickly complete the movement of the feet and the transfer of the center of gravity in the rapid rhythm changes, making the dance movements perfectly match the rhythm of the music, showing the liveliness and playfulness of Cha-Cha-Cha. On the contrary, dancers with insufficient ankle strength may not be able to keep up with the rhythm in time, resulting in a disconnection between the movements and the music, greatly reducing the overall effect of the dance.

3.2. Enriching the Emotional Expression and Style Interpretation of the Dance

In Latin dance, the skillful use of ankle strength can greatly enrich the emotional expression and style interpretation of the dance, enabling dancers to more accurately convey the connotation and artistic conception of the dance in the performance and trigger a strong emotional resonance among the audience.

Taking the passionate, romantic, and gentle Rumba as an example, during the dancing

process, the dancer controls the gentle transfer and sliding of the body's center of gravity through subtle and precise ankle movements. For example, in the "Cucaracha" step, the flexible rotation and appropriate force of the ankle make the sole of the foot can fit the ground delicately and move in an extremely soothing and elegant way, as if telling a deep and introverted love story. This way of using ankle strength complements the melodious and slow rhythm of Rumba, allowing the dancer to gradually unfold their inner emotions and enabling the audience to deeply feel the unique romance, sadness, and longing of Rumba, immersing themselves in the emotional vortex created by it.

On the other hand, the energetic and passionate Samba has completely different requirements and manifestations of ankle strength. The rhythm of Samba is usually extremely strong and fast, and the dancer needs to rely on the powerful explosive power and agile flexibility of the ankle to jump and rotate like a vivid flame in the fast-paced step movement and frequent bounces. For example, in the Iconic bouncing movement of Samba, the ankle instantaneously and powerfully plantar flexes, like a spring that bounces the body up vigorously. When staying in the air briefly, it can skillfully adjust the posture and then land lightly and quickly connect to the next movement. Throughout the process, the ankle closely cooperates with the rhythm of the music, and every stretch and rotation is full of a sense of power, perfectly interpreting the enthusiasm, cheerfulness, and vitality contained in Samba, making the audience feel as if they are in the lively carnival scene in Brazil and being deeply infected by the passionate atmosphere^[20].

It can be seen that ankle strength has a rich variety of application methods in different dance styles of Latin dance. It closely cooperates with the rhythm and melody of the music and deeply conforms to the unique style characteristics of the dance, becoming a powerful tool for dancers to express emotions and shape artistic images. Through the skillful exertion and flexible control of the ankle, dancers can cross the barriers of language and culture and directly convey the emotions of the dance to the hearts of

the audience, enabling the audience to not only appreciate the artistic charm of Latin dance but also have a strong emotional resonance and integration with the dancer at the emotional level when enjoying the dance.

4. Scientific Training Methods and Practical Strategies for Improving Ankle Strength

4.1. Special Training Methods and Skills

4.1.1. Calf Raise Exercise

The calf raise exercise is a simple and effective method for training ankle strength. Dancers can stand on a stable platform, lift their heels so that they are standing on their toes, and then slowly lower their heels to the lowest point and repeat. During the exercise, it is necessary to pay attention to maintaining the balance and stability of the body and avoid shaking or tilting. Each set of exercises can be performed 3 - 5 times, with 10 - 15 repetitions per set. As the training progresses, the number of sets and repetitions can be gradually increased, and different supports such as steps and barbell plates can also be tried to increase the difficulty and intensity of the training.

When performing the calf raise exercise, attention should be paid to the standardization of the movement. When lifting the heels, try to concentrate the weight of the body on the toes and feel the force of the ankle. When lowering the heels, control slowly to avoid sudden drops that cause joint impact. Breathe evenly, inhale when lifting, and exhale when lowering to maintain the stability and rhythm of the body. For example, in the initial stage of training, dancers can start with double-leg calf raises, familiarize themselves with the movement essentials, and then gradually transition to single-leg calf raises to further challenge the strength and balance ability of the ankle.

4.1.2. Single-Leg Balance Exercise

The single-leg balance exercise aims to improve the ankle stability and balance ability of dancers. The dancer stands on one leg and maintains balance, and then performs some simple leg movements such as leg lifts and knee bends. Each set of exercises can be performed 3 - 5 times, with each set lasting 10 - 15 seconds. During the exercise, focus on the force of the ankle, feel the change of the body's center of

gravity, and adjust in time to maintain balance.

To increase the difficulty of training, you can try to perform single-leg balance exercises on different surfaces such as carpets, wooden floors, and floor tiles to adapt to different support conditions. You can also close your eyes during the exercise, which can better train the proprioception and balance control ability of the ankle. For example, when practicing single-leg standing, you can start with your eyes open. After maintaining a stable body, gradually close your eyes and feel the adjustment effect of the ankle on the body balance without visual assistance. You can also combine arm movements such as arm extensions and rotations to increase the instability of the body and further challenge the balance ability of the ankle.

4.1.3. Toe Jump Exercise

The toe jump exercise can effectively enhance the ankle explosive power and leg strength of dancers. The dancer performs rapid toe jumps. Each set of exercises can be performed 3 - 5 times, with each set lasting 30 - 60 seconds. During the jump, pay attention to maintaining the tension and elasticity of the ankle and try to use the toes to exert force to make the jump movement light and rhythmic.

When starting the exercise, the jump height can be lower. As the ankle strength increases, gradually increase the jump height and speed. At the same time, pay attention to maintaining the upright posture of the body and avoid bending or hunching to avoid affecting the jump effect and body balance. For example, when performing toe jump exercises, you can start with continuous small jumps in place to feel the explosive power and rhythm of the ankle. Then, you can try to perform forward, backward, left, and right moving jumps to increase the diversity and complexity of the training. For example, perform toe jumps along the boundary of a square area and change the direction every jump to better train the explosive power and control ability of the ankle in different directions.

4.1.4. Ankle Circling Exercise

The ankle circling exercise helps to improve the flexibility and joint range of motion

of the ankle. The dancer performs ankle circling exercises in clockwise and counterclockwise directions. Each set of exercises can be performed 3 - 5 times, with 10 - 15 circles per set. During the circling process, try to maximize the range of motion of the ankle and feel the rotation and torsion of the ankle joint.

The speed of circling can be slow at first and then gradually increase to increase the flexibility and coordination of the ankle. It can also be combined with other movements for practice. For example, perform ankle circling while coordinating with knee flexion and extension movements in a standing position, or perform ankle circling in a sitting position and use hands to assist in increasing the range and strength of circling. For example, sit on a chair with both feet suspended, turn the ankles 10 circles clockwise slowly first, and then turn 10 circles counterclockwise. During the turning process, gently hold the ankles with hands and give a certain amount of assistance to make the ankles move more fully and improve the flexibility of the joints.

4.2. Precautions and Recovery Measures in Training

When performing ankle strength training, dancers need to follow a series of precautions to ensure the safety and effectiveness of the training.

First, follow the principle of gradual progress. The improvement of ankle strength is a gradual process and cannot be rushed. Dancers should start training from a lower intensity and difficulty and gradually increase the training load and complexity. For example, in the calf raise exercise, initially, you can start with double-leg calf raises, with 3 sets of exercises per set and 10 repetitions per set. As the ankle strength increases, gradually increase to 5 sets per set and 15 repetitions per set, and try single-leg calf raise exercises. If you start with high-intensity training from the beginning, it is easy to cause ankle injuries such as sprains and strains.

Maintaining correct posture is crucial. In each training movement, dancers must ensure the accuracy of the posture. Taking the single-leg balance exercise as an example, when standing, keep the body straight, knees slightly bent, and the center of

gravity stable on the supporting foot, and avoid incorrect postures such as bending, hunching, or center of gravity offset. Correct posture not only improves the training effect but also reduces the risk of injury. If the posture is incorrect, it will cause uneven force distribution and increase the pressure on the ankle joint, which may lead to joint wear or damage in the long term.

Adequate warm-up is an indispensable part before training. Warming up can fully activate the muscles and joints of all parts of the body, increase the body temperature and flexibility, and reduce the risk of injury. Dancers can perform some simple aerobic exercises such as jogging, rope skipping, or dynamic stretching for 10 - 15 minutes. For example, before performing toe jump exercises, jog for 5 minutes first, and then perform a full-body dynamic stretch, focusing on activating the ankles, knees, and hips, so that the joints secrete more synovial fluid and the muscle viscosity decreases. In this way, when performing toe jumps, the ankle can better adapt to the rapid movement changes and reduce the possibility of injury.

Paying attention to rest is equally important. Overtraining will lead to physical fatigue, affect recovery and growth, and thus reduce the training effect. Dancers should reasonably arrange training time and rest time and avoid continuous long-term training. Generally speaking, the daily training time should not exceed 2 - 3 hours, and at least 1 - 2 days of rest should be arranged per week. During the training process, if you feel ankle pain or discomfort, stop training immediately and take a rest and adjustment. For example, when performing ankle circling exercises, if ankle pain occurs, it may be due to too fast circling speed or too large amplitude. At this time, stop the exercise, take a rest for a while, and check whether the posture is correct. Resume training after the pain is relieved, or adjust the intensity and amplitude of the training.

Recovery measures after training also play a key role in preventing injuries and promoting the improvement of ankle strength. Massage is an effective recovery method. Dancers can massage their ankles by themselves or ask others to do it to

promote blood circulation and relieve muscle fatigue. The massage can start from the sole of the foot and gradually move up to the calf. The massage techniques include kneading, pushing, and stroking. Each movement is repeated 3 - 5 times, and each massage lasts about 10 - 15 minutes. Stretching can help relax muscles and increase joint range of motion. Common ankle stretching movements include standing calf stretch, that is, standing with feet together, leaning forward with the body, and supporting the wall with both hands to feel the stretch of the back of the calf and ankle, and maintaining for 30 - 60 seconds; sitting ankle stretch, sitting on a chair, placing the sole of one foot on the thigh of the other foot, and holding the toes with both hands and slowly pulling them towards the body to feel the stretch of the outside of the ankle, also maintaining for 30 - 60 seconds. Cold and hot compresses can also be used according to the situation. If there is slight swelling or pain in the ankle after training, cold compress can be applied first to constrict blood vessels, reduce swelling and pain, and the cold compress time is 15 - 20 minutes. 24 - 48 hours after training, hot compress can be applied to promote blood circulation and accelerate recovery, and the hot compress time is 20 - 30 minutes.

Reasonably arranging training and rest time is an important guarantee for improving ankle strength. Dancers should formulate a scientific training plan and organically combine ankle strength training with other dance training to avoid over-concentrating on ankle training and neglecting the development of other parts. For example, ankle strength training can be arranged on specific days of the week and interspersed with dance technique training and physical fitness training to ensure that all parts of the body are evenly exercised and recovered. At the same time, ensure sufficient sleep. The sleep time per night should be 7 - 9 hours. During sleep, the body will perform self-repair and adjustment, which is helpful for the recovery and improvement of ankle strength.

Creative Project

SECTION I.Choreography Plan for the Latin Dance Work "Passionate Summer"

Basic Features of the Latin Dance WorkTheme: Passion and vitality

Concept: Demonstrate the passionate and unrestrained traits in Latin culture through dance, convey a positive and upward attitude towards life, and let the audience feel the charm and passion of Latin dance.

Dance type: Latin dance (including elements of various Latin dance styles such as Rumba, Cha-Cha-Cha, and Jive)

Style: Lively, cheerful, and full of emotions

Work form: Dance choreography work

Time setting: The story takes place in modern times, in the 21st century, in the summer of 2023, on a midsummer evening.

Location setting: Chengdu Vocational College of Art, Sichuan, surrounded by colorful buildings and a lively crowd.

Characters and Their Brief DescriptionsDance performers: Dancers, who represent the incarnation of passion, interpret the vitality and passion in Latin culture through dance, and convey the warm atmosphere of summer to the audience through body language.

Passion Messenger (a lead dancer): A charming and confident dancer, as hot as a flame, leading the rhythm and emotional direction of the entire dance. He/She has strong stage presence, and every movement exudes endless passion, able to ignite the on-site atmosphere and lead other dancers and the audience to immerse themselves in the world of Latin dance together.

Vitality Elves (multiple dancers): Lively and agile dancers, they are like jumping notes in summer, full of vitality. Their movements are quick and elastic, showing the cheerful style of Latin dance with lively dance steps and bright smiles, echoing with the Passion Messenger and jointly creating a lively dance atmosphere.

The Latin dance work "Passionate Summer" consists of multiple parts, which are closely connected. Through changes in dance movements, rhythms, and emotions, it presents a complete and hierarchical story.

Overall Dramatic Structure

Opening: The Passion Messenger walks into the square alone, attracting the audience's attention and preparing to start the passionate journey.

Development: The Vitality Elves join in and dance together with the Passion Messenger. The dance rhythm gradually speeds up, and the atmosphere becomes more and more lively, showing the characteristics of various Latin dance styles.

Climax: Incorporating Rumba elements, the Passion Messenger and a Vitality Elf interpret romantic emotions, pushing the atmosphere to a climax and triggering emotional resonance among the audience.

Ending: All the dancers end with the Samba, releasing passion and vitality to the extreme, leaving a deep impression on the audience.

Each Part of the Dramatic Structure

Opening part

Entrance of the Passion Messenger: The Passion Messenger walks into the center of the square with confident steps and postures. His/Her eyes, expressions, and body language all exude a strong attraction, making the audience's attention instantly focus on him/her. At this time, the music rhythm is relatively soothing, laying the groundwork for the subsequent outburst.

Initial movements: As the music plays gently, the Passion Messenger starts to make some simple and rhythmic movements, such as slight hip swaying and hand raising, showing the basic rhythm of Latin dance, while also feeling the rhythm of the music and accumulating strength for the upcoming dance.

Development part

Gathering of the Vitality Elves: The Vitality Elves run in cheerfully from all around. Their entrance is full of vitality, jumping and spinning into the square and surrounding

the Passion Messenger. Their colorful costumes echo with the Passion Messenger's costume, forming a beautiful sight.

Cha-Cha-Cha interaction: The dancers start performing the Cha-Cha-Cha dance. The Passion Messenger and the Vitality Elves echo each other. Their dance steps are quick and rhythmic, and their movements are uniform. The dancers show their interaction and joy through eye contact, approaching and moving away from each other's bodies, gradually igniting the atmosphere of the square.

Display of vitality in the Jive: The music rhythm speeds up, and the dancers quickly switch to the Jive. At this time, their movements become more exaggerated and powerful, with increased jumping height and faster spinning. The dancers quickly shuttle on the square, cooperate with each other to complete various complex dance movements, such as kicking, spinning, and changing positions, showing the vitality and playfulness of the Jive and making the audience feel the passion of the dance rising continuously.

Climax part

Interpretation of Rumba emotions: The music rhythm slows down, and the melody becomes more affectionate. The Passion Messenger and a Vitality Elf slowly approach each other, and their eyes meet, full of deep affection. The two start to perform the Rumba dance. Their movements are gentle, slow, and emotional. Their bodies are closely attached, and every step and every spin convey romance and deep affection, as if the whole world only has the two of them. The other dancers surround them and set off the atmosphere with soothing and emotional movements, making the audience immerse themselves in this romantic atmosphere and triggering emotional resonance.

Ending part

Samba carnival: The music reaches its most passionate peak, and all the dancers quickly gather together and start the passionate Samba. Their movements reach the maximum amplitude, their bodies sway vigorously, their hips twist quickly, and their feet move quickly, as if swallowed by the passionate flame. The dancers' smiles are

extremely bright, and their colorful costumes flutter, pushing the atmosphere of the whole square to the extreme. The audience is infected by the dancers' passion and cheers and applauds one after another. The entire seaside square becomes a sea of joy and passion, and the dance ends in a warm atmosphere.

Music Analysis

The total duration of the music work is about 5 minutes. The overall rhythm is lively and full of vitality, which complements the style of Latin dance.

Prelude (0:00 - 0:30): It starts with light drumbeats and a melodious tune, creating a lively atmosphere on a summer evening. Brazilian traditional music elements, such as the prelude with Samba rhythm, are incorporated into the melody, laying the groundwork for the subsequent dance. The rhythm gradually speeds up, attracting the audience's attention and heralding the upcoming passionate dance.

Cha-Cha-Cha part (0:30 - 1:30): The music rhythm is distinct, with strong syncopation, which is a typical rhythmic feature of the Cha-Cha-Cha dance. The melody is lively and cheerful, mainly played by brass instruments and percussion instruments, such as the bright sound of the trumpet and the powerful rhythm of the conga drum, inspiring the dancers' vitality and making their dance movements lighter and more elastic.

Jive part (1:30 - 2:30): The music rhythm speeds up, and the melody becomes more exciting. The performance of string instruments such as the violin and guitar increases the vitality and dynamism of the music, matching the fast foot movements and jumping actions of the Jive. The fast notes and strong beats in the music prompt the dancers to show the playfulness and agility of the Jive.

Rumba part (2:30 - 3:30): The music rhythm slows down, and the melody becomes soft and affectionate. The piano and saxophone are mainly played, creating a romantic atmosphere. The slow rhythm and melodious melody provide dancers with an emotional space to show the elegance and deep affection of the Rumba dance, enabling them to express delicate emotions through dance.

Samba part (3:30 - 5:00): The music reaches a climax, with a strong and lively rhythm. A large number of percussion instruments, such as the Agogo drum and Timbal drum, as well as the entire orchestra's ensemble, are used to create a carnival atmosphere. The fast and complex rhythm prompts the dancers to release their maximum passion and end the entire performance with intense body movements and energetic dance.

Costumes (Pictures and Descriptions)

Costume of the Passion Messenger: For men, it is black slim Latin dance pants, paired with a red silk shirt with the collar open, revealing a solid chest. There are exquisite gold embroideries on the cuffs of the shirt. A wide red belt is tied around the waist, with golden decorative buckles inlaid on it. Black Latin dance shoes are worn on the feet, with red decorative lines on the shoe surface. For women, it is a red off-the-shoulder tight dress with a fishtail-shaped skirt that sways gracefully with the dance movements. There are golden flower patterns embroidered on the dress, shining brightly. A wide golden belt is worn around the waist to highlight the slender waist. Red high-heeled shoes are worn on the feet, with relatively high heels to increase height and enhance the visual effect of the dance. The accessories are a pair of gorgeous gold earrings and a red feather shawl, adding a passionate and unrestrained temperament.

Costumes of the Vitality Elves: The dancers are dressed in colorful Latin dance costumes. For men, it is loose short-sleeved colored shirts in colors such as yellow, blue, green, etc., paired with white Latin dance pants, and a colored belt is tied around the waist. For women, it is short-colored dresses, with colors corresponding to those of the men's costumes. The skirts are ruffled and light and flowing. The costumes are decorated with various sequins, beads, etc., which shine brightly under the light. The dancers all wear colored headscarves and bracelets and white Latin dance shoes, showing a youthful and energetic image.

Props (Descriptions)

Colorful scarves: The colorful scarves waved by the dancers are bright in color, such as red, yellow, blue, etc. The scarves are light in texture and flutter with the wind, adding more visual effects and flexibility to the dance. During the dance process, the dancers enhance the rhythm and expressiveness of the dance by waving and throwing the scarves.

Maracas: Some dancers hold maracas. The colors of the maracas match the costumes, such as gold and silver. The maracas make clear sounds during the dance, echoing the music rhythm and adding rich sound effects to the dance, making the audience feel the passionate atmosphere of Latin dance more immersive.

Lighting Design

Opening: The stage lighting is relatively dim, and only a spotlight shines on the Passion Messenger, highlighting his/her appearance and creating a mysterious and eye-catching atmosphere. The color of the light is warm orange, symbolizing the afterglow of the setting sun.

Development: As the Vitality Elves join in, the lighting gradually becomes brighter, illuminating the entire stage. The colors of the light become more colorful, such as red, yellow, blue, etc., flashing and switching quickly, echoing the cheerful rhythm of the dance and creating a lively and active atmosphere.

Climax: In the Rumba part, the lighting is dimmed and becomes soft purple and pink, creating a romantic and affectionate atmosphere, focusing on the Passion Messenger and the Vitality Elf dancing with him/her, highlighting their emotional exchange.

Ending: In the Samba part, the lighting becomes bright and dazzling again, with gold and white as the main colors. The intense light flashes and moves, following the dancers' movements, illuminating the stage like daylight, showing a carnival atmosphere and pushing the passion of the dance to the highest peak.

SECTION II. STAGING PLAN OF THE LATIN DANCE WORK "PASSIONATE SUMMER"

Stage Layout Diagram (Schematic)

| Area | Description |
|------------------------------|--|
| Center of the Stage (Area A) | The core performance area where the Passion Messenger (PM) showcases the main dance movements to attract the audience's attention, such as the opening solo dance. |
| Front of the Stage (Area B) | The area close to the audience where the dancers interact or make prominent performances, like the emotional exchange part between the PM and the Vitality Elves (VE) during the Rumba dance. |
| Back of the Stage (Area C) | The relatively rear space used for the dancers' entrance or exit preparations. The VE initially enter from this area. |
| Sides of the Stage (Area D) | The areas where the dancers can move, change positions, or perform auxiliary movements. In fast - paced dances like Cha - Cha - Cha and Jive, the dancers frequently use these areas for position changes. |

Figure Action Abstract

1 - 10 b
- b.

The stage lighting is relatively dim, and only a warm orange spotlight shines on the Passion Messenger (PM) in the center of the stage (Area A). PM walks into the center of the seaside square in Rio de Janeiro with a confident "Promenade" step. At this time, the afterglow of the setting sun bathes the square. As the light drumbeat and melodious tune play, PM's

Figure Action Abstract

eyes are burning with passion. He/she gracefully raises the arm and starts an "Spiral Turn" spin, accompanied by a precise "Cuban Motion" of the hips. The red dance skirt flutters like a blooming flower of flame. The body sways slightly with a "Basic Hip Sway" and a "Shoulder Shimmy" to show the basic rhythm of Latin dance, laying the groundwork for the subsequent dance outburst.

(Schematic: PM is located in the center of the stage, Area A. The red dance skirt is flying, the arm is extended, and the body starts to rotate, showing a confident posture.)

The Vitality Elves (VE) enter merrily from the back of the stage (Area C), jumping and spinning. They are wearing colorful costumes and have bright smiles on their faces. They quickly gather around the PM in the center of the stage (Area A), waving colorful scarves in their hands. The music tempo accelerates slightly, and they start dancing the Cha - Cha - Cha steps, specifically performing the "Chasse" step with a crisp "Lock Step" in between. Their feet move with rapid "Triple Steps", and their hands swing rhythmically with a "Side - to - Side Hand Wave" and a touch of "Wrist Flick" for added flair, echoing the dance of the PM.

11 - 20
b - b.

(Schematic: The VE run cheerfully from the back of the stage, Area C, towards the center of the stage, Area A. They surround the PM, waving colorful scarves and start dancing the Cha - Cha - Cha steps.)

21 - 35 The music tempo further accelerates, and the dancers quickly switch to

Figure Action Abstract

b - b. the Jive. The PM's movements in the center of the stage (Area A) become more agile and powerful, with increased jumping height and faster spinning speed, performing "Jive Jumps" and "Quick Spins" with impeccable "Jive Bounces" and "Kick Ball Changes". The VE's feet move as quickly as lightning. They constantly change positions between the center of the stage (Area A) and the sides of the stage (Area D), cooperating with each other through "Kick Steps" and "Switch Steps" intertwined with "Throwaway Overs" and "Whip Turns". They perform a series of complex dance maneuvers, including "Flicks" and "Kicks", vividly displaying the vitality and playfulness of the Jive. The dancers shuttle across the stage, and the scarves flutter in the wind, creating a vibrant scene.

(Schematic: The dancers move quickly on the stage. The PM jumps and spins in the center, Area A. The VE surrounds him and quickly changes positions between Area A and Area D, performing various kicking and turning movements. The colorful scarves are flying in the air.)

36 - 50
b - b. The music tempo slows down, and the melody becomes soft and affectionate. The PM and a VE gradually approach each other in the front of the stage (Area B), their eyes meeting with deep affection. They start performing the Rumba dance. Their movements are gentle, slow, and full of emotion. Their bodies are closely entwined, and with each step and spin, they convey romance and profound sentiment through "Cucaracha Steps" with a smooth "Weight Transfer" and "Body Rolls" with a delicate "Spiral Movement". The other VE surround them in the front of the stage

Figure Action Abstract

(Area B), waving the scarves gently, enhancing the romantic atmosphere with soothing and emotive gestures.

(Schematic: The PM and a VE look at each other affectionately and slowly approach each other in the front of the stage, Area B. They start performing the Rumba dance. The other VE wave scarves gently around them, creating a romantic atmosphere.)

The music reaches its most passionate peak. All the dancers quickly gather in the center of the stage (Area A) and start the passionate Samba. Their bodies undulate vigorously with "Samba Rolls" and "Pelvic Thrusts" in perfect sync with the "Samba Bounce" and "Stationary Samba Walks". Their hips gyrate rapidly, and their feet move as if propelled by a gust of wind, performing "Samba Steps" and "Bounce Steps" with a powerful "Corta Jaca" and "Volta Movements". The vivid costumes shine brightly in the afterglow of the setting sun. The dancers hold maracas in their hands, and the clear tones of the maracas resonate in harmony with the music's robust and lively rhythm. The audience is swept up in the dancers' fervor and erupts in cheers and applause. The entire seaside square transforms into a sea of jubilation and passion.

51 - 60
b - b.

(Schematic: All the dancers gather in the center of the stage, Area A, and dance the Samba with great enthusiasm. Their bodies swing vigorously, the maracas in their hands shake with the rhythm, and the stage is full of passion and vitality.)

Conclusions and Prospects

This research has conducted an in-depth analysis of the important role and internal mechanism of ankle strength in Latin dance. Through a detailed analysis of the style characteristics of various Latin dance styles and the requirements for ankle movements, it has revealed the core roles of ankle strength in supporting body weight, achieving precise center of gravity transfer, stimulating powerful movement explosiveness, and realizing agile step movement and flexible body posture control. The strength of ankle strength directly affects the stability, fluency, sense of rhythm, and expressiveness of dancers during the dance process, and it is one of the key factors for Latin dance dancers to demonstrate their superb skills.

Powerful ankles can ensure that dancers maintain stable body support in complex and changeable dance movements, reduce shaking and imbalance, and make dance movements more fluent, graceful, and rhythmic. In different dance styles, such as the elegant center of gravity transfer in Rumba, the rapid rhythm changes in Cha-Cha-Cha, the intense bouncing in Samba, the cheerful jumping and kicking in Jive, and the majestic steps and turns in Paso Doble, ankle strength plays an indispensable role. It is not only the basis for realizing these movements but also can effectively transfer and integrate strength through coordinated cooperation with body parts such as the legs, waist, and abdomen, thereby generating powerful movement explosiveness and enhancing the visual effect and artistic appeal of the dance.

Ankle strength has a profound impact on the artistic expression of Latin dance. It can enhance the fluency and coherence of dance movements, enabling dancers to better match the music rhythm and accurately interpret the emotional connotations and style characteristics of the dance. In the Rumba dance, the delicate control of the ankles can show romance and tenderness; in the Samba dance, the powerful explosiveness and flexibility of the ankles can release passion and vitality. By reasonably using ankle strength, dancers can cross cultural and language barriers and establish a strong

emotional resonance with the audience, so that the artistic charm of Latin dance can be fully demonstrated.

To improve ankle strength, this research has proposed a series of scientific training methods and practical strategies. Specialized training methods include heel raise exercises, single-leg balance exercises, toe jump exercises, and ankle circling exercises, etc. These exercises conduct targeted training on the strength, stability, explosiveness, and flexibility of the ankles respectively. During the training process, dancers need to follow the principle of gradual progress, maintain correct postures, fully warm up, and pay attention to rest to ensure the safety and effectiveness of the training. Recovery means after training, such as massage, stretching, cold and hot compresses, and reasonable arrangement of training and rest time, also play a key role in preventing injuries and promoting the improvement of ankle strength.

Although this research has conducted a relatively in-depth discussion on the important role of ankle strength in Latin dance and its training methods, there are still some aspects worthy of further research. Future research can be carried out from the following directions:

Firstly, further explore the coordinated training methods of ankle strength and other physical qualities in Latin dance. Latin dance requires dancers to have the comprehensive ability of multiple physical qualities, such as strength, speed, endurance, flexibility, and coordination. Although this research emphasizes the importance of ankle strength, how to organically combine ankle strength training with the training of other physical qualities to achieve the best training effect still needs further research. For example, research on how to use specific training methods to make ankle strength work better in coordination with leg strength and core strength to improve the quality and expressiveness of dance movements; or explore the mutual relationship between ankle flexibility training and body flexibility training, and how to achieve the balanced development of the two in training, so as to improve the overall physical quality and dance level of dancers.

Secondly, combine advanced sports science technologies to innovate the ankle strength training mode of Latin dance. With the continuous development of science and technology, many new technologies and devices have emerged in the field of sports science, such as the sports biomechanics analysis system, virtual reality training technology, and wearable sports monitoring devices. These technologies can provide more accurate data support and richer training means for the ankle strength training of Latin dance. Future research can explore how to apply these advanced technologies to ankle strength training. For example, use the sports biomechanics analysis system to monitor in real time the force on the ankles, changes in joint angles, and other parameters of dancers during training and performance, and formulate personalized training programs based on these data; or use virtual reality training technology to create a more realistic training situation for dancers to improve the interest and effect of training; it is also possible to use wearable sports monitoring devices to track and monitor the ankle activities of dancers in daily training and life, and timely discover potential problems and adjust the training plan.

Conduct research on the differences in ankle strength among Latin dance dancers at different levels and personalized training. Dancers at different levels may have relatively large differences in ankle strength. Junior dancers may need to focus more on the establishment of basic ankle strength and the training of stability, while senior dancers may need to further improve the explosiveness and flexibility of ankle strength to meet the requirements of high-difficulty movements. Future research can conduct detailed tests and analyses on the ankle strength of dancers at different levels, find out the differences and characteristics among them, and thus formulate more targeted personalized training programs for dancers at different levels. In addition, it is also possible to study the special needs of dancers of different ages, genders, and physical conditions in ankle strength training, and provide them with more suitable training methods and guidance to meet the training needs of different groups of dancers and promote the personalized development of dance teaching and training.

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