

Research on the Creation and Practice of Cheerleading at the Opening Ceremony of Large-scale Sports Events: Taking Hangzhou Asian Games as an Example

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Abstract: The movement creation and performance practice of cheerleading in large-scale sports events are often influenced by multifaceted factors in different real-world environments. These factors intervene in the actual artistic shaping and communication effectiveness of cheerleading performances. The cheerleading team of Jiangxi University of Science and Technology boasts a well-established sports talent development system. This paper analyzes the performance "New Trends Toward the Future" by the Jiangxi University of Science and Technology cheerleading team in the "Qiantang Tide Surge" segment of the Hangzhou Asian Games opening ceremony. Using methods such as literature review, expert interviews, video observations, and logical analysis, the study explores how cheerleading performances in the opening ceremonies of large-scale sports events can better control "transitions and connections" and convey the designed movements, formation arrangements, and design implications to the audience in the form of a "spectacular visual experience" through spatial transitions. The research indicates that the movement creation and performance of cheerleading at the opening ceremonies of large-scale sports events are highly correlated with the performance theme, formation arrangement, music, and athletes. The study's findings provide insights into how to deepen the meaning and emotional expression of cheerleading movements in related movement creation practices, and more intuitively present performance themes and concepts.

Keywords: Opening Ceremony; Cheerleading; Movement Creation; Large-Scale Events; Asian Games

1. Research Objective

This paper mainly analyses the performance "New Tide to the Future" of the cheerleading team from Jiangxi University of Science and Technology in the opening ceremony of the Hangzhou Asian Games.

2. Methodology

2.1 Literature Review

This paper not only retrieves related literature through the keywords "cheerleading" and "movement creation" on CNKI but also consults online materials and books in the library on the creation of cheerleading movements. And then via the collation and induction of literature and books, theoretical reference is constructed for the research of this paper.

2.2 Experts Interviews

What's more, this paper refers to the records from the interviews with Teacher Chen, the coach of the cheerleading team of Jiangxi University of Science and Technology, and experts of the cheerleading movements at the opening ceremony of the Asian Games, which aid understand the creation of cheerleading movements in the cheerleading team of Jiangxi University of Science and Technology in the Hangzhou Asian Games.

2.3 Video Observation

Through an in-depth analysis of "New Tide to the Future", the cheerleading performance video of Jiangxi University of Science and

Technology in the opening ceremony of the 2023 Hangzhou Asian Games, this paper summarizes the common scientific methods of cheerleading in the opening ceremony of sports events and the related factors of movement creation, for the purpose of providing basic support for the research.

2.4 Logic Analysis

Combined with the collected literature, expert interview results and videos, this paper also summarized and sorted out the creation of cheerleading movements in the opening ceremony of the Hangzhou Asian Games, and demonstrated the research content, obtaining the correlation factors of the creation of cheerleading movements at the opening ceremony in the way of the comprehensive logic analysis.

3. Results and Analysis

3.1 Analysis of the Cheerleading Movements Creation and Adaption at the Opening Ceremony and Related Factors

3.1.1 Types of movements and theme factors

The athletic movement types of the “*New Tide to the Future*” program of the cheerleading team of Jiangxi University of Science and Technology in the theatrical performance of “Qiantang Tide Surge” include: rotation, jumping, lifting, somersault, throwing, and difficulty elements (as shown in Table 1 “*New Tide to the Future*” program action types).

Rotation is a crucial movement in cheerleading that requires the athlete to demonstrate balance control, sense of direction, coordination, and other muscle control abilities. It involves rotating around the body's longitudinal axis using the support of the forefoot of one or both feet. Elements such as body posture, rotation trajectory, and speed contribute to the overall movement. Performing multiple rotation cycles increases the artistic value of the routine. Maintaining an elegant posture during high-speed rotation creates beautiful curves and shapes with the athlete's body, showcasing a perfect combination of strength and flexibility. Cheerleading displays musicality and poetry through the rhythm and control of movements, offering the audience a visually impactful and aesthetically pleasing experience[1]. Furthermore, the varied design

and implementation of rotational movements establish a fresh visual impact and enhance the artistic expression of cheerleading. Through the personalized artistic design of rotation speed and posture, and the incorporation of regional cultural elements, this approach highlights each athlete's individuality, showcasing a more diverse and unique artistic expression, as well as the special allure of Hangzhou.

Table 1. New Tide to the Future Movements Types

Movements Types	Basic hand movements	Thematic factors
Rotate		Showcasing distinctive cultural elements
Jump	Stretched jump, Toe Touch, C-Jump	Fast & Furious Racing Spirit
Stunt	One Hand, Two Hands, Stunt overhead etc.	Asian countries hand-in-hand hands to fight the difficulties
Tumbling	Non-Aerial Tumbling, Aerial Tumbling, Airborne Hip Over Head Rotation	Harmonious coexistence of strength and beauty in Asian culture
Toss	One Hand, Two Hands, Toss over Head	Mutual integration of information and culture, win-win cooperation (unity and sharing)
Difficulty elements	Shoulder Stand, Front Airborne, Forward Roll etc.	Innovation and transcendence

Jumping movements are prevalent in cheerleading routines, with examples including the Stretched jump, Toe Touch, and C-jump. These movements showcase the athletes' explosive power and demonstrate various body postures in the air, achieved through take-off from both feet or one foot in place or while moving. The amplitude of these airborne maneuvers is contingent upon factors such as body flexibility, maintaining body posture in the air, and the height of the jump. Notably, the force generated by the lower limbs and ankle joints plays a crucial role in

determining the height and execution of these jumps[2]. Through coordinated jumping movements, it demonstrates teamwork, mutual learning, and cooperation among different cultures and nations.

Stunt movement is one of the most spectacular movements in cheerleading, and can be used to demonstrate team collaboration and strength through one hand, two hands, stunt overhead etc. [3]. The term “stunting” refers to the act of lifting a person off the ground and into the air, typically by one or more individuals, to perform a series of coordinated movements. The height of the lift should not exceed two people. The individual being lifted is referred to as the “top person”, while the person or people doing the lifting are known as the “base”. Stunting is a visually captivating and impactful element of performance. Partnering, on the other hand, involves two or more individuals providing support to each other. Both stunting and partnering are highly engaging and are important indicators of a team's skill level. Under the theme “Tides Surging in Asia”, participants will collectively face challenges. The elevated top person symbolizes the resilience of Asian civilization, standing tall in the river of history and looking toward the future

The execution of tumbling movements involves an individual performing without physical contact, external assistance, or support from others, commencing and concluding the movement on the performance surface. These movements are technically categorized into non-aerial tumbling, aerial tumbling, and airborne hip overhead rotation based on their specific characteristics[4]. The ups and downs of the tumbling represent the changes of the times and the determination to move forward bravely, showing the spirit of not fearing hardships and dangers and moving forward.

Tossing is a common movement in cheerleading that demonstrates the team's cooperation and coordination, whether it's done with one hand, two hands, or overhead. It highlights the multi-dimensional interconnectedness and collaboration in various aspects such as economy and culture, conveying a sense of close friendship and mutual support. Difficulty movements like Shoulder Stand, Front Airborne, and Forward Roll symbolize the spirit of continuous

breakthrough, innovation, and determination to persistently navigate through challenges.

The cheerleading team from Jiangxi University of Science and Technology chose “Tides Surging in Asia” as the theme for their performance in the “*New Tide to the Future*” program, specifically in the “Qiantang Tide” chapter. The opening performance showcased the theme “Tides Surging in Asia”, incorporating water elements extensively. The use of electronic audio-visual presentation of “Tidal Water” provided a distinctive and immersive experience. Leng Song emphasized that the opening ceremony effectively conveyed the dynamic upward movement of the “tide” through the portrayal of the myriad transformations of “water”. This concept of “tide” not only signifies the powerful surging river tide but also represents the current tide of the times and the national style and cultural essence of ancient civilization.

3.1.2 Analysis of formation factor

Formation refers to a variety of three-dimensional pictures formed by reasonable, ingenious, and significant displacement changes over time when athletes perform a complete set of movements, which have certain artistic, ornamental, and visual effects [5]. The cheerleading team of Jiangxi University of Science and Technology adopted a combination of character formation and multi-formation in the formation of “*New Tide to the Future*” in the chapter of “Qiantang Tide”. It mainly through the cooperation of space, separation, gathering, everyone's standing, oblique row, horizontal row, up and down, left and right cooperation. In the 40s of the performance, the line is a character of “品” formation, and at 1 minute, a combination of multiple formations is adopted, with two Vs in the middle, and an oblique row on the side. The fluid formation design enhances the aesthetics of the overall movement, reflecting the artistic taste and imagination of the creator.

3.1.3 Analysis of music factor

Music is the soul of cheerleading and an indispensable part of a complete cheerleading ensemble [6]. To a large extent, the melody, rhythm and style of the music guide the performance and change of cheerleading movements, spreading the wings of flight for cheerleading and enlivening the cheerleading. Unique music enables the cheerleading stand out. The music “*New Tide to the Future*” of the

cheerleading team of Jiangxi University of Science and Technology in the theatrical performance of “Qiantang Tide” is the music “Tide Surge Qiantang” selected by the Asian Games Organizing Committee. Musical elements are integrated into the creation and adaption of the movements, and the combination of beautiful and cheerful dance posture and pleasing music inspires people and bring them happiness, stimulating team’s enthusiasm, appeal and activity. Pointing out the theme and rendering the atmosphere, music adds brilliance to the performance of the complete set of actions, and strengthens the artistic value and spatial effect.

3.1.4 Analysis of the Athlete Factor

Jiangxi University of Science and Technology cheerleading team in the theatrical performance of the “Qiantang Tide” chapter of the “*New Tide to the Future*”, a total of 43 athletes, participating in the opening ceremony of the students covers not only seniors, sophomores, but juniors. The team has meticulously built a talent pool that ensures the release of formidable power and the sustainable development of the team. Athletes train for up to seven or eight hours a day, practicing each movement at least a thousand times, risking injury with every difficult maneuver. Nevertheless, they relentlessly pursue perfection in every detail without complaint or regret. In the performance, Liu Wei executes a series of challenging movements such as Shoulder Stand, Front Airborne, and Forward Roll alone, while Weng Fengtao displays aerial somersaults, high stunts, and rotation skills. These two complement each other seamlessly.

3.2 Analysis of the Basic Hand Position

According to the differences in the basic hand positions of dance cheerleading in terms of movement structure, movement direction and movement form, the 36 basic hand positions of dance cheerleading can be divided into six categories, namely upward lifting, flat lifting, downward lifting, oblique lifting, punching and arm bending (Table 2 Classification of basic hand movements of dance cheerleading). The hand position movement is the main body of the complete set of movement creation and the core element of the combination form design, embodying the technical characteristics of dance cheerleading[7]. Given

the requirements of cheerleading competition rules, the hand movements’ movement creation must be original, seamless, precise, and logical. It should not only demonstrate coordination and cooperation with formation changes and harmony with the music rhythm but also involve the effective use of the performance space. By focusing on innovation, diversity, and logic, the hand movement combinations should be inventive, diverse, and well-structured.

Table 2. Classification of Basic Hand Movements of Dance Cheerleading

	Basic hand position
Up	High V, High X, X, Touch Down, Up A, L
Horizontal	Big T, Front X, Buckets (Candle holding, Bucket type)
Down	Down V, Down A, Low Touch Down, Low L
	Low Diagonal, K, Side K
Punch	High Punch, Up Cross Punch, Low Cross Puch, Low Side Punch, Up Side Punch
Bend	Up M, Hand on Hip, Karate, W, Dagers, Little H, Bend X, Short T, Hald Dagger, Bow and Arrow, Bow, Applauding, R, O

The cheerleading team of Jiangxi University of Science and Technology created a combination of basic hand movements in the “*New Tide to the Future*” chapter of the theatrical performance “Qiantang Tide”. Therefore, the complete set of movements has diversified changes, accompanying with more prominent visual effect and improved artistic appreciation. Moreover, the adjustments in hand positions and the corresponding changes in formation are well-coordinated, adding emphasis to the hand movements. This also leads to a more dynamic and varied formation, enhancing the impact of the formation’s level changes. The different types of hand movements seamlessly transition between low, medium, and high dimensions. Additionally, the hand movements are strategically placed in both horizontal and vertical space, effectively utilizing the space and emphasizing the three-dimensional nature of the movements. This enriches the visual appeal and elevates the artistic quality of the movement creation.

3.3 Analysis of the Creative Skills of the

Cheerleading

The movement creation skills of cheerleading at the opening ceremony of the Hangzhou Asian Games mainly include jumping, rotation, tumbling, balancing and flexibility, stunting and partnering movements, etc. In the creation of cheerleading movements at the opening ceremony of the Hangzhou Asian Games, difficulty movements such as airborne and consecutive jumps were added on the basis of integrating diversified traditional movement elements; Carefully considering the rhythm of the jumping movements, and perfectly combined with the music, tests the physical fitness of the athlete and improves the overall ornamentation, making the jumping action more novel and creative[8]. The use of rotation movements in the cheerleading performance at the opening ceremony of the Asian Games is quite distinctive, including single-arm rotation, double-arm rotation, consecutive rotation, partnering rotation and other diverse movements, making the performance more visually impactful. The rotation movement is highly in tune with the rhythm of the music, of which the beginning and end of each rotation are appropriately stuck on the beat of the music, turning the whole performance more harmonious and unified. Athlete's smooth and skillful rotation artistically beautify the whole movement. Consequently, it is necessary to consider not only the athlete's technical ability, but also whether the connection of the overall rotation has a sense of visual stimulation.

As an important part of cheerleading, the tumbling movements showed unique beauty and skills in the creation of the opening ceremony drills, such as forward roll, side hand spring, front flip, and back flip. Through brilliant movements and various tumbling changes, the performance space become more layered. Every toss and end are just right to the beat of the music, making the whole performance more harmonious and unified. In addition, both balance and flexibility are vital parts of demonstrating the physical fitness and technical ability of athletes in the dance. The performance of “*New Tide to the Future*”, mainly used shoulder stand. In the opening ceremony of the Asian Games, the cheerleading movements demonstrated the balance and control of the athletes through various balanced and flexible postures, as well as their excellent physical fitness.

3.4 Opening Ceremony Cheerleading Gymnastics Complete Set of Spatial Hierarchy Analysis

In order to fully utilize space, performers require a stage that allows for comprehensive and multi-dimensional awareness. By incorporating both horizontal and vertical spatial design, creators aim to achieve a visually impactful performance. The stage layout is divided into sections to maximize performance space efficiency. By understanding the varying stage heights, the performance gains a stronger sense of spatial hierarchy. For instance, dancers are strategically placed across the stage, and the dynamic stage design accentuates the spatial and hierarchical aspects of the performance. Dancers can fluidly adjust their formations and adapt the spatial levels, creating a captivating and immersive experience for the audience.

The design and application of complete sets of formations is an essential part of the spatial hierarchy. In the performance of “*New Tide to the Future*”, the formation adopts the combination of character “品” formation and multi-formation, whose design and transformation are closely related to the theme, displaying not only the characteristics of the individual, but also the strength of the collective. Through the change of formation, the flow of time and the transformation of space are presented. For example, the performers move rapidly from one side of the stage to the other, creating a spatial traversal effect. Besides, the transformation of formations shows different cultural elements and simulate various patterns and symbols, which symbolically reflect the breadth and profundity of Chinese culture.

In the performance of “*New Tide to the Future*”, the creators skillfully used lighting, music, costumes and other elements to enhance the visual effect of the spatial level. The use of lighting adds a sense of mystery and atmosphere to the performance, as if the athletes are in a low-light environment, and the sudden lights gives the athletes a three-dimensional spatial contrast with their surroundings. The use of music and costumes makes the space more distinct and adds a little color, making the whole performance atmosphere more enthusiastic.

3.5 Analysis of the Internal Relationship between the Factors Restricting the Creation of Cheerleading Movements

3.5.1 Analysis of the relationship between overall design and action creation

The overall design is at the heart of the creation of cheerleading movements, and it plays a decisive role in the visual effects, performance effects and teamwork of the movements. Factors to consider in overall design include the rhythm and melody of the music, the style and difficulty of the movements, the abilities and characteristics of the team members, and the theme and emotional expression of the performance. The music's tempo, rhythm, and melody have a significant impact on movement creation[9]. The synchronization of cheerleading movements with music should reflect the tempo, intonation, and intensity of the music to achieve a seamless fusion of music and motion. Cheerleading movements encompass a range of styles, including vigor, ardor, and refinement, and choreographers must select suitable movement styles in accordance with the performance's theme and emotional expression. The professional attributes and performance capabilities of team members are intricately connected to the quality of movement design. It is imperative to take into account the physical, technical, strategic, emotional, and intellectual aspects of team members during the comprehensive movement design process, while also incorporating their individual traits to ensure optimal performance and a striking visual impact on stage, showcasing the artistic allure of the cheerleading movements.

3.5.2 Analysis of the representation of transition and connection movements

Transition is a result-oriented process that enhances the cohesion and coherence between the process and the outcome. That is, the process of converting a basic hand position action into another hand position action through a certain hand action route is called a transitional type. It is often used for the conversion between lifting and arm flexion, which can effectively avoid injuries to shoulders, elbows and other parts caused by force mode.

Transition and connecting movements are indispensable parts of cheerleading movement creation, playing a vital role in linking various

movements, transitions, and creating the performance atmosphere. The forms of connecting movements include dance transitions, skill transitions, and movement connections, etc.[10] Dance transitions involve a series of dance movement switches, jumps, and transformations to seamlessly connect different performance segments, such as changing the formation, standing and posture, ensuring coordination and smoothness in dance movements. The dance transition can also highlight the cultural themes and emotional tones of dance movements by adjusting the music's pitch and rhythm, so that the audience can deeply experience the smooth connection of the dance movements. Skill transition refers to the use of movement techniques to make the various performance sections organically connected. Skill transitions involve using various performance techniques such as tossing and catching, flipping, and stepping diagonally to emphasize the artistic beauty of movement skills [11]. In cheerleading performances, movement connections are crucial, utilizing a series of professional dance movements to organically link different performance segments, enhancing the thematic, emotional, and stylistic elements of the movements, and completing the transition of the entire cheerleading dance. Additionally, movement connections can enhance the performance's impact by switching music tones, rhythms, and dynamics to closely align dance movements with the music melody.

3.5.3 Analysis of Transitions and Connections movements in Space Transformation

Transition and connecting movement transformations are essential aspects of cheerleading movement creation, involving visual and performance transformations in terms of flat transitions, three-dimensional switches, and spatial level changes.

Flat transitions mainly involve adjusting team formations and movement transition paths to add vitality and depth to the movements, enhancing the overall stage impact of the dance performance.

Three-dimensional switches refer to spatial changes made in a specific way within the dimensions of points, lines, and surfaces. By utilizing movement fluctuations and transitions, dance movements become more expressive, allowing the audience to immerse themselves

and experience a richer, more dynamic viewing experience.

Spatial level changes involve adjusting team formations, movement complexity, and three-dimensionality to add layers to the performance movements, making them more rhythmic and artistically appealing, thereby continuously enhancing the stage impact of the dance performance.

When analyzing the deep and multi-faceted aspects of dance transitions, connections, and movement spatial transformations, it is essential to consider the three-dimensional and dimensional aspects of movements. Spatial awareness mainly focuses on the state, arrangement characteristics, and transformation patterns of movements in three-dimensional space, which need to align with the emotional and cultural themes of the entire performance. Delicate and exquisite design of the three-dimensional and dimensional aspects of movements can better integrate dance transitions and movement connections[12].

4. Conclusion

In summary, the movement creation for cheerleading performances at major sports events' opening ceremonies should closely reflect the theme, include elements of the city and era, and take into account the performers' characteristics. The movement creation should not only consider thematic elements but should also showcase cheerleading's energy and vitality, presenting movements in a captivating and skillful manner to the audience. By incorporating the symbolism and emotional expression of cheerleading movements, the audience can more intuitively grasp the thematic concepts of sports events.

The cheerleading performance by the Jiangxi University of Science and Technology's cheerleading team, titled "New Tide to the Future", communicates deep emotions through music, formations, and movement creation. Each movement and formation convey the boundless hopes for the future of various Asian countries, symbolizing unity among Asian peoples as they courageously advance, conquer challenges, and strive for a brighter future.

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