INTEGRATING DANCE TO OPTIMIZE EXPRESSIVENESS IN AEROBIC GYMNASTICS - A COMPREHENSIVE ANALYSIS BASED ON THE 2025 WORLD GAMES CHENGDU

Andreea SPÎNU[1], Carmen ENE-VOICULESCU[2], Gabriela TOMESCU[3]

1 PhD Student, Institute of Doctoral Studies, Ovidius University of Constanța,900470 Constanta, Romania
2 Professor PhD supervisor, Institute of Doctoral Studies, Ovidius University of Constanța,900470 Constanta, Romania;
3 PhDAssist, Ovidius University of Constanța,900470 Constanta
** Correspondence author: andreeaspinu16@yahoo.com*

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ABSTRACT

Introduction. Dance, as both an artistic and motor form of expression, represents a fundamental component in enhancing the aesthetic and expressive dimensions of aerobic gymnastics. Over time, the evolution of this sport has brought new perspectives, transforming it from a discipline primarily based on simple fitness steps into a complex choreographic performance in which dance plays an essential role in achieving podium success. The most recent Points Code mandates the systematic incorporation of dance elements into competitive routines, emphasizing the critical importance of musicality, coordination, and fluidity of movement. Consequently, the precision and refinement of dance execution exert a measurable influence on the final score, reaffirming its decisive role in the overall evaluation of performance.

Methods. A theoretical analysis was conducted on the introduction of dance steps into aerobic gymnastics choreographies, emphasizing the mandatory inclusion of dance elements as required by the current Points Code. Representative examples of dance integration and aesthetic evaluation criteria were reviewed to assess their contributions to enhancing expressiveness, musicality, and thematic coherence in competitive routines.

Results. Structured integration of diverse dance forms allows gymnasts to transform technical sequences into cohesive, thematically coherent performances that generate emotional resonance and aesthetic impact. The results analyzed following The World Games in Chengdu indicate that the Artistic scores determined the final ranking in the aerobic gymnastics competition, with the Hungarian team coming in first place.

Conclusions. The integration of dance into aerobic gymnastics represents a purposeful and innovative strategy for elevating the artistic dimension of competitive routines. Beyond enhancing strength and synchronization, this inclusion has significantly increased the Artistic score value and advanced athletes' ability to convey narrative meaning. Through the fusion of dance movements, gymnastics elements, and strength components, athletes no longer perform only basic steps but transform their routines into expressive stories. This synergy between athletic precision and artistic expression determines the Artistic score according to the criteria in the Points Code, having a remarkable influence on the success of athletes and the final ranking in competitions.

***Keywords**: aerobic gymnastics; dance integration; artistic performance; expressiveness; competitive routines.*

Introduction

Aerobic gymnastics represents a complex discipline that integrates high levels of strength, dynamic difficulty, coordination, and technical accuracy with an increasingly emphasized artistic and expressive dimension. As the sport has evolved, the balance between physical performance and aesthetic quality has become central to both coaching methodologies and judging standards. Reflecting this evolution, the Fédération Internationale de Gymnastique (FIG) progressively refined its evaluation system; the current Code of Points (2021–2024) formalizes dance steps, musical interpretation, and creative transitions as fundamental elements of competitive routines. In Aerobic Dance (Aerodance), evaluation is restricted to Execution (E) and Artistic (A) only, emphasizing choreography, musical phrasing, and thematic coherence (Fédération Internationale de Gymnastique, 2021). In aerobic gymnastics, from the point of view of execution, the gymnastic act is performed in an aesthetic-artistic manner that acquires the character of a dance and is manifested by: elegance, plasticity, flow, unity, motor expressiveness, (varied) dynamism, correct segmental placement, safety and precision in conditions of multi-segmental coordination, variety of rhythm and musical tempo, coordination between body movements and the particularities of the musical piece (Cordun et al.,

2021). Psychomotor skills are qualities that play a major role in achieving results in gymnastics, both artistically and technically (Tanasă et. al., 2024).

Within this dual-criteria framework, dance and artistry are not ornamental but determinants of performance quality, requiring athletes to merge technical precision with musicality, stylistic coherence, and choreographic originality. The aesthetic component in aerobic gymnastics is strongly influenced by musicality, illustrative expressiveness, and emotional resonance (Todorova, 2017), while the integration of musical and choreographic elements enhances expressiveness and interpretive clarity (Morgado & Licursi, 2022).

From a movement-science perspective, the motor gesture functions as the medium through which physical action becomes expressive communication—linking biomechanical efficiency with intentionality, affect, and narrative meaning (Chirazi, 2022). This perspective supports the view that artistry and technique are interdependent performance variables: as technical precision increases, expressive control also improves through conscious rhythmic phrasing and motor coordination (Raiola, Giugno, Scassillo, & Di Tore, 2013).

Analysis of the 2025 World Games (Chengdu, 15th-16th of August 2025) demonstrates that artistic differentiation plays a decisive role in competitive outcomes. In the Aerodance Finals, teams with superior artistic scores achieved podium positions despite comparable execution levels, highlighting how musical phrasing, thematic coherence, and creative spatial composition have become determining factors under the current evaluation system (https://www.theworldgames.org/editions/Chengdu-CHN-2025-14/infosystem).

The present study investigates how integrating dance methodologies—including modular phrasing (4×8 to 6×8 counts), stylistic transitions, and narrative intent—can optimize expressiveness and elevate artistic standards in aerobic gymnastics. By aligning aesthetic interpretation with technical precision, this research aims to provide a model for improving artistic performance within the evaluative framework established by FIG (2021).

1.1. *Artistic preparation and expressiveness*

Artistic preparation in aerobic gymnastics involves cultivating four major components:

- Expressiveness – the ability to externalize emotion through movement, posture, and facial expression (Manos, 2016);
- Musical interpretation – synchronization with phrasing, tempo, and dynamics of the musical score (Vișan, 2005; Năstase, 2011);
- Plasticity of movement – modulation of amplitude, fluidity, and continuity in space (Van et. al., 2024);
- Integration of multiple intelligences – combining musical, kinesthetic, and interpersonal dimensions for enhanced creativity (Gardner, 1983).

Through systematic artistic training—such as musical improvisation, thematic choreography, and expressivity drills—gymnasts develop the capacity to ”feel” the music and project a coherent emotional message to the audience and judges (Macovei, Zahiu & Șulea, 2013), movements and posture representing a way of communicating and conveying messages to the public (Dina & Dina, 2014).

1.2. *Dance styles integrated in aerobic gymnastics*

The most popular dances styles include classical, contemporary, dancesport and street dance forms (Aducovschi, 2007). To explore the expressive spectrum of movement, contemporary training programs integrate multiple dance styles with direct choreographic applicability in aerobic gymnastics, especially Latin American dances (Liiv, 2012). Specific analyzed styles include: Street Dance, Samba, Tango, Waltz, Folk Dance, Jive, Rock'n'Roll, Quickstep, Cha-cha, Salsa, and Contemporary Dance (Suhaya et. al., 2024).

Each style contributes unique expressive values (Năstase, 2011; Potop, 2008):

- Street Dance – rhythmical strength, grounded motion, dynamic accents;
- Samba – fluid hips, circular pathways, and joy of movement;
- Tango & Waltz – elegance, connection, and emotional tension;
- Folk Dances – cultural identity and ensemble interaction;
- Jive, Rock'n'Roll, Quickstep – high energy, syncopation, and rapid tempo shifts;
- Contemporary Dance – body expression.

These forms enrich the gymnast's artistic vocabulary and facilitate better understanding of musical diversity and choreographic transitions.

1.3. *The artistic component in the FIG Code of Points (2025-2028)*

According to the FIG Aerobic Gymnastics Code of Points 2025-2028, the Artistic component is evaluated through five official criteria (Table 2):

Each criterion can also generate deductions (up to 0.3 points) if the choreography lacks connection

between music and movement, originality, or spatial coherence. Thus, artistic excellence becomes a quantifiable determinant of performance, influencing both audience impact and final score (Table 1).

Table 1. FIG Artistic evaluation criteria (2025–2028)

Criteria	Poor				Average		Good		Very good		Excellent
Music	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
Step content	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
General content	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
Artistic routine	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
Performance	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0

Table 2. The artistic components of the evaluation criteria

Music	**Step content**	**General content**	**Artistic routine**	**Performance**
Composition/ Editing quality/ Musicality.	*Quantity/ Quality/ Variety*	*Complexity/ Variety/ Space*	*Construction / Structure / Theme*	*Technical / Artistic Presentation*
Coherence between movement and musical phrasing, dynamic contrast.	Continuity between elements, avoidance of abrupt stops and balanced rhythm.	Coordinated relationships, eye contact and spatial collaboration.	Innovative design, novel transitions, and thematic identity.	Logical flow, efficient space utilization, and unity of concept.

In terms of execution, the score is based on five evaluation criteria, according to FIG Execution evaluation criteria (2025–2028):

- Synchronization;
- Aerobic movement patterns / Dance sequences technique (including "2nd style");
- Transitions & links;
- Partnerships & collaborations;
- Elements (optional of difficulty & acrobatic).

1.4. Case study: artistic differentiation at the 2025 World Games

The 2025 World Games (Chengdu) provided compelling evidence of artistic differentiation determining competitive outcomes in Aerodance. Analysis of the qualification round reveals that top-ranked teams demonstrated measurable differences in artistic scores despite similar technical execution capabilities. The Hungarian team, which secured first place with a total of 17.600, achieved an Artistic Score of 9.250, while their Execution Score (8.350) was identical to the second-placed Republic of Korea team (total 17.550, Artistic: 9.200, Execution: 8.350). (https://www.theworldgames.org/editions/Chengdu-CHN-2025-14/infosystem)

The performances were analyzed through official competition footage, examining fulfillment of FIG artistic criteria including creativity, musicality, partnership, thematic coherence, and choreographic fluency. This qualitative assessment enabled identification of specific expressive indicators responsible for performance differentiation among elite teams.

Purpose of the study

The purpose of this study is to investigate how the integration of dance training can optimize artistic expressiveness in aerobic gymnastics by:

- enhancing musical interpretation and creativity;
- improving thematic and spatial coherence;
- fostering a deeper emotional connection between performer and audience;
- establishing measurable relationships between artistic preparation and competitive results.

Materials and Methods

Our study is based on the analysis of the scores obtained by the top teams in the rankings in the qualifiers (Table 3) and in the final (Table 4). The findings aim to contribute to the development of an integrated artistic model for aerobic gymnastics—one that unites technical precision, choreographic diversity, and emotional communication to meet the demands of the 2025-2028 Code of Points.

Table 3. World Games Chengdu 2025 - aerobic dance qualification results

Rank	Country	Country	A Score	E Score	Penalty	Total	Status
1	Hungary	HUN	9.250	8.350	--	**17.600**	Q
2	Republic of Korea	KOR	9.200	8.350	--	**17.550**	Q
3	People's Republic of China	CHN	9.350	8.100	--	**17.450**	Q
4	Romania	ROU	8.950	8.050	--	17.000	Q
5	Italy	ITA	9.000	7.950	--	16.950	R1
6	Australia	AUS	8.650	7.450	--	16.100	--

Source: FIG World Games Chengdu 2025 – Aerobic dance qualifications (frgimnastica.com)
*A Score – Artistic Score; *E Score – Execution Score; *Q – Qualified; R1 – Reserve 1.

Table 4. The final results: summary of dance styles and thematic focus

Rank	Country	A Score	E Score	Total	Theme	Dominant Dance Style
1	Hungary	9.450	8.500	17.950	Chess Game	Samba
2	Republic of Korea	9.350	8.350	17.700	Star Wars	Street Dance
3	People's Republic of China	9.200	8.300	17.500	Kingsman	Jazz
4	Romania	8.950	8.050	17.000	Chess Game	Street Dance

Source: FIG World Games Chengdu 2025 – Aerobic dance final (frgimnastica.com)

Results

Based on the results obtained in the qualifiers and the final, we made a comparative analysis of the Artistic score.

1. Hungary vs. Republic of Korea

The artistic comparison between Hungary and the Republic of Korea, the top two teams in the Aerobic Dance qualification round at the World Games Chengdu 2025, illustrates how choreographic concept and dance style integration can decisively influence the Artistic Component (A) under the FIG 2025-2028 Code of Points.

Although both teams achieved nearly identical total scores in qualifying round—17.600 (Hungary) and 17.550 (Korea)—the 0.05-point advantage in the Artistic Component determined Hungary's lead. The detailed breakdown reveals that Execution (E) was identical (8.350), confirming that artistic differentiation, rather than technical error or amplitude, defined the ranking outcome.

Table 5. Comparative analysis of the artistic score between 1st and 2nd place

1st place. Hungary Samba and the ”Chess Game” theme	**2nd place. Republic of Korea Street Dance and the ”Star Wars” theme**
* Hungary's choreography, titled 'Chess Game', represented a fusion between Samba rhythm and symbolic theatrical structure. The team used spatial geometry to mimic the logic of chess moves, alternating between sharp diagonal formations and flowing transitions that evoked strategic interplay. Samba's Afro-Brazilian origins—characterized by syncopated hip actions, circular torso motion, and lively tempo—provided a kinetic vocabulary that naturally aligned with the FIG artistic criteria for musicality, thematic coherence, and transitions and fluency. * The expressive use of black-and-white contrasts, combined with alternating dynamics (fast rhythmic steps vs. suspended pauses), conveyed both	* The Republic of Korea's routine, based on the 'Star Wars' theme, integrated Street Dance, particularly Break dance and Hip-hop elements, emphasizing futuristic motion, mechanical isolations, and contrasting rhythms. Break dance, emerging from urban culture in the 1970s, is defined by power moves (head spins, freezes, back spins) and competitive energy, combining athleticism with creative improvisation. Korea's routine showcased these aspects through dynamic level changes, inverted balances, and robotized gestures echoing cinematic imagery. * While the choreography excelled in originality and acrobatic interaction, it relied heavily on strength and rhythmic complexity, occasionally

emotional intensity and narrative clarity. The result was a performance that balanced rhythmical vitality with conceptual depth, achieving an Artistic Score (A) of 9.250. * In evaluative terms, Hungary's composition fully satisfied the following FIG artistic parameters: *Creativity and originality* – innovative use of a symbolic theme through dance form; *Musicality and interpretation* – precise synchronization with rhythmic accents; *Thematic coherence* – clear narrative sustained throughout; *Transitions and fluency* – seamless choreography and partner exchanges.	sacrificing musical phrasing and emotional subtlety. According to the FIG criteria, Korea's Artistic Score (A = 9.200) reflected: *Creativity and originality* - Street dance is a dance style that is very common in aerobic gymnastics choreography; *Musicality and interpretation* - slightly reduced musical interpretation and thematic coherence compared with Hungary. *Thematic coherence* - clear narrative sustained throughout; *Transitions and fluency* – effective partnership and interaction.

The comparative analysis confirms that artistic integration, not execution, determined ranking superiority. Hungary's choreography excelled through musical structure, emotional rhythm, and symbolic storytelling, aligning perfectly with the FIG criteria for Artistic composition (Table 5).

Korea's performance, though innovative and physically powerful, reflected the inherent challenge of translating Street Dance's improvisational energy into structured thematic coherence required in aerobic gymnastics.

While both teams achieved technical parity, Hungary's advantage derived from artistic intelligence, the ability to merge physical rhythm and conceptual narrative into an unified aesthetic whole. The dance steps specific to Samba and moving in pairs on the floor increase the difficulty of the choreography due to the specific technique.

2. *People's Republic of China vs. Romania*

The artistic contrast between the People's Republic of China and Romania in the Aerobic Dance qualification and final round at the 2025 World Games (Chengdu) illustrates two distinct choreographic approaches shaped by theme, musical interpretation, and movement style. Although both teams achieved strong technical execution, their expressive directions diverged sharply: China's ”Kingsman” routine embraced elegant Jazz stylization, while Romania's ”Chess Game” translated strategic duality through Street Dance power and rhythm (Table 6).

Table 6. Comparative analysis of the artistic score between 3rd and 4th place

3rd place. People's Republic of China Jazz and the ”Kingsman” theme	**4th place. Romania Street Dance and the ”Chess Game” theme**
* China's performance was inspired by the movie ”Kingsman”, combining British sophistication with the precision and flair of Jazz dance. The choreography reflected cinematic elegance—refined gestures, sharp dynamics, and polished body lines synchronized to upbeat swing phrasing. * The routine emphasized musicality, character portrayal, and stylistic cohesion, achieving a strong connection between rhythmic structure and expressive nuance. Each transition was executed with controlled elasticity and clean spatial symmetry, reinforcing the impression of professionalism and narrative clarity. * Although the Execution score (E = 8.100) was moderate, the team's Artistic score (A = 9.350) reflected outstanding interpretation, fluency, and aesthetic refinement. Under FIG's (2025-2028) criteria, China excelled in: *Creativity and originality* – cinematic concept	* Romania's ”Chess Game” routine approached the theme of logic and confrontation through Street Dance, integrating Hip-hop, Locking, and Break Dance influences. The choreography symbolized strategic duel through contrasting formations, mirrored gestures, and rhythmic isolation, emphasizing power, energy, and teamwork. * The Street Dance vocabulary, while dynamic and visually impactful,presented rhythmic fragmentation and reduced melodic phrasing, affecting thematic fluidity and musical continuity. With A = 8.950 and E = 8.050, the Romanian team displayed *excellent group synchronization and physical precision* but *less expressive contrast and emotional layering* than China.

integrated into dance composition; *Musical interpretation* – timing and phrasing perfectly aligned with Jazz rhythm; *Thematic coherence* – clear narrative sustained throughout; *Transitions and fluency* – seamless narrative and stylistic consistency.	

The artistic dialogue between China and Romania demonstrates how stylistic refinement and thematic clarity influence performance evaluation in Aerobic Dance. China's Jazz-based ”Kingsman” routine excelled through rhythmic phrasing, elegance, and controlled expressiveness, embodying cinematic sophistication.

Romania's ”Chess Game” relied on energetic contrast and symbolic tension, translating strategy into motion but with less musical subtlety. Thus, China's expressive precision and choreographic fluency yielded higher artistic resonance, while Romania's kinetic force and conceptual depth showcased the growing integration of Street Dance into aerobic artistry.

This comparison highlights that, under the FIG Code of Points, artistic identity and rhythmic coherence are decisive in transforming choreographic ideas into high-performance outcomes.

Discussions

Empirical research further confirms that the Artistic component is closely associated with overall rankings in international competition. Keskin (2024) demonstrated a strong correlation between artistic, execution, and final scores at the 13th European Aerobic Gymnastics Championship, showing that artistry can decisively influence podium outcomes when execution levels are equivalent.

This study highlights the decisive role of dance integration in enhancing artistic expressiveness and overall performance quality in aerobic gymnastics, particularly under the evaluative framework of the FIG Code of Points (2025–2028). The comparative analysis of the 2025 World Games (Chengdu) demonstrates that artistic differentiation—rather than technical execution—determines competitive success at the elite level.

Musical phrasing, thematic coherence, and creative spatial composition can become decisive factors under the current evaluation system (Ghezea, Stoica, Bota, Teodorescu & Gherghel, 2025). By examining the stylistic and thematic structures of top-ranked routines, the research confirms that integrating diverse dance styles (Samba, Jazz, Street Dance, etc.) not only enriches the gymnast’s expressive vocabulary but also strengthens choreographic coherence, emotional communication, and musical interpretation. Hungary’s “Chess Game” routine exemplified the optimal fusion between rhythmical vitality and conceptual depth, while China’s “Kingsman” performance validated the aesthetic value of refined musical phrasing and stylistic fluency.

Conversely, routines that prioritized physical power or rhythmic complexity at the expense of thematic unity—such as Korea’s and Romania’s—demonstrated how minor deviations in musical phrasing and expressive control can significantly influence the artistic score and, consequently, the final ranking. Romania constantly obtained good results at international level, due to some valuable technicians who continuously innovated the content of the coaching sessions (Mezei & Cristea, 2014). At the World Games in Chengdu, Romania was one step away from the podium. Although the theme chosen by the coaches was similar to that of the Hungarian team (”Chess Game”), there was a significant difference in terms of the artistic score, and this may be due to the dance style chosen (Street Dance vs. Samba), the musicality, and the pair dancing of the team in first place (Hungary).

Gymnastics offers a great range of locomotive, stability and body control movements (Corlaci & Gavojdea, 2025). From a methodological perspective, the findings support the implementation of integrated artistic training within aerobic gymnastics programs. Incorporating dance-based exercises—such as modular phrasing, improvisation, and thematic choreography—can cultivate expressiveness, kinesthetic intelligence (Tomescu, Stănescu & Aivaz, 2024), and synchronization between movement and music. The complexity of dance generates positive effects on the entire body and develops all forms of intelligence through the integrated manner in which it specifically acts on them. (Stănescu & Tomescu, 2020).

Conclusions

The study proposes an integrated artistic model in which technical precision and emotional narrative coexist as interdependent dimensions of performance. The future of aerobic gymnastics depends on this balance between biomechanical efficiency and artistic identity, ensuring that the sport evolves not only as a physical discipline but also as a sophisticated medium of expressive communication.

In conclusion, integrating dance training optimizes artistic expressiveness, meeting the demands of the FIG 2025–2028 Code of Points. Visual results and analyses confirm that artistic talent, rather than execution itself, determines ranking differences in elite aerobic gymnastics. When rhythm complements technical elements, routines transcend mechanics and become stories that the jury feels, not just scores. Stylistic diversity develops expressive adaptability, and incorporating different dance styles, such as Samba, Jazz, or Street Dance, refines musical interpretation, balance, and the emotional texture of the performance.

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