LEARNING STREET DANCE IN PRESCHOOL CHILDREN: A PRELIMINARY STUDY

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Abstract. *This study aims to investigate the learning process of street dance in preschool children and to highlight its role in the development of coordinative abilities, rhythmicity, and spatial-temporal orientation. The research is based on the assumption that a structured and age-appropriate training program can significantly enhance the acquisition of fundamental street dance skills in early childhood. The study was conducted over a period of three months and involved a group of 19 preschool children aged 4 to 6 years, who participated voluntarily with parental consent. The methodological framework included observation, pedagogical experiment, statistical-mathematical analysis, and graphical representation of data. The intervention program comprised specific exercises aimed at developing motor rhythmicity, coordination, and spatial orientation, as well as simplified street dance movements adapted to the developmental level of preschoolers. The activities were designed to be engaging, interactive, and aligned with the psychomotor characteristics of this age group. The results indicate noticeable improvements in motor coordination, rhythm synchronization, and the ability to perform basic street dance sequences. These findings support the hypothesis that integrating street dance into early physical education contributes to children's motor development. In conclusion, street dance represents an effective and attractive pedagogical tool for enhancing psychomotor skills in preschool children, with potential implications for educational practice and curriculum development in physical education.*

Keywords: *street dance; early childhood education; motor competence; coordination; rhythm; physical activity.*

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Introduction

Dance represents a complex interdisciplinary domain situated at the intersection of art, sport, and education, playing a fundamental role in human development across the lifespan. Beyond its aesthetic dimension, dance functions as a means of motor expression, emotional regulation, and social interaction, contributing significantly to the harmonious development of the individual (Narikbayeva et al., 2025). In the context of physical education, dance is increasingly recognized as an effective pedagogical tool that integrates cognitive, affective, and motor domains, particularly in early childhood education (Cirelli & Kragness, 2025; Liu et al., 2025).

Among contemporary dance forms, street dance has emerged as a dynamic and influential cultural phenomenon. Originating in the 1970s within urban communities in the United States, street dance encompasses a wide range of styles, including breaking, popping, locking, and hip-hop, all characterized by improvisation, creativity, and strong connections to music and social context (Chang, 2005; Schloss, 2009). Unlike traditional dance forms that are typically taught in structured environments, street dance evolved in informal settings such as streets, clubs, and community spaces, emphasizing spontaneity and personal expression. Over time, it has expanded globally, becoming both a form of artistic expression and an educational resource.

The growing popularity of street dance among children and adolescents highlights the need to investigate its pedagogical potential, especially in early education. Preschool age (3–6 years) represents a critical developmental stage characterized by rapid somatic growth, neurological maturation, and the consolidation of fundamental motor skills. During this period, children exhibit high plasticity in acquiring new motor patterns, making it an optimal time for the development of coordinative abilities such as rhythm, balance, spatial orientation, and motor control (Gallahue et al., 2012).

Figure 1. Main Street Dance Styles

Street dance encompasses a variety of movement styles, including breaking, hip-hop, popping, locking, krumping, house, waacking, and vogue, each originating in urban communities and reflecting distinct cultural influences (Figure 1). Breaking, one of the earliest forms, emerged in 1970s New York and combines acrobatic and rhythmic movements (Schloss, 2009). Hip-hop dance emphasizes creativity and self-expression, evolving into multiple stylistic phases linked to musical and cultural changes (Chang, 2005). Other styles such as popping and locking focus on rhythmic precision and body control, while krumping highlights emotional intensity. House, waacking, and vogue incorporate fluidity, musicality, and expressive performance. Collectively, these dance styles contribute to the development of coordination, rhythmic perception, and spatial awareness. They also support identity, creativity, and social interaction, making street dance a valuable tool in educational contexts. Moreover, an important link was found between street dancers' technical skills (secondary school students were examined) and their ability to quickly process data (Tudor et al., 2024).

Coordinative abilities are essential components of motor performance and are defined as psychomotor capacities that enable the efficient control, regulation, and adaptation of movement in various contexts. These abilities are closely linked to the functioning of the central

nervous system and the integration of sensory and motor processes, which play a fundamental role in the regulation and execution of coordinated movement (Liu et al., 2022; Tran et al., 2022). In physical education, the development of coordinative abilities facilitates the acquisition of motor skills, enhances adaptability to changing environments, and supports overall motor competence.

Dance, due to its complex structure involving rhythm, timing, and body coordination, represents an ideal medium for stimulating these capacities. Street dance, in particular, offers unique advantages in the development of coordinative abilities. The diversity of movement patterns, synchronization with rhythm, and emphasis on spatial awareness create a stimulating learning environment for preschool children (Karpati et al., 2017; Chatzihidiroglou et al., 2018). Moreover, dance activities engage multiple sensory systems simultaneously, facilitating the integration of auditory, visual, and motor information, which is essential for the development of coordinated movement (Cirelli, 2025).

Participation in structured dance programs has been shown to significantly improve fundamental motor skills, including balance, coordination, and overall motor competence in young children (González-Devesa et al., 2024). These improvements are attributed to the repetitive yet varied nature of dance movements, which require continuous adaptation to rhythm and spatial constraints. In addition, movement-based activities such as dance stimulate neuromuscular control and enhance the efficiency of motor responses, contributing to better movement accuracy and fluidity (Ito et al., 2024).

Beyond the motor dimension, dance also plays a crucial role in cognitive and socio-emotional development. Rhythm and movement activities have been associated with improvements in attention, self-regulation, and early academic skills, as they promote the development of temporal processing and executive functions (Williams et al., 2023). Therefore, integrating street dance into early childhood education not only enhances psychomotor development but also supports cognitive and psychosocial growth, making it a valuable and multifaceted pedagogical tool.

Furthermore, the interactive and expressive characteristics of street dance aligns with the developmental characteristics of young children, promoting engagement, motivation, and active participation. Previous research suggests that movement-based activities incorporating rhythm and music can significantly enhance motor coordination, attention, and cognitive functioning in early childhood (Kozina et al., 2023; Danyliuk & Burkalo, 2024).

In addition to motor development, street dance contributes to psychosocial growth. It provides opportunities for emotional expression, creativity, and social interaction, fostering self-confidence and interpersonal skills. The integration of dance into educational settings can support the development of emotional intelligence, communication abilities, and group cohesion. Moreover, as a culturally relevant and contemporary activity, street dance resonates with children's interests, thereby making it a valuable pedagogical tool for increasing participation in physical activity and reducing sedentary behavior (Narikbayeva et al., 2025; Borowski, 2023).

From a functional perspective, physical activities such as dance influence not only motor skills but also physiological and cognitive processes. During preschool years, bodily functions develop in close interaction with mental processes, and movement-based activities can enhance reaction time, sensory integration, and executive functions (Kozina et al., 2023). Additionally, environmental factors, including family lifestyle and opportunities for physical engagement,

play a significant role in shaping motor development. Studies indicate that children exposed to limited physical activity may exhibit delays in motor coordination and reduced adaptability (Lopes et al., 2021).

Despite the recognized benefits of dance in education, the specific role of street dance in preschool settings remains insufficiently explored. Existing literature primarily focuses on traditional dance forms or general physical activity, with limited attention given to urban dance styles and their application in early childhood education (Lobo & Winsler, 2006; Theodotou, 2025). This gap highlights the need for empirical studies that examine how structured dance programs can be adapted to the developmental characteristics of preschool children and how they influence key psychomotor variables (Wang, 2023). The present study addresses this gap by investigating the learning process of street dance in preschool children through a preliminary study. The research is grounded in the assumption that a well-designed and age-appropriate training program, focused on the development of rhythmicity, coordination, and spatial-temporal orientation, can significantly enhance the acquisition of street dance skills.

Furthermore, the study aims to provide practical insights into the selection of teaching methods and movement exercises that are suitable for young learners. In this context, the integration of street dance into early physical education can be viewed as an innovative approach that combines the benefits of structured motor learning with the motivational appeal of contemporary dance forms. By aligning educational content with the interests and developmental needs of children, educators can create engaging learning environments that support both physical and psychosocial development.

The relevance of this study lies in its contribution to the understanding of street dance as a pedagogical tool in preschool education. By exploring its impact on coordinative abilities and overall development, the research provides a foundation for the inclusion of modern dance forms in educational curricula and supports the promotion of active and creative lifestyles from an early age.

Methodology

Scope

The present study aimed to investigate the effectiveness of a structured training program aimed at facilitating the learning of street dance elements in preschool children through the development of key psychomotor components. The primary purpose of the research was to elaborate and implement an age-appropriate program focused on improving rhythmicity, motor musicality, coordination, and spatial-temporal orientation, considered essential prerequisites for the acquisition of basic street dance movements.

Hypothesis

The implementation of a structured and age-adapted street dance training program will lead to significant improvements in psychomotor abilities, specifically rhythmicity, coordination, and spatial-temporal orientation, in preschool children.

Participants

The participants included in this study were carefully selected to ensure consistent and active involvement throughout the intervention program (over a period of three months, from March to May 2025). The sample consisted of 19 preschool children, aged between 4 and 6 years, forming a mixed-gender group (11 girls and 8 boys) from the Dance School: Stop and Dance Studio, Bucharest, Romania. All participants attended the sessions regularly and were able to engage in the proposed activities in accordance with their developmental level.

Participation in the study was voluntary. Both the children and their parents were informed about the purpose and procedures of the research prior to its implementation. Written informed consent was obtained from the parents or legal guardians of all participants. Throughout the research process, ethical standards were strictly respected, including the principles of confidentiality and anonymity, ensuring that all personal data were protected and used solely for scientific purposes.

Instruments

The assessment of the participants' psychomotor development was carried out using three specifically designed motor tests targeting rhythmicity and motor musicality, coordination, and spatial-temporal orientation. Each test consisted of structured movement sequences performed in synchrony with a predefined temporal framework, allowing the evaluation of execution accuracy and motor control.

The rhythmicity and motor musicality test involved a sequence of coordinated clapping and lower-limb movements performed over eight counts, requiring synchronization between upper and lower body segments and alignment with rhythm. The purpose of this assignment was to assess the children's ability to perceive and reproduce rhythmic patterns through movement.

The coordination test included a combination of forward, backward, and lateral steps, along with clapping and jumping actions. The sequence required the integration of multiple movement patterns and the control of body segments in a dynamic context, providing an indicator of general motor coordination.

The spatial-temporal orientation test consisted of directional changes, turns, and semi-lunge movements executed within a fixed temporal structure. This test evaluated the participants' ability to orient themselves in space and adapt movements according to temporal cues.

To increase the objectivity and consistency of the qualitative assessment, the Delphi technique (expert evaluation method) was employed. The Delphi method represents a structured process frequently used to obtain consensus among specialists through independent evaluations and iterative expert judgment (Furtado et al., 2024). Three specialists with expertise in motor learning, rhythmic movement, and preschool physical activities independently assessed both the initial and final testing sessions using the same evaluation criteria. Each specialist assigned scores on a scale from 1 to 10, according to the correctness, fluency, synchronization, and overall accuracy of movement execution. The final score for each participant represented the consensus-based evaluation derived from the experts' ratings. Also, the number of execution errors was recorded separately as a quantitative indicator of performance accuracy, expressed as a frequency count (range: 0–10). An execution error was defined as any deviation from the prescribed movement sequence or temporal structure, including: (a) incorrect movement pattern

(e.g., wrong step or missed action), (b) lack of synchronization with the rhythmic count, (c) loss of coordination between upper and lower body segments, and/or (d) incorrect spatial orientation (e.g., wrong direction, incomplete turn).

Each test consisted of a fixed sequence of movements performed over a predefined number of counts (e.g., 8 counts repeated 2–3 times). During execution, the 3 evaluators recorded the total number of observable errors.

The use of the Delphi technique contributed to increasing the reliability and objectivity of the assessment process by reducing subjectivity and ensuring a more rigorous interpretation of motor performance. The Delphi method was used in previous studies investigating motor skills (e.g., Predoiu et al., 2023; Dašić, 2023).

Procedure

Participants were selected using a convenience sampling method, based on their availability and regular participation in initiation training sessions organized within the dance school. Inclusion criteria comprised: (a) age within the 4-6 years range; (b) enrollment in a sport dance initiation program; and (c) consistent attendance throughout the study period. Exclusion criteria included: (a) absence from more than 20% of training sessions; (b) prior advanced experience in sport dance; and (c) any medical conditions restricting participation in physical activity.

The initial testing phase was conducted, in March 2025, to assess the baseline level of preschool children in terms of rhythmicity and general motor musicality, motor coordination, and spatial-temporal orientation, which are considered essential abilities for learning street dance. These assessments were carried out prior to the implementation of the training program in order to establish the participants' initial psychomotor profile. During the testing sessions, children were required to follow specific spatial and temporal instructions while executing the movements.

The final assessment was conducted, in May 2025, using the same rhythmicity and motor musicality, coordination, and spatial-temporal orientation tests administered during the initial evaluation, allowing the comparison of performance changes following the quasi-experimental intervention program.

Intervention program

The intervention program was implemented over a period of three months (March-May 2025) and was structured around a set of specific pedagogical means aimed at developing essential psychomotor abilities required for learning street dance in preschool children, namely: rhythmicity and motor musicality, coordination, and spatial-temporal orientation. The selected exercises were progressively organized, age-appropriate, and designed to ensure accessibility, engagement, and motor learning efficiency. The participants attended two street dance sessions per week, each lasting 60 minutes, throughout the intervention period. This training frequency provided sufficient practice opportunities to facilitate the development and consolidation of the targeted psychomotor skills while maintaining a level of engagement appropriate for preschool-aged children.

In addition, the program incorporated basic street dance steps inspired by styles such as hip-hop, breaking, and popping. These movements were simplified and adapted to suit

preschoolers' motor capabilities, focusing on fundamental actions such as stepping, jumping, clapping, and directional changes. The overall approach combined structured instruction with exploratory tasks, promoting both skill acquisition and expressive movement. Emphasis was placed on repetition, variation, and creativity, allowing children to internalize movement patterns while maintaining motivation and enjoyment. The program included a variety of dynamic and playful exercises aimed at improving the synchronization of movement with musical rhythm, the coordination of multiple body segments, and the ability to orient and adapt movements in space and time. Activities were performed individually, in pairs, and in small groups, encouraging interaction, cooperation, and active participation.

The means used to develop rhythmicity and motor musicality were based on simple rhythmic structures, clapping sequences, and synchronized movements performed on musical beats. These exercises targeted the ability to perceive, reproduce, and internalize rhythmic patterns, while also facilitating the coordination between upper and lower body segments. Activities such as rhythmic imitation and partner-based tasks were used to enhance auditory-motor synchronization and social interaction. These activities were operationalized through specific exercises included in the intervention program. The rhythmic imitation ("echo") exercise consisted of the teacher performing short rhythmic sequences (e.g., 1–2–3–and–4 or 1–and–2–and–3–and–4), which the children were required to reproduce by clapping in synchrony. This task aimed to develop auditory perception, rhythm reproduction, and temporal accuracy.

The mirror exercise, performed in pairs, involved children standing face-to-face, where one child acted as the "leader" and executed simple movements (e.g., arm raises, steps, claps), while the partner reproduced them simultaneously in a mirrored manner. The movements were performed on musical rhythm, promoting coordination, attention, and social interaction.

To enhance coordination, participants performed structured movement sequences involving combined locomotor and rhythmic actions. These exercises required simultaneous control of different body segments and promoted dynamic balance and motor control. Additionally, circuit-based activities involving cones and creative movement tasks (e.g., "Superheroes", "Freeze & Flow Dance Game" and object-based dance tasks) were used to stimulate adaptability and motor variability.

The means aimed at improving spatial-temporal orientation focused on directional movement, changes in trajectory, and responses to auditory or visual signals. Exercises involving movement in circles, orientation according to external cues (e.g., clock directions, cardinal points), and structured pathways (zig-zag or square formations) were employed to enhance spatial awareness and timing.

Examples of exercises

Example 1 – Rhythmicity and coordination exercise:
From a standing position, children perform a forward jump (T1), followed by two claps (T2–T3), a backward jump (T4), and arm rotations (T5–T8).
Dosage: 3-4 series × 8 counts, with 30-45 seconds rest between repetitions.

Example 2 – Coordination and rhythmic synchronization game ("Freeze & Flow Dance Game"):
Children move freely using basic street-dance-inspired steps (e.g., step-touch, small jumps, arm swings) while music is playing. When the music stops, they must "freeze" in a specific pose

indicated by the instructor (e.g., low position, one-leg balance, wide stance with arm extension). Variations may include freezing based on rhythm cues (fast vs. slow) or body-part emphasis (e.g., "freeze using only upper body tension").
Dosage: 3-4 sets × 30-40 seconds activity/ 20-30 seconds pause.

Example 3 – Coordination circuit ("Superheroes"): children move through a circuit of four cones placed at 1-meter intervals, performing jumps, slides, or turns inspired by street dance movements.
Dosage: 2-3 repetitions per child, duration 1-2 minutes per circuit.

Example 4 – Spatial-temporal orientation exercise: children move freely to music and change direction upon auditory cues (e.g., signal or command).
Dosage: 3-5 repetitions × 30-60 seconds.

Example 5 - Coordination and spatial-temporal orientation exercise ("Follow the Beat Pathway"): cones or floor markers are arranged in simple patterns (e.g., zig-zag, circle or straight line). Children are required to move along the pathway using different locomotor patterns (e.g., side steps, grapevine, light hops) synchronized with the rhythm of the music. The instructor may vary the tempo (slow/fast) or introduce directional changes (forward/backward) to increase task complexity. Additional cues (e.g., arm movements or clapping on specific beats) can be incorporated to stimulate multi-limb coordination.
Dosage: 3 sets × 40-60 seconds activity / 30 seconds rest.

Overall, the selected means ensured a balanced development of psychomotor abilities while maintaining a playful and motivating learning environment, essential for effective engagement in early childhood education.

Results

The descriptive statistical analysis highlights a substantial improvement across all evaluated psychomotor components following the implementation of the training program.

Table 1. *Descriptive statistics for the Rhythmicity and Musicality Test*

	Errors		Grade	
	Initial Test	Final Test	Initial Test	Final Test
N	19	19	19	19
Mean	6.78	1.15	4.21	9.57
Median	7	1	4	10
Standard deviation	2.85	1.95	3.85	1.69

In the rhythmicity and motor musicality test, the mean number of errors decreased markedly from 6.78 (initial testing) to 1.15 (final testing), indicating a reduction of 5.63 errors (Table 1). Correspondingly, the mean score increased from 4.21 to 9.57, reflecting an important gain of 5.36 points. The dispersion of results also decreased, as evidenced by the reduction in the standard deviation, suggesting increased group homogeneity.

Table 2. *Descriptive statistics for the Coordination Test*

	Errors		Grade	
	Initial Test	Final Test	Initial Test	Final Test
N	19	19	19	19
Mean	7.15	2.89	3.84	9.78
Median	7	1	4	10
Standard deviation	3.76	1.73	3.76	2.41

In Table 2, for the coordination test, it is shown that the mean number of errors decreased from 7.15 to 2.89, while the mean score increased from 3.84 to 9.78, representing an improvement of 5.94 points. The coefficient of variation decreased from 19.90% to 4.27%, indicating a higher consistency of performance among participants in the final testing.

Table 3. *Descriptive statistics for the Spatial-temporal Orientation Test*

	Errors		Grade	
	Initial Test	Final Test	Initial Test	Final Test
N	19	19	19	19
Mean	7.10	1.47	5.89	9.36
Median	7	1	4	10
Standard deviation	3.73	1.02	2.73	1.83

Regarding the spatial-temporal orientation test, in Table 3 we can observe a reduction in the number of errors recorded at the final assessment (from 7.10 at the initial assessment to 1.47 at the final assessment, indicating an important decrease of 5.63 errors), while higher grades were observed – the mean score rose from 5.89 at the initial assessment to 9.36 at the final assessment, reflecting an improvement of 5.47 points. Overall, these results indicate a marked enhancement in spatial-temporal orientation abilities following the intervention program.

The Wilcoxon signed-rank test (Table 4) was applied to examine the differences between the initial and final assessments for all three evaluation tests: rhythmicity and musicality, coordination, and spatial-temporal orientation, regarding the grades obtained (not the number of errors). This non-parametric test was selected due to the small sample size (N = 19) and the paired nature of the data (Predoiu, 2020).

Table 4. *Wilcoxon test results – initial test vs. final test (grades) - 3 evaluation tests*

Wilcoxon	Evaluation tests		
	Rhythmicity and musicality test	Coordination test	Spatial-temporal orientation test
W	0	0	0
Z	-3.823	-3.823	-3.823
p	0.0001	0.0001	0.0001
r	0.88	0.88	0.88

Note: r = effect size index for Wilcoxon test.

The results indicate that, for all three tests, the test statistic yielded identical values (W = 0; Z = -3.823), with an associated significance level of p = 0.0001. Because the p-values were substantially lower than the conventional threshold of 0.05, the research hypothesis (statistically

significant differences being observed between the initial and final measurements) is confirmed in all cases.

The obtained effect size (r = 0.88) indicates a very large magnitude of effect, demonstrating that the intervention produced not only statistically significant but also practically meaningful improvements in the assessed variables (Fiel Peres et al., 2025).

These findings demonstrate the presence of statistically significant improvements between the two testing moments across all evaluated variables. The negative Z values further indicate that the ranks of the final scores were consistently higher than those of the initial scores, reflecting a clear positive shift in performance (Kim, 2014).

Therefore, the application of the intervention program led to significant enhancements in rhythmicity and musicality, motor coordination, and spatial-temporal orientation. The consistency of the results across all three domains suggests a strong and homogeneous effect of the training program, supporting the research hypothesis and confirming its effectiveness in improving psychomotor abilities relevant to learning street dance in preschool children.

Discussion and Conclusion

The findings of the present study provide substantial evidence that a structured street dance intervention can significantly enhance psychomotor abilities in preschool children, particularly rhythmicity, coordination, and spatial-temporal orientation. These results are consistent with the broader literature, which highlights the effectiveness of dance-based activities in promoting motor development and learning in early childhood.

The significant improvements observed in rhythmicity and motor musicality are in line with previous research demonstrating the strong relationship between movement and rhythm perception. Early studies have shown that rhythmic engagement through movement enhances the ability to synchronize actions with auditory stimuli, contributing to the development of temporal coordination and motor control (Phillips-Silver & Trainor, 2005; Zentner & Eerola, 2010). In addition, dance-based activities facilitate the integration of sensory and motor processes, which are essential for rhythm acquisition and the development of movement fluency (Karpati et al., 2017). These findings support the role of rhythm-centered interventions, such as street dance, in optimizing early motor learning.

The improvements in coordination identified in this study are also supported by a substantial body of research. Motor competence is recognized as a key determinant of physical development and long-term engagement in physical activity (Robinson et al., 2015; Lopes et al., 2021). Dance interventions, due to their complex and multidimensional movement patterns, provide an ideal framework for enhancing coordination, balance, and motor control. Empirical studies have demonstrated that structured dance programs can significantly improve motor performance in children, particularly in tasks requiring multi-segmental coordination and dynamic control (Chatzihidiroglou et al., 2018; dos Anjos et al., 2018). The present findings reinforce these conclusions, indicating that street dance, due to its diverse and dynamic movement repertoire, can effectively stimulate coordinative abilities in preschool children.

Regarding spatial-temporal orientation, the results of the present study are consistent with literature emphasizing the role of movement-based learning in enhancing spatial awareness and adaptability. Dance requires continuous adjustment to rhythm, direction, and body positioning, thereby stimulating perceptual-motor integration and spatial cognition. Previous research

suggests that such activities contribute to improved orientation and movement accuracy, particularly in early developmental stages (Quin et al., 2007; Norton et al., 2019). The structured yet flexible nature of street dance appears particularly suited to developing these abilities, as it combines repetition with variability and encourages active exploration of movement in space.

Statistical analyses demonstrated significant progress in rhythmicity and motor musicality, coordination, and spatial-temporal orientation following the intervention program. The marked decrease in execution errors and the corresponding increase in performance scores across all three tests confirm the effectiveness of the applied methodology. Furthermore, the results of the Wilcoxon test indicate that these improvements are statistically significant, supporting the research hypothesis and highlighting the impact of structured movement-based interventions on preschool children's motor learning processes.

From an educational perspective, the integration of street dance into physical education curricula represents an innovative and effective approach to enhancing educational engagement. The dynamic and varied characteristics of street dance contribute directly to the enhancement of rhythmicity and motor musicality, coordination, spatial-temporal orientation, execution accuracy, and motor control, which are essential components of psychomotor development in preschool children.

At the same time, the study highlights the need for a more systematic and academically grounded approach to street dance within the scientific literature. The limited number of formal resources, such as specialized books and peer-reviewed articles, indicates a gap that should be addressed in future research. A more detailed and structured analysis of street dance styles and their pedagogical applications would contribute to their broader recognition and integration into educational practice.

Moreover, certain limitations should be acknowledged. The relatively small sample size limits the generalizability of the findings. Future research should aim to include larger samples and employ longitudinal or experimental designs to further investigate the long-term impact of street dance interventions on child development.

An important contribution of this study lies in its focus on street dance as a pedagogical tool in early childhood education. While most research has traditionally focused on classical or creative dance forms, the present findings demonstrate that urban dance styles can be equally effective in promoting developmental outcomes. The contemporary and engaging nature of street dance aligns with children's interests, having the potential to increase motivation, participation, and adherence to physical activity programs.

The findings of this study support the inclusion of street dance as a valuable pedagogical tool in early childhood education. Its multidimensional benefits - motor, cognitive, and socio-emotional - underline its potential to contribute to the holistic development of preschool children. In addition, they open new perspectives for future research and educational innovation in the field of physical education and sport.

Particular attention was given to ethical considerations throughout the study, with strict adherence to principles of confidentiality and anonymity, ensuring that all collected data were securely managed and used solely for research purposes.

It is expected that the present study will serve as a foundation for future research, particularly longitudinal studies involving larger and more diverse samples, including different educational settings, age groups, and levels of experience.

Future investigations should also consider the use of more comprehensive assessment batteries, including instruments that evaluate cognitive and executive functions, in order to provide a more holistic understanding of the impact of street dance on early childhood development.

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