

Original Article

Effects Of Implementing A Folk Dance Program On Certain Components Of Coordination Abilities In Children Aged 9-11 Years

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Abstract

The specific teaching methods for dance ensure structured learning, adapted to age requirements and the children's motor characteristics, in order to maximize the development of their coordination abilities. The main purpose of this research consists in identifying and evaluating the efficiency of specific folk dance means in developing certain components of coordination abilities in children aged between 9 and 11 years. The conducted research included a number of 27 subjects from rural areas, of which: 21 girls and 6 boys. A series of tests were used to evaluate static and dynamic balance, posture, and functional mobility. The implemented folk dance program demonstrated efficiency in improving certain components of coordination abilities, in developing body expressiveness and school motivation, as well as in strengthening social and cultural values in children. Regular participation in choreographic folk dance activities has facilitated not only motor progress, but also free body expression.

1. Introduction

Folk dance, in its capacity as a traditional cultural manifestation, represents an essential means of transmitting the identity and aesthetic values of a community, while also being a beneficial tool for the physical and psychomotor development of children. (Dzadzevic, 2002).

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Folk dance is recognised, in recent research, as an interdisciplinary method that combines culture, socialisation, and motor activity (Şuşu, 2018). The relevance of the approach is reinforced by the growing interest in integrated education, where folk heritage and motor skills complement each other, especially in rural environments.

Studies have highlighted that introducing folk dance into school activities promotes the development of balance, spatial orientation, and synergy of motor movements in school-aged children. Additionally, Dumitrescu et al. (2010) emphasise that folk dance strengthens not only motor skills but also creativity and social cohesion among participants.

Furthermore, research conducted in the context of modern physical education confirms that integrating folk dance into the school program contributes to the development of essential psychomotor competencies for forming harmoniously developed individuals (Ilic, Marinkovic, Heordek, Vlasic, & Jovanovic, 2024).

Tomescu, Stănescu, Aivaz, & Manos (2021) demonstrated, in a study applied to institutionalised students, that folk dance programs optimise motor capacities and develop kinesthetic and visual-spatial intelligences, highlighting the potential of dance in children's motor education. This perspective is supported by review articles from 2022 and 2024, which emphasise the positive effects of dance on coordination and balance in children aged 9 to 11 years old.

Additionally, Oparina, Nedelnitsyna, Levina, Maltseva, and Kaitandjyan (2020) highlighted the role of folk dance in the physical and social development of children, observing significant improvements in coordination, rhythmic sense, and body expressiveness. In this context, dance is considered an integrative educational framework that promotes both the formation of motor skills and the development of team spirit and discipline.

Other contemporary studies emphasise the significant role of dance in physical education, particularly regarding the development of coordinative capacities in school-aged children, especially in primary school. Thus, the influence of Romanian folk dance on the development of motor capacities is an area of growing interest for researchers in psychopedagogy and physical education (Talpă, 2020).

The research indicates that folk dance plays an important role in children's motor education, contributing to their harmonious development from a physical, social, and cultural perspective. Including Moisescu, & Gurbuz (2012) support the idea that folk dance stimulates coordination, rhythm, expressiveness, and physical endurance, as it involves a wide variety of movements repeated under varied conditions, influencing motor qualities such as coordinative capacities and general endurance. More specifically, it states in their work that folk dance represents a complex form of body expression that combines music with movement, offering children joy and motivation for movement. Practising dance helps develop coordination, rhythmic sense, balance, and other fundamental motor skills, making it an effective component in motor education (Zahiu, Manos, & Drăghici, 2020).

Coordinative capacities develop optimally in preadolescence, and the specificity of folk dance, rhythmicity, collective execution, and variability of figures, favours not only motor progress but also affective and social development (Tomescu, Stănescu, & Aivaz, 2024).

In Romania, research conducted by Burlui (2023) and Tomescu et al. (2024) emphasises the profound influence of folk dance in the development of rural children. Burlui (2023) highlights that traditional dances are not just motor exercises but also a means of social and cultural learning, where the child learns roles, values, and community norms.

The authors highlight the pedagogical aspect of dance in developing coordination and body expression, showing that this practice contributes not only to improving motor capacities but also to creating a solid sense of identity and belonging. (Loras, 2020).

In the context of physical education in our country, author Novac (2024) emphasises the integration of folk dances into music and movement classes for preparatory class students. The author notes a significant increase in students' motivation and enthusiasm when folk dance is part of the curriculum, compared to traditional physical education methods. Through the rhythmic and repetitive structure of dances, children not only develop balance and coordination but also an emotional connection with cultural heritage, which enhances their sense of belonging. (Chauvigne, Walton, Richardson, & Brown, 2018). Active participation in these processes leads children to perceive dance not as an obligation but as a source of joy and social communion.

2. Material and methods

The main purpose of this research consists of identifying and evaluating the efficiency of specific folk dance means in developing certain components of coordinative capacities in students aged between 9 and 11 years. Through a structured folk dance program, we aimed to highlight how specific folk dance motor exercises and choreographies can contribute to optimising static and dynamic balance, posture, and specific functional mobility.

Research Hypothesis - implementing a structured folk dance program, adapted specifically to the group of students aged between 9 and 11 years, leads to a significant increase in certain components of coordinative capacities.

In the conducted research, we had a total of 27 subjects from rural areas, of whom 21 were girls and 6 boys. They attend folk dance courses at a dance school in Craiova, Popular Art Dance, at a beginner level.

The subjects were tested through various control tests (before and after applying the dance program – table 1), in order to determine the level of motor skills, the progress recorded over time by them, and to compare the results. To determine the degree of influence of the proposed training program on the level of manifestation of coordinative capacities, a series of evaluation means were selected for the experimental group.

Table 1. *The Dance Program Divided into Stages, Contents, and Objectives of Each Stage*

Module	Duration (weeks)	Main Content	Specific Objectives
Initiation	4	Simple steps, basic elements, rhythm	Familiarization with basic movements and posture
Technique	6	Compound steps, arm movements	Development of technique and synchronization
Regional Repertoire	8	Dances from ethnofolkloric areas Oltenia	Mastery of traditional choreographies
Study and Performance	6	Preparation of a complex suite, general rehearsals	Preparation for stage presentation

Tests Performed

- Single Leg Stance Test

Purpose: Evaluation of static balance.

Procedure: The performer is in a standing position on one leg (dominant and non-dominant) with hands on hips and eyes open (Fig. 1). Errors are counted during the maintenance of the position (without moving the foot, jumping, or swaying excessively). The test is repeated with eyes closed to challenge proprioception and vestibular function.

Scoring: The best execution from 2 attempts is recorded (execution time of 30 seconds). The performances obtained for both legs are compared, both with eyes open and eyes closed.

Relevance for dance: Reflects the ability to maintain various specific positions.



Figure 1. *Evaluation of static balance*

- Balance Error Scoring System (BESS)

Purpose: Evaluation of postural stability in different positions and on different surfaces.

Procedure: The performer is in one of the following three positions (Fig. 2):

- Standing

- Standing on one leg
- Tandem: Standing on the heel of one foot and the toe of the other foot

Each position is performed on a firm ground and on a foam surface, with eyes closed, hands on hips, for 20 seconds.

Scoring: One point is added for each error (for example: opening the eyes, stepping, falling, raising the arms). Lower scores = better balance.

Relevance for dance: Evaluates postural control in varied conditions, simulating uneven choreography surfaces or movement transitions.



Figure 2. Evaluation of postural stability in different positions and on different surfaces

3. Results and Discussions

At the initial testing, with eyes open, the left leg had an average of 0.37, and the right leg 0.29. In contrast, with eyes closed, the average for the left leg was 2.40, and for the right 3.25. The minimum value, both with eyes open and closed, on both legs, was 0. The maximum value, with eyes open, for the left leg was 3, for the right 2, and with eyes closed, for the left 7, for the right 8. The coefficient of variability with eyes open was 0.59 for the left, for the right 0.37, and with eyes open, 4.07 for the left and 5.43 for the right. Regarding the standard deviation, for the left leg with eyes open, it was 0.74, for the right 0.60, and with eyes closed, for the left 2.02 and for the right 2.33.

At the final testing, with eyes open, the left leg had an average of 0.07, and the right leg 0.03. In contrast, with eyes closed, the average for the left leg was 1.29, and for the right 1.59. The minimum value, both with eyes open and closed, on both legs, was 0. The maximum value, with eyes open, for the left leg was 1, for the right 0, and with eyes closed, for the left and for the right it was 5. The coefficient of variability with eyes open was 0.07 for the left, for the right 0.03, and with eyes open, 2.29 for the left and 2.01 for the right. Regarding the standard deviation, for the left leg with eyes open, it was 0.26, for the right 0.19, and with eyes closed, for the left 1.53 and for the right 1.42.

The descriptive table shows that: the average number of initial errors is 1.58 (SD = 2.051); the average number of final errors is 0.75 (SD = 1.254) – table 2. Thus, there is an evident decrease in the average number of errors.

Table 2. *Descriptive Results - Single Leg Balance Test*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Number of initial mistakes	1,58	108	2,051	,197
	Number of final mistakes	,75	108	1,254	,121

Correlation between Measurements

The initial and final values are strongly correlated ($r = 0.922$), the results showing a strong correlation between the number of initial errors and the final ones ($r = 0.922$, $p < 0.001$) – table 3, suggesting that subjects who had higher errors at the beginning tend to have the same higher errors at the end as well.

Table 3. *Correlation between Measurements - Single Leg Balance Test*

		N	Correlation	Sig.
Pair 1	Number of initial mistakes & Number of final mistakes	108	,922	,000

At the initial testing, on a firm surface, with feet together, we had an average of 0; on one leg, the average was 3, and in tandem position, it was 1.07. On foam, the average with feet together was 0, on one leg 7.18, and in tandem position 3.55. The minimum value, in all six situations, was 0. The maximum value, on a firm surface, with feet together was 0, on one leg it was 6, and in tandem position it was 5. On the other hand, on foam, with feet together, we have a maximum of 1, on one leg, a maximum of 10, and in tandem position, a maximum of 9. The coefficient of variability on the firm surface, with feet together, came out 0, on one leg, 1.84, and in tandem position, 1.60. On foam, however, with feet together we had 0.07, on one leg we had 2.11, and in tandem position we had 5.17. In the case of standard deviation, on firm surface, with feet together, it was 0, on one leg, 1.35, in tandem position, 1.26. On foam, with feet together, it was 0, on one leg, 2.11 and in tandem position, 2.27.

At the final testing, on a firm surface, with feet together, we had an average of 0; on one leg, the average was 1.40, and in tandem position, it was 0.33. On foam, the average with feet together was 0.11, on one leg 4.23, and in tandem position 1.70. The minimum value, in all six situations, was 0. The maximum value, on a firm surface, with feet together was 0, on one leg it was 4, and in tandem position it was 1. On the other hand, on foam, with feet together, we have a maximum of 1, on one leg, a maximum of 6, and in tandem position, a maximum of 4. The coefficient of variability on the firm surface, with feet together, came out 0, on one leg, 1.25, in tandem position, 0.23. On foam, however, with feet together

we had 0.15, on one leg we had 2.71, and in tandem position we had 1.60. In the case of standard deviation, on firm surface, with feet together, it was 0, on one leg, 1.13, in tandem position, 0.48. On foam, with feet together, it was 0.32, on one leg, 1.64, and in tandem position, 1.26.

The descriptive table shows that: the average number of initial errors is 2.48 (SD = 2.900); the average number of final errors is 1.30 (SD = 1.758) – table 4. Thus, there is an evident decrease in the average number of errors.

Table 4. *Descriptive Results – BESS*

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Initial mistakes	2,48	162	2,900	,228
	Final mistakes	1,30	162	1,758	,138

Correlation between Measurements

The initial and final values are strongly correlated ($r = 0.947$), the results showing a strong correlation between the number of initial errors and the final ones ($r = 0.947$, $p < 0.001$) – table 5, suggesting that subjects who had certain higher errors at the beginning tend to have the same higher errors at the end as well.

Table 5. *Correlation between Measurements – BESS*

		N	Correlation	Sig.
Pair 1	Initial mistakes & Final mistakes	162	,947	,000

This data allows the conclusion that the implemented dance program had a real and positive effect on the development of coordinative capacities, particularly improving the participants' static balance. Therefore, dance proves to be an effective and attractive method for optimising postural control and improving stability.

Discussions

The research topic regarding the development of coordinative capacities through folk dance in children aged 9–11 years has been approached in various ways by Romanian and international specialists, and their studies offer a rich and multidimensional perspective on the benefits and mechanisms involved. In this context, the findings reported by Cosma, Dragomir, Dumitru, Lică, and Ghețu, (2016), which highlight significant improvements in dancers' balance, further support the role of dance as an effective intervention for balance enhancement and psychomotor skill development.

Tomescu et al. (2024) based their research on empirical observations from rural environments. For them, folk dance is an active space for combining motor coordination with identity value. They describe how choreographic games, with

rhythmic and synchronised movements, stimulate not only balance and rhythm but also the sense of belonging to the community, supporting children's socio-emotional development. Their study provides a bridge between ethnocultural values and modern motor progress.

In the same line, Burlui (2023) highlights the multidimensional functions of Romanian folk dance, especially in rural contexts. She emphasises that dance is not just an artistic act but a social ritual that introduces the child into the normative and value system of the community. Through dance, children learn to cooperate, keep the group's rhythm, and coordinate their movements to create a collective expression. This process is essential both for motor development and for deep social integration, forming self-esteem and respect for tradition.

Novac's research (2024) provides an applied framework, revealing how folk dance, systematically introduced into physical education classes, increases children's motivation and engagement. This not only helps develop fundamental motor capacities – such as agility, balance, and coordination – but also influences cognitive aspects, such as concentration and motor memory. Children's involvement in these activities is perceived as a pleasant and stimulating experience, supporting the success of educational interventions based on dance.

At the international level, Fernandes et al. (2016), with their plea for integrating dance into education alongside "classical" disciplines, set a broad and current framework for the value of dance in the harmonious development of the child. Dance, in their view, is a catalyst for creativity, body awareness, and emotional self-regulation, elements that are particularly important in preadolescence, when children experience rapid transformations on all levels.

Overall, these studies provide a comprehensive perspective on the fact that folk dance in children aged 9-11 years is not just an exercise in motor coordination but a deeply cultural, social, and educational experience that profoundly shapes the child's body and spirit. (Loras, 2020). This theme represents a bridge between traditional values and the motor and socio-emotional needs of a modern era, offering a contemporary direction in movement pedagogy and folk education.

4. Conclusions

Implementing a structured folk dance program, adapted to the needs and particularities of children aged between 9 and 11 years, has led to a significant improvement in certain components of coordinative capacities, especially static and dynamic balance.

Regular participation in folk dance choreographic activities has facilitated not only motor progress but also free body expression, increased motivation, and children's engagement in motor education.

Through folk dance, children have developed, in addition to motor capacities, important social values such as discipline, team spirit, and a sense of cultural belonging, these aspects supporting harmonious integration into the community and contributing to building self-confidence. (Cojocari, Crivoi, Tataru, & Gîrlea, 2019).

The results obtained from the tests applied before and after implementing the program indicate that folk dance represents a valuable and effective tool for the harmonious physical, psychological, and social development of children, offering them a complete and enjoyable educational experience.

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