

## KINETOPROPHYLAXY THROUGH BALLROOM DANCE IN CHILDREN AGED 6-8-12 YEARS

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**Abstract:** *Kinetoprophylaxy is frequently applied within dance sessions for children of low and middle school-age, in order to maintain a good state of health. Therapy through ballroom dance, whose theme content is adapted to the specific prophylactic particularities, favors a re-balancing of the postural control of the body of the practitioner. This study aims to create an instrument of assessment and in-depth analysis of the beneficial effects of dancing in preventing the onset or aggravation of certain psycho-postural and walking deficiencies. From a practical perspective, it aims to create an efficient working instrument for the prevention of physical and functional deficiencies of the growing and somato-functional developing body.*

**Keywords:** *health, dance therapy, kinetoprophylaxy, vicious attitudes and postural deficiencies*

### 1. Introduction

Both the growing imbalances specific to these ages, as well as the asymmetric biomechanics of the motric dance structures, favor the disruption - and in some cases, prevent the onset - of defective attitudes in the somatic components of the body, and in such cases prevention plays a huge role in combating them. Although dancing gained in modern times an ever growing importance, and its positive effects on the harmonious development of the child and youngster have been recognized, the physical therapy through dance still does not enjoy sufficient attention from the specialists.

Covering numerous interests, within

kinetoprophylaxy there have been various means developed, which, although based on the same laws and using the physical exercises as own means, differ according to: the specific objectives, and the methodology and precise methods of drafting the treatment plans and programs. One of these means is kinetoprophylaxy.

Kinetoprophylaxy is considered and integral and innovative branch of therapy through movement, built on the axiom, unanimously accepted within the medical sciences, that "it is better to prevent than to cure".

In the specialized literature, there are numerous definitions of kinetoprophylaxy.

According to a first definition, the kinetoprophylaxy studies the process of

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optimization of health and of prevention of illness, with the help of physical exercises. [5]

Kinetoprohylaxy is, according to Sbenghe T., (2002), applying the aerobic exercises grafted on the principles of the medical training science. [4] It applies to both the healthy individual, in order to protect him from illness and from the onset of physical deconditioning (primary or 1<sup>st</sup> degree prophylaxy), and to the aged individual, where the deconditioning has already set in, in order to protect him from an aggravation of it. In a classification of kinetoprohylaxy, there can be found:

- the primary (1<sup>st</sup> degree) prophylaxy: it concerns the healthy individual, in order to protect him from illness – maintenance function;

- the secondary (2<sup>nd</sup> degree) prophylaxy: it concerns the aged individual, in order to protect him from the aggravation of illnesses;

- the tertiary (3<sup>rd</sup> degree) prophylaxy: it concerns the ill individual, in order to help him avoid an aggravation of the illness, or in order to detect the onset of other illnesses. [4]

The objectives of kinetoprohylaxy are, in the opinion of prof. Marcu, the following:

- building knowledge, for the purpose of the use of means and methods specific to kinetoprohylaxy, applicable to all particularities of the patient's case;

- the capacity to select the most appropriate means and kinetic methods for children, pregnant women and third age persons;

- the capacity to implement correct and complete kinetic programs for any given category of persons [4].

The kinetoprohylaxy has as its aim: to strengthen the health, to increase the natural body resistance to pathogen agents

in the external environment, to establish a normal psycho-physical balance between the body and the environment. In children, it aims particularly to ensure the necessary circumstances for the normal and harmonious development of the body, and, implicitly, to prevent the onset of physical deficiencies or the contraction of illnesses that might affect their normal development.

In the international specialized literature, there are indisputable results presented, indicating that kinetotherapy may be one of the best recovery means for acute, subacute or chronic illnesses, or for the prevention of such illnesses, in healthy people and in people with tendencies to vicious and deficient attitudes, in order for them to improve their functional capacity and to increase the quality of life [4].

## **2. Hypothesis, Purpose, and Goals of the Research**

A simple analysis indicates that an increasing number of teenagers are currently facing various bodily deficiencies [2]. Considering that in Romania the concept of mass sport, practiced in schools and in children and youngsters clubs, almost disappeared, the teenagers today must be assisted and encouraged to practice some form of light movement, in order for them to have a chance to solve those deficiencies, and to avoid the onset of more serious illnesses.

Elise sport is not a very widespread and accessible to everybody, moreover, it requires, apart from certain specific skills, a rigorous discipline and even giving up other activities in favor of training. Under these circumstances, kinetoprohylaxy through dance may constitute an easy and pleasant option, providing multiple

satisfactions, for persons with artistic tendencies, as well as an alternative prophylactic solution for those not inclined to sport of any kind [3].

This research starts from the presupposition that the correct application of the kinetoprophyaxy, made effective by means of standardization and rationalization, and the improvement of the physical fitness through dance, will

contribute to the actualization of the goal of this study.

### 3. Research Material and Methods

The children participating in the research are aged between 6 and 12 years.

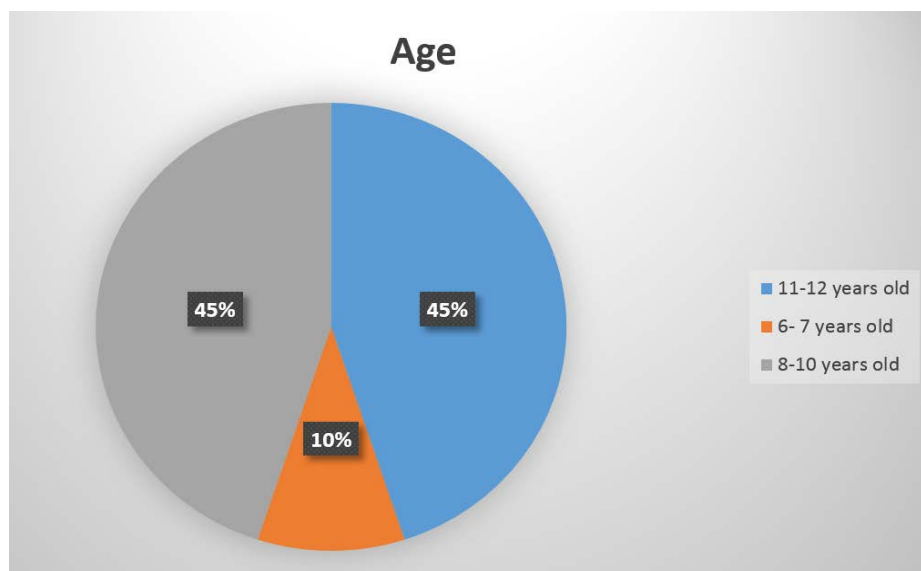


Fig. 1. Age of participants

The subjects of the research participated for 6 months in two dance lessons per week (assisted practice), and once every two weeks in ballet and fitness sessions: ballet lessons in even weeks, and fitness sessions in odd weeks. The dance and assisted practice sessions lasted 90 minutes each, and the ballet and fitness sessions lasted 60 minutes each.

In the dance lessons, the children learned the four dance styles (slow waltz, quick-step, cha-cha-cha and jive), with sequences specific to ballroom dance. It must be mentioned that, even if the topic of the study pertains to ballroom dance,

the ballet being the base of all dance styles, its insertion in the research was necessary. From the ballet lessons, apart from classic ballet, only those elements and structures were selected that are similar to the movements found in ballroom dance. The fine and aesthetic movements, the body mobility, and the muscular elasticity are the elements contributing to the in-depth study of ballroom dance.

It aims at developing a correct body expression considering the current deficiencies at the addressed age. To this regard, the Wells-Dillon and the Flamingo

tests are applied, as well as tests for the orientation in space in time, and for musical orientation.

The *Wells and Dillon* test entails measuring the feet and back mobility. The subject is lying on a gymnastics bench or is sitting on a chair, in orthostatic position, and bends its body to the maximum, maintaining this bent position. In this position, the kinetotherapist measures the distance between the finger tips and the bench. Values registered above the bench line are negative, values under the bench line are positive [6].

For the *Flamingo* test, the subjects were asked to stand on a wooden support (50 cm long, 5 cm high, 3 cm wide), with their eyes opened, barefoot, on one foot, while keeping the other foot flexed from the knee, with the shin on the thigh, and the hands on the hips, on the anterior superior iliac crest, in a position resembling that of a flamingo bird. The subjects were timed how long they could maintain the position before losing their balance and falling off the wooden support, or putting the other foot down, or raising their hands off the hips. The children were tested for each foot at the time [7].

The assessment of the *orientation in space and time* was conducted by navigating a course in cha-cha-cha steps: "basic step on the right, with a spin to the left, basic step on the left, with spin to the right". Each child navigated the course twice, once with their eyes open, and then with their eyes closed. The interpretation of this test was calculated according to 5 criteria. The assessment started from 6 points for the correct execution, while observing: the orientation in space and time, the posture, the musicality, the step sequence, and the movement coordination. The interpretation of this test

was done according to preset norms:

- no mistake – 6 points
- one mistake – 5 points
- two mistakes – 4 points
- three mistakes – 3 points
- four mistakes – 2 points
- five mistakes – 1 point

With regard to the *musicality assessment*, the rhythmical themes contribute to seizing the attention, to developing a "musical ear" and to building the students' rhythm. The themes consisted of reproducing, by various means - clapping, tapping, whistling, snapping the fingers, etc. - a rhythm set by the teacher." [1]

Within this study, the same rhythm was proposed to each subject, offering thus equal chances. However, there were different rhythms proposed for the initial, intermediate and final tests. For the initial test, a slow waltz rhythm was proposed, and for the final test, a cha-cha-cha rhythm.

For both testing sessions, the reproduction of the rhythm was done by clapping, tapping and snapping the fingers.

The interpretation of the test was done according to the preset norms:

- the subjects reproduced the rhythm with no mistake - very good;
- the subjects reproduced the rhythm with small - medium;
- the subjects reproduced the rhythm with no difficulty – insufficient.

#### 4. Results of the Research

At the beginning of the research, the assessments of the kinetotherapists (Kicsi Csongor, Voiculescu Kriszta, Balázs Tünde) have been centralized. In the specific exercises table were included: the initial

position for the performed exercise, its description, the dosage with regard to the used tune and the musical instrument, respectively the music chosen for that exercise.

In the somatometric assessment (Chart 1), the results for the Wells and Dillon test indicated, for each child, a significant progress in the final testing compared to

the initial testing. as follows: A.I.A. - +7,2 cm; B.A. - +1,7 cm; B.T. - +2,1 cm; C.C.I. - +3,4 cm; C.D.M. - +2,3 cm; F.D.S. - +2,4 cm; F.V.S. - +3,3 cm; L.I.A. - +5,3 cm; L.R.A. - +0,5 cm; M.O.M. - +3,4 cm; M.R. - +5,1 cm; P.A.1. - +5,8 cm; P.A.2. - +0,6 cm; P.D.S. - +12,2 cm; P.M. - +1,5 cm; P.O. - +2,9 cm; R.H.I. - +1,5 cm; S.A.M. - +3 cm; T.S.E. - +2,4 cm; T.S.M. - +4,3 cm.

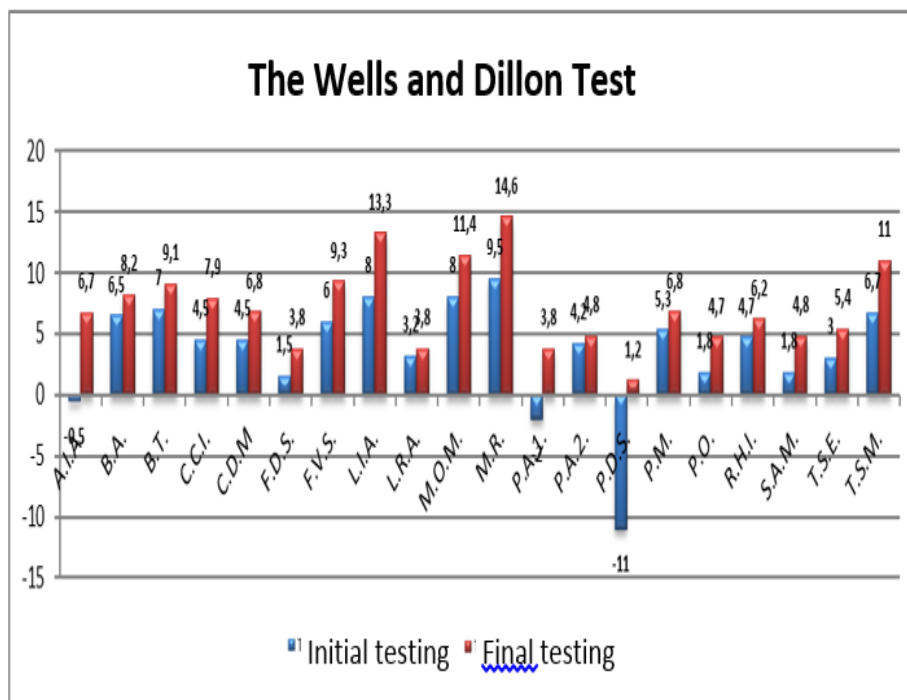


Chart 1. *Somatometric assessment*

In the psycho-motric assessment, according to Chart 2, the results of the Flamingo test on the right foot indicated, for each child, a significant progress in the final testing, compared to the initial testing, as follows: A.I.A. - 67,35 seconds; B.A. - 24,98 seconds; B.T. - 109,95 seconds; C.C.I. - 24,45 seconds; C.D.M. - 43,04 seconds; F.D.S. - 68,94 seconds;

F.V.S. - 2,91 seconds; L.I.A. - 40,4 seconds; L.R.A. - 27,92 seconds; M.O.M. - 30,08 seconds; M.R. - 85,75 seconds; P.A.1. - 30,89 seconds; P.A.2. - 37,98 seconds; P.D.S. - 102,07 seconds; P.M. - 113,04 seconds; P.O. - 35,21 seconds; R.H.I. - 58,14 seconds; S.A.M. - 43,28 seconds; T.S.E. - 15,48 seconds; T.S.M. - 11,49 seconds.

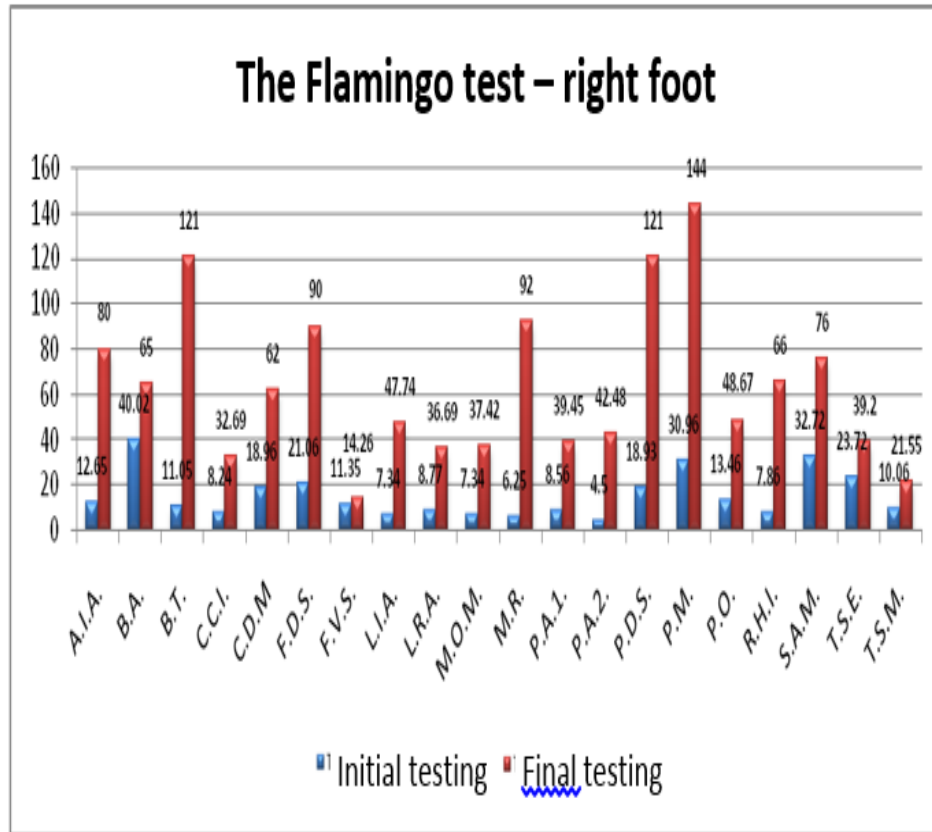


Chart 2 . *Psycho-motric assessment I*

In the psycho-motric assessment, according to Chart 3, the results of the Flamingo test on the left foot indicated, for each child, a significant progress in the final testing, compared to the initial testing, as follows: A.I.A. - 136,63 seconds; B.A. - 17,04 seconds; B.T. - 148,51 seconds; C.C.I. - 40,17 seconds; C.D.M. - 38,71 seconds; F.D.S. - 48,76 seconds;

F.V.S. - 28,85 seconds; L.I.A. - 113,98 seconds; L.R.A. - 23,51 seconds; M.O.M. - 42,91 seconds; M.R. - 142,11 seconds; P.A.1. - 38,45 seconds; P.A.2. - 115,20 seconds; P.D.S. - 92,68 seconds; P.M. - 75,57 seconds; P.O. - 55,13 seconds; R.H.I. - 35,79 seconds; S.A.M. - 40,16 seconds; T.S.E. - 16,46 seconds; T.S.M. - 13,78 seconds.

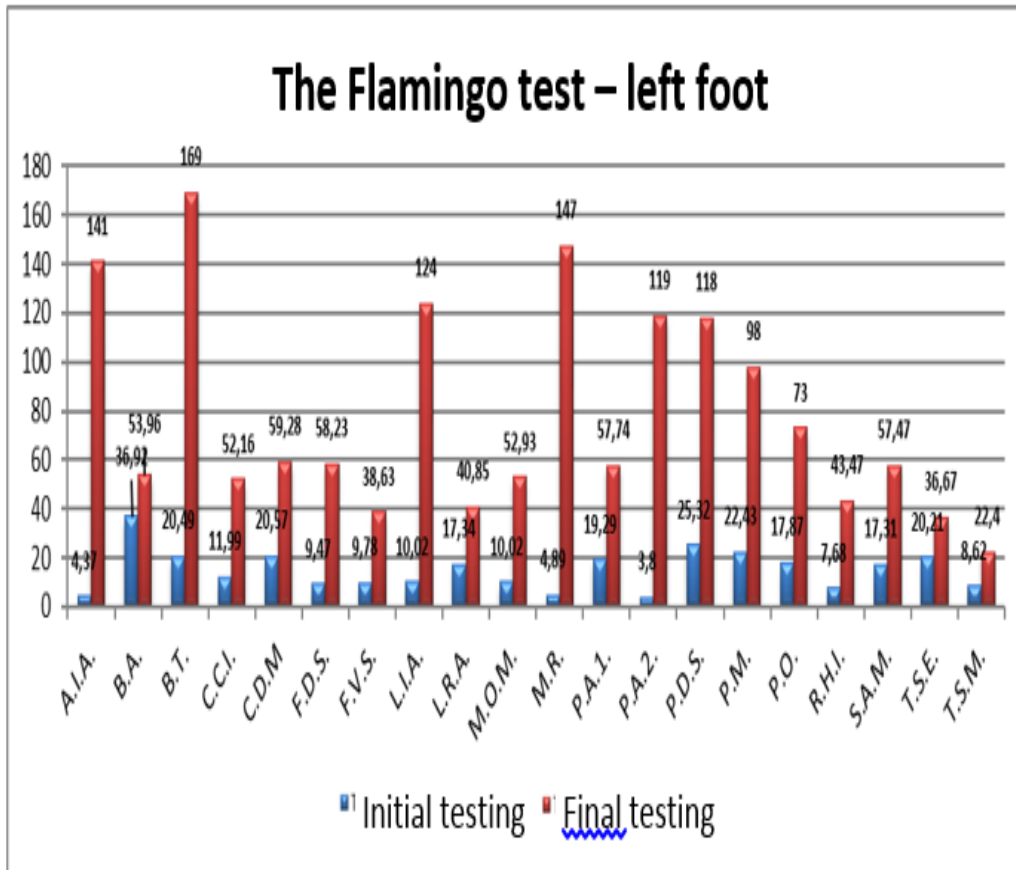


Chart 3. Psycho-motric assessment II

An interesting and unexpected element was the fact that the progress from the initial to the final testing was significantly greater for the left foot, in most of the tested children.

In the psycho-motric assessment, according to Chart 4, the results of the orientation in space and time indicated a significant progress in the final testing, compared to the initial testing.

- with the eyes open: A.I.A. - 0; B.A. - 1;

B.T. - 0; C.C.I. - 2; C.D.M. - 0; F.D.S. - 1; F.V.S. - 0; L.I.A. - 1; L.R.A. - 0; M.O.M. - 0; M.R. - 2; P.A.1. - 1; P.A.2. - 1; P.D.S. - 2; P.M. - 0; P.O. - 0; R.H.I. - 1; S.A.M. - 0; T.S.E. - 0; T.S.M. - 2.

- with the eyes closed: A.I.A. - 2; B.A. - 1; B.T. - 1; C.C.I. - 1; C.D.M. - 1; F.D.S. - 1; F.V.S. - 0; L.I.A. - 1; L.R.A. - 1; M.O.M. - 0; M.R. - 1; P.A.1. - 1; P.A.2. - 1; P.D.S. - 1; P.M. - 1; P.O. - 0; R.H.I. - 2; S.A.M. - 0; T.S.E. - 0; T.S.M. - 1.

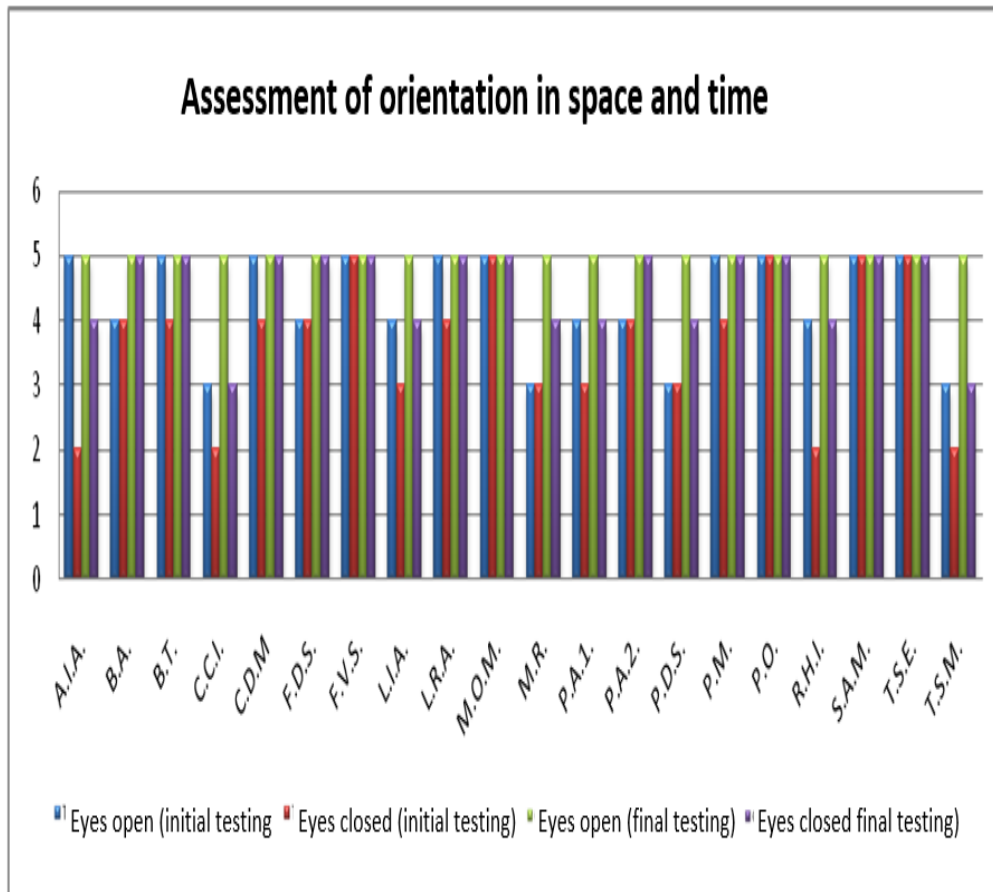


Chart 4. *Assessment of orientation in space and time*

The children with 0 difference had already obtained the highest score in the initial testing.

In the psycho-motric assessment (Chart 5), the results of the musicality assessment indicated in general a significant progress in the final testing, compared to the initial testing, for the

children who scored lower in the initial testing: A.I.A. - +1; B.A. - +2; B.T. - 0; C.C.I. - +1; C.D.M. - +1; F.D.S. - 0; F.V.S. - 0; L.I.A. - 0; L.R.A. - +1; M.O.M. - 0; M.R. - 0; P.A.1. - 0; P.A.2. - +1; P.D.S. - +1; P.M. - 0; P.O. - +1; R.H.I. - +2; S.A.M. - +1; T.S.E. - +1; T.S.M. - 0.



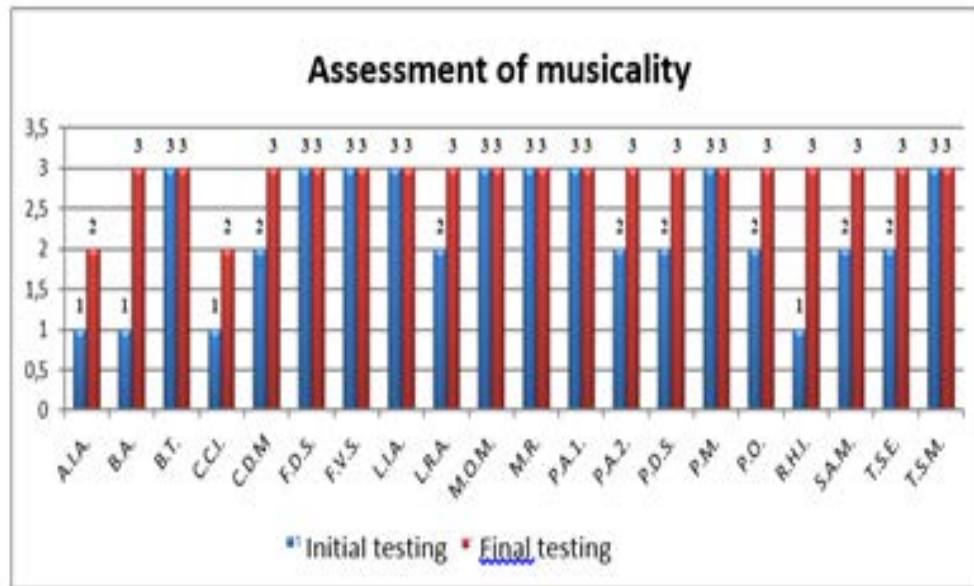


Chart 5. Assessment of musicality

The children with 0 difference had already obtained the highest score in the initial testing.

## 5. Conclusions

In this context, the benefits of therapy through ballroom dance are extremely important, both for children with no health problems, and for those exhibiting already slight physical deficiencies, or deficient postural attitudes. The kinetoprofylaxy through ballroom dance can be successfully used, together with the kinetotherapy, as a complementary method.

The conclusion is that maintaining an active life, through dance, is extremely necessary and beneficial for any individual, regardless of age, sex or social status. The dance is a harmonious environment, pleasant for all age and social categories, representing the perfect combination of movement and art, and providing kinetoprofylactic benefits, as well as melo-therapeutical ones. It can successfully

constitute and extra-curriculum activity, or a maintenance one, performed after work, in a pleasant environment, which provides also the occasion to socialize.

Starting from the proposed topic of this study, several topics have been identified to be further developed in the future, from the point of view of the use of dance as a prophylactic instrument.

Considering the positive effects of dancing, also at psychological level, it would be worth researching to what extent this discipline could prove efficient in improving the quality of life for children diagnosed with Dow syndrome, ADD or ADHD.

## References

1. Barna, C.: *Expresie corporală și Comunicare Motrică (Body expression and motric communication)* – Course Notes for IFR. Braşov. Ed. Universităţii Transilvania, 2009, p. 15-32.
2. Duma, E.: *Deficienţele de dezvoltare fizică – etiopatogenie, diagnostic,*

- tratament (Deficiencies in physical development – etiopathogenesis, diagnostics, treatment)*. Cluj-Napoca. Ed. Argonaut, 1997.
3. Cioroiu, S.G.: *Note de curs – Kinetoterapia deficienţelor fizice și senzoriale (Course Notes – Kinesotherapy for physical and sensory deficiencies)*. Brasov. Editura Universităţii Transilvania, 2016.
  4. Marcu, V., Dan, E.: *Manual de kinetoterapie (Kinesotherapy manual)*. Oradea. Ed. Universităţii, 2010.
  5. <http://cadredidactice.ub.ro/balinttatiana/files/2011/03/curs-kinetoprofilaxie-lucru-dobrescu.pdf>. Accessed: 18-09-2018.
  6. <http://docshare01.docshare.tips/files/16755/167559415.pdf>. Accessed: 18-09-2018.
  7. <https://faoj.org/2015/09/30/a-study-to-associate-the-flamingo-test-and-the-stork-test-in-measuring-static-balance-on-healthy-adults/>. Accessed: 18-09-2018.