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REDUCING STRESS IN SCHOOL CHILDREN THROUGH THE USE OF SOME DANCE TECHNICAL ELEMENTS AS A FORM OF THERAPY

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Abstract: *Dance therapy, after numerous researches, has proven to be a very beneficial exercise. We are considering reducing stress by applying an intervention plan based on a succession of specific dance steps, artistic program, made by entirely for this purpose. Our results show that the initial measurement, after the intervention program, students were able to greatly reduce mental tensions by further discharged their muscle tension. Certain indicators of stress can be improved by practicing a moment of sport dance with art therapy effect.*

Key words: *dance, therapy, relaxation techniques, attention, stress.*

1. Introduction

Dance is often practiced in schools as a therapy for children, due to their creativity and interest in art as a means of expression. Children with a variety of problems, such as learning disabilities, behavioral and emotional disorders can benefit by using art therapies [11]. Like other psychologists who work in schools, art therapists can diagnose problems that students make and thus can individualize treatment and specific interventions. Often, art therapists work closely with teachers and parents to implement their specific strategies [11].

Although artistic therapy is a relatively young therapeutic discipline, its roots lie in the moral treatment of patients dating back to the 18th century [4]. Dance therapy is the main tool among art therapies which we want to apply in

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shaping the students. Dance therapy, after numerous researches, has proven to be a very beneficial exercise. Dancing is an inherited art and learned from many cultures [12]. Following various studies conducted by specialists, we can conclude that dance helps maintain the mental and physical health of individuals of any age, reducing stress and anxiety and has a beneficial role in maintaining well-being and increases self-esteem [9].

Dance therapy allows obese patients to establish their somatic and psychic consciousness in relation to their body image [7]. Also, in a study conducted on adults, the dance indicated a significant improvement in the body's muscle endurance, power, balance, agility and flexibility. Evidence has also suggested that dance can improve cardiovascular health and mineral content of bones [5]. Linked to social dances, American researchers [6], concluded that dancing in pairs has benefits over self-esteem and the more often this type of dance is practiced, the better they will show individual results. In another study, Salsa dance proved to be effective for controlling posture in adults [3].

2. Hypothesis

The use of dance programs improves students' results, behavioral optimization and stress level.

3. Objectives and Aims

Our objectives take into account the well-being of young people, namely students aged 13-14 years. We are considering reducing stress by applying an intervention plan based on a succession of specific dance steps, artistic program, made by entirely for this purpose. We will use steps from contemporary ballet, classical dance as well as specific elements taken from rhythmic gymnastics and artistic gymnastics.

Due to the fact that in a contemporary society technology is advancing faster and faster and man, through his desire for self-overtaking, or out of a desire to overcome others, is under constant stress, sport seems to be the key to health, but not all people have the opportunity, or the desire to practice it. Therefore, a shape or combination of it must be found to be accessible to all in a fun and pleasant way. Dance, either professional, maintenance, leisure, educational, formative, spectacular or therapeutic, represents the expression of human activity, being in a continuous dynamic of what the man itself creates. Dance is sport and art, exactly what we need for the harmonious relaxation of the body.

4. Material and Methods

Our subjects were pupils, from “George Bariţiu” National College, from Cluj-Napoca, and the experiment took place from October 2016 to January 2017. The participation of the subjects was made based on the informal consent regarding the purpose of the study and the work program. They were guaranteed confidentiality regarding the use of the results obtained. For this intervention we had an experimental group of 30 pupils, 13-14 years old, 45% boys and 55% girls.

The Statistical Indicators in R. Bandler, Jacobson, EMAS, PDE, AP2, MA, AD tests were applied.

To find out the emotional state of the students, and to determine whether these states are dependent on certain external

factors, and whether these changes are measurable with tests and tools that we have chosen, the following tests were applied in the preliminary study: Relaxation technique R. Bandler, Jacobson, EMASTest-Endler.

Multidimensional Anxiety Assessment Scales (Anxiety Scale), PDE-Emotional Distress Profile, AP2-Perception of attention and spirit of observation, MA- Focus of attention, AD-Distributive attention.

Descriptive statistical elements have been calculated, the data being presented using indicators of centrality, location and distribution. The Shapiro-Wilk test was used to test normal distribution; variance has been tested with Tests F or Levene and/or Bartlett.

In the case of data with normal distribution, the t test (Student) was used, and in the case of uneven distribution or ranks, the nonparametric Mann-Whitney (U) tests were used for two unpaired samples or Wilcoxon for two paired samples. For the analysis of three or more samples, the ANOVA test was used in the case of data with normal distribution or the nonparametric Kruskal-Wallis test, in the case of non-uniform values or ranks. The significance threshold for the tests used was $\alpha = 0.05$ (5%), $\alpha = 0.01$ (1%) or $\alpha = 0.001$, thus: $0.01 < p < 0.05$ - statistically significant difference; $0.001 < p < 0.01$ - very statistically significant difference; $p < 0.001$ - statistically significant difference; $p > 0.05$ - statistically insignificant difference.

Statistical processing was performed with excel application (from the 2007 Microsoft Office package) with stats direct program v.2.7.2. The graphical representation of the results was done with the Excel application (from the 2007 Microsoft Office package).

5. Results

Comparing the results of the two measurements (from the beginning and end of the intervention period) we were able to record certain values in the implicated tests, meaning statistically significant changes between the two moments of time. These results, together with the statistical explanation, are shown in the tables and graphs below. At the end, the existing correlations between the indicators of the tests applied in the study will be presented.

Statistically significant differences were observed in the R. Bandler test between the two times ($p < 0.05$), as can be seen marked with green in the table 1.

These results show that the initial measurement, after the intervention program, students were able to greatly reduce mental tensions by further discharged their muscle tension, see Figure 1.

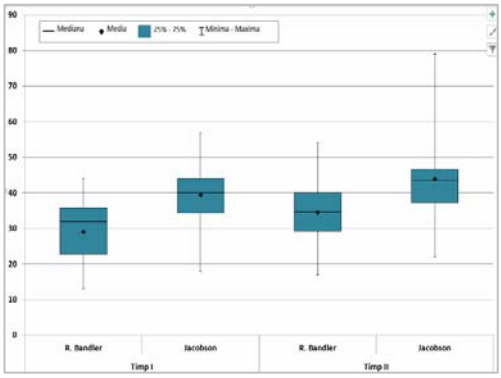

Fig. 1. *Image of R. Bandler and Jacobson tests for the two testing*

No statistically significant differences were observed in Jacobson values between the two times ($p > 0.05$).

No statistically significant differences were observed in Endler Multidimensional Anxiety Assessment Scale (EMAS) between the two times ($p > 0.05$).

Table 1

Results in R. Bandler, Jacobson, EMAS, PDE, AP2, MA, AD tests in the two Tests = Initial Testing I and Final TEST II and statistical significance

Indicators	Time	Media	Es	Median	Ds	Min	Max	*Statistical significance (p)*
R. Bandler	**I**	29,13	1,6468	32	9,0200	13	44	**0,038**
	Ii	34,43	1,3786	34,5	7,5507	17	54	
Jacobson	**I**	39,40	1,6474	40	9,0233	18	57	0,1366
	Ii	43,83	2,1157	43,5	11,5880	22	79	
Emas	**I**	30,57	1,4752	30,5	8,0801	20	50	0,1269
	Ii	35,13	2,0414	32	11,1811	20	70	
Pde	**I**	15,57	2,4540	13,5	13,4413	1	65	**< 0.0001**
	Ii	30,13	2,1876	27,5	11,9820	10	57	
AP2	**I**	19,53	0,4173	19	2,2854	16	24	**< 0.0001**
	Ii	22,83	0,4042	23,5	2,2141	17	25	
Me	**I**	0,97	0,3088	0	1,6914	0	7	0,7823
	Ii	0,77	0,2430	0	1,3309	0	6	
Ad	**I**	0,17	0,0140	0,2	0,0769	0,05	0,38	0,9696
	Ii	0,17	0,0148	0,1505	0,0808	0,05	0,38	

From these results we can conclude that the intervention program in the pilot study did not have a pronounced effect in which the amplitude of anxious reactions is concerned. We have two possible explanations:

1. dance exercises in general will not impact the individual pattern of anxious reactions in different situations of the individual, and
2. the intervention program (three months) was too short to cause a measurable difference in this respect

Statistically significant differences were observed in the emotional distress test (EDP). These values can be seen as marked in blue in the table 1. The result obtained in this indicator shows us considerable difference in the subjective size of negative perceptions, see Figure 2.

Statistically significant differences were observed for the perception of attention and the spirit of observation (AP2).

The numbers in Table 1, marked in purple color, shows us that the perception of attention and the spirit of observation have increased significantly in students, after benefiting from the dance program.

No statistically significant differences were observed for concentration (MA) and for the distribution of attention (AD).

In Figure 1, we see the graphic illustration of the R. Bandler and Jacobson indicator. We can see how students' ability to reduce mental tensions has increased, applying relaxation methods with which they can manage more effectively to unload accumulated tensions in the muscles. Better physical relaxation will therefore lead to the relaxation of mental tensions.

In figure no. 2, we can observe the dynamics of the EMAS (Multidimensional Anxiety Assessment), PDE (emotional distress test) and AP2 (attention perception and observation) tests. The statistically significant differences were observed in the indicators of the PDE (emotional distress test) and AP2 (attention perception and observation) indicators, which indicates, as

we described above, that our intervention program in the preliminary study has had a positive and measurable impact on the students in terms of improving the negative perceptions as well as in increasing the attention and the spirit of observation.

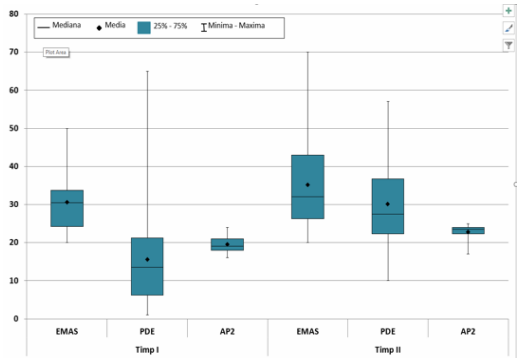

Fig. 2. *Image of EMAS, PDE, AP2 tests for the two testing*

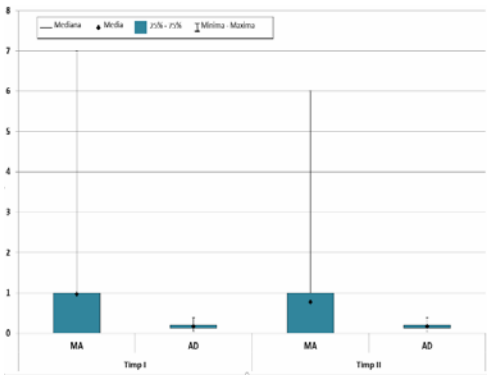

Fig. 3. *Image of MA and AD tests for the two testing*

There were no statistically significant differences in the values The Concentration of Attention (MA) and distributive attention (AD).

6. Conclusions

The obtained results emphasize the importance of psychological tests as a tool to detect stress levels in order to reduce its intensity and raise awareness of a well-being. We conclude that students need a special intervention program as the one created by us that to reduce the accumulated stress. We have observed in our study how certain indicators can be improved by practicing a moment of sport dance with art therapy effect.

The students managed to make more efficient use of relaxation techniques (R. Bandler, Jacobson) thus resulting in improving their emotional distress profile (EDP) and quality of perception and observation spirit (AP2). The psi test items showed us an improvement in the perception speed (VP) as well as authority (AR). All of these values are statistically significant differences between the two testing. We have also recorded very significant correlations between the different tests and their items. For example, good correlations between ap2 test values (perception of attention and observation spirit) and MA (concentration of attention).

Following preliminary research, these testing tools and experimental conditions have been validated through these tests. Thus, the results obtained from by applying R. Bandler and Jacobson, EMAS, MA, AP2, AD,EDP tests are entitled to conclude that the advanced assumptions in the preliminary research are validated, which gives us the opportunity to continue our research.

6. Discussions

Following the application of E. Jacobson's relaxation technique, a study conducted in America showed a significant decrease in anxiety in a group of students, as well as improving memory, communication skills and relaxation. The experimental group participated in

progressive relaxation, while the control group did not benefit from it. So, according to the results, Jacobson's technique can be an effective technique in reducing anxiety [1].

Relaxation has a favorable impact on the self-efficiency in cancer patients and can be adopted as a simple, inexpensive and accessible strategy for them [8].

A study conducted on patients suffering from asthma showed that those in the experiment group had a much lower level of stress, and a better quality of life in terms of disease symptoms, their daily activity and their emotional functions compared with patients in the control group. After analyzing the quality of post-natal life of an experimental group of 30 women, the researchers concluded that the Jacobson technique is beneficial and should be recommended for women who are admitted to obstetrics clinics, and home visits should contain this technique in the program [2].

A study conducted on young people concluded that progressive relaxation helps to reduce excess sweating and heart rate [10].

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