

EFFECTS OF A DANCING THERAPY PROGRAM IN THE MOTOR SKILLS SCHOOL-AGED CHILDREN

¹J.A. MOCHA-BONILLA, ²R.V. BARONA-ONATE, ³E.M.MEDINA-R, ⁴E.M.SANCHEZ, ⁵S.E. GARCES-D

^{1,3,4,5}Universidad Técnica de Ambato - Human Sciences and Education Faculty - Physical Culture Major
²Universidad Técnica de Ambato - Languages Center
E-mail: ¹ja.mocha@uta.edu.ec, ²rv.barona@uta.edu.ec, ³em.medina@uta.edu.ec, ⁴em.sanchez@uta.edu.ec, ⁵se.garces@uta.edu.ec

Abstract- The practice of dancing in educational institutions today helps to perfect the harmonic development of children, both in the intellectual and motor aspect, especially in school-aged children. By practicing dancing therapy activities children achieve a comprehensive balance in their abilities and motor skills because the exercise that dancing provides as therapy makes children aware of their own body, the world around them and to which they belong as well as aspects of their own personality. Additionally, it serves as a global study on the autonomous and psychomotor development. The research mentions an intervention dancing program that contributes to the motor development of children of school age, applying ABC Movement Battery in children who are 10 years old. The program was executed in two stages: pre and post intervention to verify whether the dancing therapy program improves the motor development in the participants. Each intervention session was observed and analyzed at the end of each month. After the application of the intervention program, coordinated and precise movements were achieved. Finally, it was concluded that the dancing therapy favors the motor skills confirming that children can improve the psychomotricity along with their autonomous personal development using their body as an instrument to express emotions and feelings through the practice of dancing therapy.

Keywords- Psychomotricity, Dancing Therapy, Integral Development, School Age.

I. INTRODUCTION

Dancing therapy is a recreational activity that is performed at the music rhythm with which people can enjoy the practice of physical exercise in a fun and easy way. It stimulates balance and physical, emotional and mental health. Starting from an internal motivation, the practice of dancing leads to an active life with the exercise that helps the motor development of children because through dancing they discover different skills that the human body can perform. In the early ages, it helps to develop motor skills, to have better coordinated body movements and with broad control as children grow. It is very important that people participate in programs designed to recreate and enjoy physical activities, in which frequent and permanent processes allow the development of habits, abilities, and skills that, at the same time, motivate the practice of values and aid the psychomotor development. When talking about programs (Balazs, A. et al 2014) mentions that the intentionality of raising awareness towards the importance of physical activity has been directed and developed in the State of Venezuela to contribute to the reduction of sedentarism, a factor that causes obesity on a pandemic scale [1]. Recreational activities improve the quality of life but above all give rise to different opportunities to grow as people in daily life as the practice of these activities helps to get rid of daily routines. This facilitates communication with other people allowing social, family and school inclusion. It also delays premature aging and curing diseases caused by inactivity [2]. The dancing therapy is a mixture of coordinated steps

accompanied with the flexibility of the body to the rhythm of music like merengue, salsa, cumbia, reggaetón. This type of dancing is a physical therapy characterized by a set of coordinated and ordered movements following the beat of music [3]. Among the most important benefits are: muscle toning, strengthening of the respiratory and cardiovascular system, improving self-esteem, and socialization among school children. Dancing is a good strategy because it is a recreational but, above all fun, physical activity that provides excellent physiological benefits in the human being which are characteristic of aerobic exercises [4].

State of the art. The following section details the work related to the development of motor skills and dancing therapy. Within the motor skills, studies of systematized observations of the motor patterns have been carried out in physical activity programs for the elderly in which some sessions were analyzed to be able to examine the motor patterns [5]. It has also been determined the impact of a motor intervention program for the level of gross motor development, applied through the test TGMD-2, pre and post, whose result, after the post intervention, was that the girls and boys presented a higher motor level than the expected average [6]. Another study was developed with autistic students from the context of physical activity in which the practice of equine therapy sessions was a tool of social interaction for the development of basic motor skills. In this study, horses were used as motivational agents in the educational process and equestrian physical activities [7]. When studying both fine and gross motor skills in

schoolchildren aged 6 to 13 years, using the Chilean version of the Motor Perceptual Development Scale, the results showed that motor skills mature as the child progresses in age. However, the performance of motor skills when studied by gender, show that the boys were more skillful compared to the girls [8]. In the educational field, it has also been possible to determine the relationship between gross motor skills and language-specific disorders in children aged 4 and 5 years, by applying the test TGMD-2 to evaluate their motor skills and the tests TEPROSIF-R, TECAL and STSG to assess the language disorder. The conclusion of this study was to provide evidence of the benefit of motor development to improve the reading comprehension skills in children with language disorders [9]. In relation to dancing therapy studies have been developed to assess the incidence of a dancing therapy program in improving the level of vulnerability to stress. The experiment was carried out with a pre-experimental design with pre and post test, to establish comparisons between them. Thus, an improvement in the level of vulnerability to female adult stress was obtained, once the period of application of the program finished [10]. The dancing therapy as a support for the development of Motor Coordination was aimed at promoting the practice of dancing therapy in student populations. It is concluded that this activity raises the quality of life of people, demonstrating how healthy it is to perform and how to raise the self-esteem of those who practice it [11]. Studies on after-school dancing activities and sports in the adolescence show that non-school time can be used to improve academic performance and development of the individual. Physical-sports, training or artistic activities carried out outside school hours show little multiactivity. This research also shows differences between girls and boys regarding the performance of activities and times of this type of practice [12]. According to the above, the study with a pre and post test intervention design is presented through the application of the Movement ABC Battery for the children at the school age of 10, which was performed to verify if a dancing therapy program improves the Motor Development of school children.

II. DETAILS EXPERIMENTAL

2.1. Subjects of study: The study was carried out with 40 subjects belonging to the fifth years of Basic General Education, that is, children of school age between 9 and 10 years.

2.2. Tools: It was used the ABC Movement Battery, which was published in 1992 by Henderson and Sugden. It has its roots in the test TOMI (Test of Motor Impairment) which was developed by Stott and his Canadian and English collaborators in 1960 [13]. However, for the application, the respective items of measurement were taken for the age of the

participants (9-10 years). The intervention program lasted five months, during which time a pre-intervention and post-intervention dancing therapy program was applied to determine the benefits of dancing in improving children's psychomotor development.

2.3. Process: This study included 40 participants, who were informed of the research. Similarly, they were told that the experiment was not invasive and that it is used to verify the levels of motor skills in school age children. Within the study, a five-month dancing program was applied, which consisted of three weekly dancing sessions with different rhythms of music: Salsa, Merengue, Reggaeton, Cumbia, and Bachata. The duration of each dancing session was 45 minutes. Before starting them, previous warm-ups were performed, then the dancing practice was continued depending on the planned rhythm. We used easy-to-follow movements for school children, but especially movements to achieve better motor coordination and body development. Finally, each session ended with the respective stretching. The study was developed through an intervention program a quasi-experimental design with application of pre-intervention and post-intervention. The analysis of the research on the development of motor skills was calculated using statistical values observed during each dancing session using direct observation with the help of the Movement ABC batteries for the respective school age, which evaluates the motor competence using the MABC-2 battery (Movement Assessment Battery for Children-2) [14].

III. RESULTS

40 school-age children aged 9 and 10 participated in the study to observe motor skills. The intervention lasted five months, during which it was possible to observe the significant improvements in the motor condition of the participants, as shown in Table 1.

| Observation of the motor skills of school age children of 9-10 years old | | | | | | |
|--|-------------------------------|------|---------|-----|--------------------------------------|--------------|
| Progress in the psychomotor development in the dancing sessions | Motor Coordination in dancing | | | | Total of the population: 40 students | |
| | Velocity | Good | Regular | Bad | 5th Year "B" | 5th Year "C" |
| | | | | | 20 | 20 |
| February | 5 | 7 | 13 | 15 | 20 | 20 |
| March | 4 | 8 | 17 | 11 | 20 | 20 |
| April | 12 | 12 | 10 | 6 | 20 | 20 |
| May | 13 | 15 | 6 | 6 | 20 | 20 |
| June | 15 | 20 | 2 | 3 | 20 | 20 |

Table 1: Observation of the motor skills of school-aged children between 9-10 years old

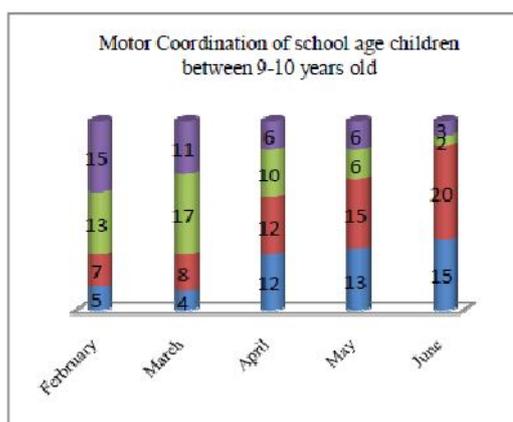


Figure 1: Motor Coordination of school age children between 9-10 years old.

Figure 1 clearly shows a development in the motor coordination of the study subjects after the completion of the dancing therapy program, since previously about 18 children presented a coordination between bad and regular which is the 55%. While at the fifth month, only 5 children did not develop it. This shows that there is a significant increase in motor coordination.

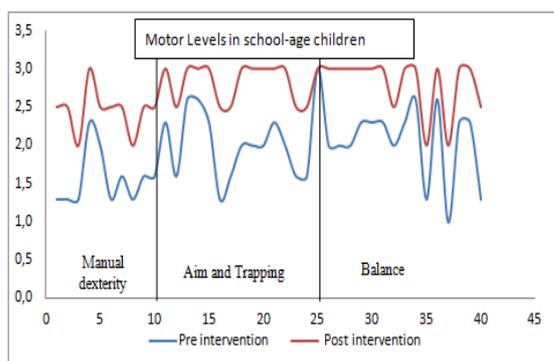


Figure 2: Motor Levels in school-age children.

In the figure 2, referring to motor skills levels, a significant effect can be seen after the intervention program in dancing therapy in the aspects of manual dexterity, aim and trapping and balance in school age children between 9-10 years old. The results show significant improvement in manual dexterity, and aiming and trapping. Although, the balance scores before the intervention were the lowest, the children achieved ample improvement.

CONCLUSIONS

1. The effects on motor skills is noticeable after the intervention program. There is clearly an improvement in the scores obtained in manual dexterity since there is a significant increase from 1.8 to 2.7. Regarding the results observed within the range of aim and trapping, it can be clearly visualized that the scores, which oscillate between 1.9 to 2.7, have improved. Once the equilibrium pattern has been

analyzed, it can be concluded that the differences between the data of the pre-intervention and those found in the post-intervention are revealing and extensive since they start from 1.8 to 2.6.

2. The benefits of dancing activities, specifically dancing therapy, were verified to improve the motor development of children between 9-10 years old, since dancing facilitates entertainment and fun in school activities. This physical practice helps children in the use of leisure time away from sedentary life which impacts on their motor qualities. In agreement with the findings of a study in children aged 10 years, the results found in this research regarding motor performance are the ones expected[15].
3. Children construct their conceptual representations based on their sensorimotor experiences with the environment (Welsby y Pexman, 2014). It seems evident that motor development significantly influences the children's development, offering them multiple opportunities to interact with their physical and social environment [16]. The data reinforce the idea that motor skills do not arise naturally and that it is necessary to provide children with adequate, systematic education and consistent teaching methods because teaching is important for motor development [17].
4. It can also be observed that the three types of motor skills, manual dexterity, aim-trapping, and balance are significantly improved by the application of a dancing therapy program, which is verified in the post-intervention stage and is shown in figure 1. This shows the importance of motor development in children, and it was found that the continuous practice of a dancing therapy favors the development of motor skills, achieving more precise and coordinated movements. Furthermore, it helps children to perfect their psychomotor skills especially during the school age stage, in agreement with [18]. The role of the physical education teacher in schools in terms of motor development is to motivate children in general, particularly those with motor difficulties. Finally, we are currently using tools to measure the balance (MABC-2 and stabilometry) in the assessment of postural control and adaptive response [19] which is topic for future research.

ACKNOWLEDGMENTS

We would like to show our gratitude to Universidad Técnica de Ambato, the Faculty of Human Sciences and Education, the Languages Center and Unidad Educativa Santa Rosa for supporting us during the course of this research.

REFERENCES

- [1] A. R. d. D. R. L. & d. H. G. G. de Balazs, «Educación física y su relación con la salud en la formación integral. Experiencia desde el contexto educativo en Venezuela.» Revista Iberoamericana de Psicología del Ejercicio y el Deporte, vol. 9, nº 2, pp. 303-323, 2014.
- [2] M. Á. & V. M. S. Barrios, «Recreación y calidad de vida en adultos mayores que viven en instituciones geriátricas y en sus hogares. Un estudio comparativo.» Espacio Abierto Cuaderno Venezolano de Sociología, vol. 16, nº 4, pp. 737-756, 2007.
- [3] R. D. & T. A. J. Á. Medina, «PROGRAMA DE BAILOTERAPIA Y SU INCIDENCIA EN LA VULNERABILIDAD AL ESTRÉS DANCE THERAPY PROGRAM AND ITS IMPACT ON STRESS VULNERABILITY.» Revista Universidad y Sociedad [seriada en línea], vol. 7, nº 3, pp. 79-87., 2015.
- [4] Ó. H. & B. C. Á. Quesada, «Efecto del modelo “baila a la salud”, sobre el nivel de actividad física, el tiempo dedicado a mirar televisión, la frecuencia de consumo de alimentos y estadíos de cambio en adolescentes mujeres de noveno año.» revista en ciencias del movimiento humano y salud-MHSalud, vol. 7, nº 2, p. 12, 2010.
- [5] M. S. G. P. Q. C. O. & A. M. Castañer, «La percepción de beneficios y de mejora del equilibrio motriz en programas de actividad física en la tercera edad.» Cuadernos de psicología del deporte, vol. 16, nº 1, pp. 77-84, 2016.
- [6] G. C. S. Y. J. T. M. M. & C. F. M. Roco, «Impacto de un programa de intervención motriz en el nivel de desarrollo motor grueso en niñas/os de 1º a 3º básico de un colegio de Santiago de Chile.» Roco, G. C., Soto, Y. J., Troncoso, M. M., & Cid, F. M. (2016). Impacto de un programa de interVIREF Revista de Educación Física, vol. 4, nº 4, pp. 57-67, 2016.
- [7] R. Y. J. F. L. L. F. & D. I. F. García, «Actividades físicas ecuestres para el desarrollo de habilidades motrices básicas y de interacción social en escolares autistas con alto nivel de funcionamiento desde la equinoterapia.» Lecturas de educación física y deportes , vol. 205, nº 205, pp. 1-5, 2015.
- [8] M. Á. L. V. C. A. R. R. G. V. R. V. S. C. M. & A. V. Valenzuela, « DESARROLLO MOTOR EN ESCOLARES uCON DIFERENTES APRESTOS FORMATIVOS MOTRICES.» Revista Ciencias de la Actividad Física UCM., vol. 1, nº 16, pp. 19-28, 2015.
- [9] F. M. R. G. C. A. F. M. & M. P. V. Cid, «Relación entre la motricidad gruesa y el trastorno específico del lenguaje en niños y niñas de 4 y 5 años de la comuna de Paine, Chile.» VIREF Revista de Educación Física, vol. 4, nº 1, pp. 155-164, 2015.
- [10] J. F. D. M. R. & Á. T. A. J. Jiménez González, «Programa de bailoterapia y su incidencia en la vulnerabilidad al estrés.» Revista Universidad y Sociedad, vol. 7, nº 3, pp. 79-87, 2015.
- [11] C. & L. J. Ponce, «<http://repo.uta.edu.ec/handle/123456789/8806>,» 9 abril 2015. [En línea]. Available: <http://repo.uta.edu.ec/handle/123456789/8806>. [Último acceso: 4 abril 2016].
- [12] N. P. J. V. C. I. & B. I. Codina, «“Ellas a estudiar y bailar, ellos a hacer deporte”: Un estudio de las actividades extraescolares de los adolescentes mediante los presupuestos de tiempo.» Cuadernos de Psicología del Deporte, vol. 16, nº 1, pp. 233-242, 2016.
- [13] L. M. R. & S. J. L. G. PÉREZ, «Un estudio transcultural de la competencia motriz en escolares de 7 a 10 años: utilidad de la Batería Movement ABC.» Revista española de pedagogía, nº 231, pp. 289-308, 2005.
- [14] M. J. A.-R. S. G.-D. d. C. D. S.-G. M. A. S.-G. A. & G.-G. R. Pardo-Guijarro, «Relación entre la competencia motora y el rendimiento académico en niños de tercero de educación infantil y primero de educación primaria.» Revista Andaluza de Medicina del Deporte, vol. 8, nº 1, pp. 39-39, 2015.
- [15] P. N. F. L. P. G. C. d. R. F. F. d. S. V. A. P. d. S. C. R. .. & V. J. L. L. da Silva, «ANÁLISE DA PERCEPÇÃO DE COMPETÊNCIA E DESEMPENHO MOTOR DE PRÉ-ESCOLARES DO MUNICÍPIO DE MARINGÁ-PR.» BIOMOTRIZ, vol. 10, nº 1, pp. 1-19, 2016.
- [16] L. M. R.-A. A. & L.-I. J. L. Ruiz-Pérez, «Movimiento y lenguaje: Análisis de las relaciones entre el desarrollo motor y del lenguaje en la infancia.[Movement and language: Analysis of the relationships between motor and language development in children].» RICYDE. Revista Internacional de Ciencias del Deporte. doi: 10.5232/ricyde, vol. 12, nº 46, pp. 382-397, 2016.
- [17] T. S. C. F. L. A. J. M. & B. C. S. Beltrame, « Motor development and self-concept of children with Developmental Coordination Disorder.» Psicología Escolar e Educacional, vol. 20, nº 1, pp. 55-67, 2016.
- [18] J. C. D. S. M. R. P. R. H. R. A. C. N. L. M. M. L. E. & H. C. Y. Arcay, «Aptidão física, índice de massa corporal e avaliação da coordenação motora em escolares do ensino fundamental.» Pesquisa em Educação Ambiental, pp. 1-4, 2015.
- [19] C. R. Z. D. M. F. L. R. S. L. R. G. M. R. d. P. F. J. A. & d. A. S. L. L. Fernández, «Valoración de la coordinación y el equilibrio en niños prematuros. In Anales de Pediatría.» Elsevier Doyma., pp. 1-9, 2015.

★★★