

## **The influence of the ballroom dance in the body perception of age individuals**

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The aging is a transition between the maturity and the old age. Individuals of any age groups present different reasons for practicing physical activity. The physical activity has the capacity to provide some physical and psychological benefits, for example increase of the functional capacities and increase of the self-esteem. The ballroom dance allows to the individual to accomplish a ludic physical activity followed by music that brings satisfaction and welfare to the apprentice, besides providing contact with the own body and with the partner's body allowing both to live different sensorial and motor stimulus in the space and in the time. Dancing provides the nervous system with somatic and emotional information and it can interfere in the perception that the individual has of the own body. The body perception can be analyzed under two perspectives: one of subjective character, associated to judgment of values of psychosocial subjects, called Body Image (TAVARES, 2003) and the second perspective that makes possible through proprioceptive and exteroceptive stimulus recognize of body segments and the relationship established with the space around, denominated Body Schema (BARRETO, 1999). The brain constantly monitors that recognition and uses this as a guide for the movement (HOLMES and SPENCE, 2004). So that, any alteration of body schema can alters the motor planning, and therefore, the execution of the movement. The objective of this study was to evaluate the influence of the ballroom dance in the body schema of age individuals. The collection of data was accomplished at the School of Dance "Fonte Danças" after submitted to the committee of ethics of the University São Judas Tadeu (COEP) approval; protocol no. 17/2007, CAAE 0015.0.219.000-07. Eight beginners in the ballroom dance, 45 to 60 years of age, were used in this study. However, only four concluded the initial dancing module. For the analysis of the body schema was applied, before and after the practice of the module Beginners of ballroom dance, using the Image Marking Procedure (IMP) proposed by Askevold (1975) and adapted by Thum (2007). This instrument was selected because it

is an efficient, practical and economical test. So that, the following materials were used: measuring tape, colored labels, digital camera. The participants were marked in the following body areas: right and left acromium, right and left waist curves, greater trochanter of the right and left femur. For accomplishment the image marking procedure test, the subjects were wearing tight clothes to facilitate the exact palpation of the anatomical points by the examiner. Image marking procedure is a projective test where the subject stayed in orthostatic position in front of a wall. The subject was informed that the wall represented a mirror where his/her image was projected, and in which he should point the projection of certain parts of the body touched by the examiner. The test was accomplished with the subject of blindfold eyes. The marked points were touched and also the high point of the head, and the individuals marked in the wall before itself with a black label, the projection of that touched point. The same procedure was accomplished for all of the marked body areas and three consecutive measures were accomplished, without the subject see the previous demarcations. The real demarcation of the points of the mentioned body areas was accomplished, for the comparison of the measures, with a different color label from the used for the points perceived by the subject. The distances of the points marked by the subject (perceived measure) and for the subject (real measure) they were marked in the horizontal plan, representing the body width and in the vertical plan, to verify asymmetries. After these measures, was applied for interpretation of the Body Perception Index, that consists in using the formula: perceived measure divided by the real measure multiplied by 100 (ASKEVOLD, 1975). Were considered as an appropriate body perception index, the individuals among 102,28% up to 123,58%. Below this value the individuals were considered hyposchematic, in other words, smaller perception of the body dimensions than real, and above this value, hyperschematic, larger perception of the body dimensions than real. The test is not validated for the Brazilian population, however several researches in Brazil, use this test. The statistical analysis used was ANOVA that basically divides the variability inside between groups and variability of groups, and it compares both of them. Considering the subjects that concluded the Beginners Module, two attended 20 classes and two attended 15 classes. The Beginners Module lasted 3 months, completing a total of twelve classes, considering one weekly class with duration of ninety minutes. However, if the student was available and was interested, was possible to attend other schedules besides that in that enrolled. The classes were supplied by a couple of teachers with the aid of monitors and instructors, responsible for

observing and help those that presented difficulties in the execution of the movements. During three months of practicing ballroom dance, the gentleman taught what it is and how it should be the lady's conduction. The gentleman shall conduct the lady, and she leaves to be conducted. The following dance styles were developed, beginning with Xote, following by the Merengue, Samba and Foxtrot. With the advance of the classes, other styles were increased like Rock'n Roll, Rastapé, Gafieira, Twist and Bolero. The analysis of the body perception index obtained by the image marking procedure test showed that the 50% of the subjects presented appropriate general body perception index before the practice (103,17 and 117,05%, subjects 1 and 2, respectively) and 50% presented hyperschematia (131,17% and 149,87, subjects 3 and 4, respectively). After the practice of three months of ballroom dance corresponding to the beginners module the subject 1 became hyposchematic (101,7%), the subject 2 stayed appropriate (106,8%), the subject 3 passed of hyperschematic to appropriate (104,9%) and the subject 4 stayed hyperschematic (162,7%). The average of the Body Perception Index for the head's height was 102.13% before and 99.87% ( $p>0,05$ ) after the practice, for the width of the shoulder 144,68% before and 113,15% later ( $p>0,05$ ), for the width of the waist 137,53% before and 133,30% later ( $p>0,05$ ) and for the width of the hip 132,68% before and 121,18% later ( $p>0,05$ ). The Body Perception Index regarding to right and left body segments suffered influence with the practice of ballroom dance, being the average for right shoulder 111,08% and left 105,08% ( $p <0,05$ ) before the practice and later 106,08% and 102% ( $p>0,05$ ) for the same ones after the practice. Those data show that after the practice of the beginners module of ballroom dance the asymmetrical perception that there was among the shoulders right and left it tended to be symmetrical. In the other segments there weren't statistic differences ( $p>0,05$ ): right waist 112,28% and left 113,48% before, 112,43% and 109,53% then, respectively; right hip 122,70% and left 122,05% before, 118,13% and 117,45%, respectively. Although statistic difference has not been observed in all of the body segments, there was an increase in the perception of the symmetry of the shoulders after the practice of three months of ballroom dance. It is believed that improvement in the perception of the symmetry of the shoulders has been due to the attention given to that body segment during the classes, because the gentleman conducts from the movements of the upper extremity and the lady is conducted from the firmness of those same segment. The other analyzed segments didn't show significant difference, however, as much the perception of the body width as the perception among the sides right and left they tended approaching of

the Body Perception Index 100%. To sum up, the practice of ballroom dance influences the body schema positively, because in that activity the individuals are in body contact and that stimulates the afferents esteroceptive regarding the own body contour. Besides, the movements of ballroom dance stimulate the proprioception that also provides with information the cortical area related to the body schema. The reduced number of participants and the time of practice of that activity might have influenced the low statistic significance. More studies are necessary to explain in a more contusing way the influence of ballroom dance in the perception of the body dimensions.

#### Rerefences

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