

INVESTIGATION OF PHYSICAL PARAMETERS OF TURKISH FOLK FEMALE DANCERS WHO PLAY DIFFERENT REGIONAL DANCES

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ABSTRACT

The purpose of this study is to investigate the female haly, horon and zeybek Turkish folk dancers' characteristics and compare them according physical parameters. Totaly 99 voluntary female dancers at least 5 years experience in halay, horon and zeybek had participated to the study. this research age, height, weight, anaerobic power, reaction time, speed, flexibility, leg force and body fat In percentage of the groups had measured.

The statistical analysis of data had calculated in the computer by SPSS 10.0 package program. The significant level had taken as 0.05 and 0.01 ($p < 0.05$ and $p < 0.01$). In the study it had found out that there's no significant importance in the height, anaerobic power, flexibility, leg force and anaerobic endurance in the level of significant difference $p < 0.05$ in female groups. There's a significant difference had found out in age, reaction time, speed and body fat percentage at the $p < 0.05$ level in males. As a result; at the end of dances exercises, it had found out dancers that playing halay and horon, which practicing physical activities more intensively, have more positively affected values of flexibility, speed, body fat percentage and reaction time according to zeybek dancers.

Key Words: Turkish Folk Dances, Halay, Horon, Zeybek

Introduction

It is called Folk Dances which consist of life styles, beliefs, joys, grief of community and is played with the traditional rhythmic music. There are different species at. (C. Demirsipahi, 1979) Turkish Folk dances (halay, horon, zeybek) the figure features of this dances are different than each other. (İ. Ekmekçioğlu, 2001) Folk dances consist of two elements which are movement and music. (V. Aymaz, 1998) The movement is harmony with music at folk dance. Turkish folk dances which have a large structure in terms of quality of movement, moves all organisms at the same time. (A. Ünveren, 2005) However, based on skills and a high degree of difficulty of movements of the game, uninterrupted, back to back and made a long time, motoric characteristics of the players has been also contributed to the development (A. Mis, 2001) Consisting of complex movements, such as folk dance aerobic and anaerobic exercise is effective in the development of physical fitness. (G. Baltacı, 1996). In the study, it is aimed determining the physical features of the female players who plays the games "horon", "zeybek" and "halay" at least five years and comparing the physical parameters of them. Incorporates many different features of the regional diversity of Turkish Folk, can show different effects in terms of physical and physiological on players who plays this sites. The existing literature on information that is not enough requires such a study

Methods

In the study, 99 volunteers who are female spotmen from three different regions were selected. Before the measurements, the pre-warm up exercises was performed for 15 minutes by the

players. **Measurements of height and body weight:**

Volunteer of the body weight was measured with the weighing instrument which has 0.01kg sensitivity. During the measurements, it was considered that the athletes were being barefoot and the shorts and t-shirts on them. In this case, volunteers were allowed to stand upright and the height of the volunteers received tapes with. **Measuring vertical jump:** This study has been done to find the maximal anaerobic power of the legs of the volunteers. Volunteers, while in the upright position by extending one arm above the point where the fingertips touch the marked. After the jump with all the force and can jump straight to the top spot has been marked (N. Akgün, 1994) As a result of the test, using the formula given below Lewis' anaerobic power of the legs was calculated. (E, L Fox, 1998) $P = \text{Anaerobic power} = \text{Body weight} \times \text{Vertical jumping distance (m)}$
 $P = \sqrt{4.9 \times W \times \sqrt{D}}$

Speed Measurement: Volunteers waited in 30-meter track at the starting line. By the giving mark, the sportsmen run the 30 meters course. **Flexibility**

measurement: Sit and Reach Stand was used in measurements. Volunteers, sat in a parallel manner and legs in straight position and without bending their knees laying the ruler on the table was pushed. (Y. Sevim, 1995). **Reaction Time Measurement:**

The Hubbat Reaction Time Battery was used for measurement. And also the reaction time of volunteers was measured for light and voice. The test were repeated (right hand - sound, left hand - sound, right hand - light, left hand -light, mixed sound from right or left side) 10 times for each of volunteers during the measurement. **Legs Force Measurement:** The measurements was performed by Back Strength Dynamometre. The voluntary pressed with both feet on

dynamometer, held on the handle which is connected to the steel cables and pulled the handle with all strength. After that the measured value on the dynamometer were recorded as kg. (K. Tamer, 2000).**Body Fat Measurement:** Lange Skinfold Kaliper tool was used for measurements. The measurements were obtained from 6 regions of the body (Breast, Biceps, Triceps, Iliac, Subscapula, Abdominal).**Anaerobic Endurance Measurement:** Hexagonal Obstacle Test was applied (a hexagonal each of edge is 60 cm was drawn on the ground). Each edge of the hexagon is marked by the letters from A to F. (W. Kiber, 1998) The result of the test was recorded by the chronometer. The volunteers was moved in a clockwise direction: A, B, C, D, E, F, A, anticlockwise direction: F, E, D, C, B, A and clockwise direction: B, C, D, E, F

Results

Results are shown in table 1.

Conclusions

Baltacı and his friends has determined the average value of anaerobic strength as 100.62 ± 22.68 kg.m/sn for the Folk dance players of the government. (G. Baltacı, 1994) Gerek has found the the average value of anaerobic strength $69,23 \pm 8,68$ kg.m/sn for the male players. (Z. Gerek, 2007) The movements of jumping, spinning and falling down is applied forcedly in Turkish folk dances. (Ş. Ünal, 1992) In the women's games figures are performed with standing and walking. It is thought that the figures on standing doesn't affect the development of anaerobic strength. In the studies, the diversity of anaerobic strength for each group supports our opinion. The exercises of women's Folk dances are not training for speed work Ünveren has determined that the pretest average value of speed is 7.147 ± 0.401 sn. the post-test average value of speed is 7.061 ± 0.739 sn. (A. Ünveren, 1997). It is thought that the training of Folk dances has a less affect for development of anaerobic strength but during the training it has a positive contribution for person in terms of physical and physiological. (Z. Gerek, 2007) .Cicioğlu and his friends have determined that the pretest average value of flexibility is 33.13 ± 4.11 cm , the post-test average value of flexibility is $38,13 \pm 3,52$ cm during the regular 12 weeks aerobic dance training for a women group. (İ. Cicioğlu, 2005) Göçgeldi has determined that the pretest average value of flexibility is $31,1 \pm 6,9$ cm, the post-test average value of flexibility is $32,1 \pm 5,9$ cm during the regular 5 weeks for aerobic dancers. (İ. Göçgeldi, 2004)

Table 1: The comparison of physical properties of the group

Variable	Halay N=34 X \pm SD	Horon N=45 X \pm SD	Zeybek N=9 X \pm SD	F	p
Year (yıl)	23,61 \pm 2,18 ^a	18,81 \pm 3,55 ^b	22,30 \pm 3,7 ^a	19,322	0,00**
Height (cm)	1,66 \pm 0,003 ^a	1,61 \pm 0,007 ^a	1,63 \pm 0,007 ^a	1,239	,294
Body weight (kg)	53,91 \pm 3,4 ^a	56,06 \pm 8,0 ^a	55,25 \pm 6,15 ^b	1,041	,357
Anaerobik Power (kgm/sn)	74,32 \pm 8,25 ^a	79,80 \pm 9,75 ^b	77,67 \pm 1,4 ^b	1,69	,146
Speed (sn)	6,29 \pm 37,9 ^a	6,03 \pm 34,3 ^b	6,70 \pm 38,5 ^c	27,205	0,00**
Flexibility (cm)	6,31 \pm 3,42 ^a	5,00 \pm 2,63 ^a	4,97 \pm 2,86 ^a	2,149	,122
Leg force (kg)	39,62 \pm 9,94 ^a	41,81 \pm 7,77 ^a	38,16 \pm 10,7 ^a	1,190	,309
Anaerobik Endurance (sn)	20,53 \pm 1,86 ^a	19,48 \pm 1,59 ^a	19,70 \pm 2,73 ^a	2,181	,119

In spite of there is no diversity in flexibility findings for each group, it is thought that the folk dance trainings could be increase the flexibility. The existing literature supports this situation. The movements in training of turkish Folk dances consist of skipping, jumping and falling down. (Ş. Ünal, 2004) the repeat of this movements in trainings affects the leg strength of the players. (Ş. Günay 1992) But in women's games this movements are performed less than men's. So that the leg strength of the women may be less affected. In the literature, there have not been found any study about the anaerobic flexibility of halay, horon and zeybek. However, in our study there have not been determined a meaningful differences in each groups horon, halay and zeybek. The folk dances are the games which are done with aerobic system. Because of this it is thought that there is no affect on anaerobic flexibility. Angioi and his friends has found the average value of body fat is $20,1 \pm 3,3$ for the Professional women dances. (M. Angioi, 2009) namaraslı and his friends has found that the average value of body fat is $20,1 \pm 3,3$ for professional women dances. (D. Namasarlı, 2004). The reason of activity and rhythmic property of the Halay and Horon folk dances cause more energy for players. So that the training of halay and horon with high tempo can decrease the the percent of body fat. And also it is thought that the trainings of zeybek with slower tempo could not be affected on the percent of body fat. Alpkaya and Mengutay have found that the pretest average value of reaction time of hands against the light is $35,5 \pm 45,9$ ms the post-test average value is $319,3 \pm 30,9$ ms for regular 10 weeks training. (U. Alpkaya, 2004) Ünveren has determined that the pretest average value of reaction time of hands against the sound by working three months with a group of folk dances is $18,611 \pm 2,033$ ms, the average value of post-test is $17,444 \pm 1,653$ ms. (A. Ünveren, 1997). Generally, it is known that the regular physical activities develops the reaction time. (S. Karaküçük, 1996) the Black sea region folk dances consist of active and speedy movements and played higher tempo than Halay and Zeybek. So that it is thought that the reaction time of Horon could be developed. As a result: each sport has a special structure. The movements in the sports may cause differences on the physical of the players. turkish folk dances has different physical properties so that it can affect the physical parameters of the players.

Percent body oil (%)	11,12 ± 1,99 ^a	11,99 ± 1,63 ^a	15,12 ± 1,36 ^b	51,418	,000**
The reacton time of right hand (ms)	207,64 ± 33.8 ^a	187,50 ± 18.3 ^b	212,60 ± 4.2 ^a	5,367	,005**
The reacton time of left hand (ms)	209,00 ± 33.6 ^a	199,09 ± 11.6 ^a	240,15 ± 51.7 ^b	12,988	,000**
The reacton time of right hand for the light (ms)	198,35 ± 16.2 ^a	191,84 ± 16.6 ^a	232,72 ± 42.4 ^b	9,737	,000**
The reacton time of left hand for the light (ms)	229,64 ± 22.7 ^{ab}	217,31 ± 16.5 ^a	243,42 ± 42.8 ^b	20,666	,000**
The mixed reacton time (ms)	262,23 ± 37.4 ^a	255,00 ± 18.5 ^a	297,63 ± 53.3 ^b	7,809	,000**

****P<0.01 **p<0.001 abc:** If two cells in each row of the table contain the same letters (a,b,c) you can not say that there is difference between groups

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