

Effect of Character Dance Steps in Turkish Folk Dances on Some Physical Fitness Levels

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Abstract

This research was conducted in order to examine the effect of character dance steps determined from Kırşehir region dances, which are applied within the folk dance trainings held regularly for eight weeks, on the physical fitness of the athletes. A total of 20 volunteers were included in the sample group of the study (male; n=10, age; 11±08, female; n=10 age 11±08). The sample size of the study was determined by Gpower analysis. The effectiveness of the character dance steps determined from the Kırşehir region dances on the physical levels of the participants was the subject of the research. In the experimental research, some physical fitness tests were applied to the participants. In assessing aerobic fitness; Harvard step test is used to evaluate strength; Hand grip test and leg strength test are used to evaluate agility; T test, in measurements of balance performance; Standing Strong and flamingo balance tests. Jump Test was used to evaluate anaerobic power. All data were analyzed in the IBM-SPSS 25 statistical program. The findings obtained in this study; In the trainings conducted with character dance steps determined from the Kırşehir regional dances, significance was observed in the aerobic capacities, strength variables and agility abilities of male and female Folk Dance performance athletes aged 11-14 who were trained at the secondary education level ($p < \alpha=0.05$). These results showed that the selected character dance steps studies significantly improved physical fitness in the participants.

Key words; Folk Dances, Character Dance Steps, Physical Fitness

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Türk Halk Oyunlarında Karakter Dans Adımlarının Bazı Fiziksel Uygunluk Düzeylerine Etkisi

Öz

Bu araştırma sekiz hafta süresince düzenli olarak yapılan halk oyunları antrenmanları içerisinde uygulanan Kırşehir yöresi oyunlarından belirlenen karakter dans adımlarının sporcuların fiziksel uygunluğuna etkisini incelemek amacı ile yapılmıştır. Araştırmanın örneklem grubunu (erkek; n=10, yaş; 11±08, kadın; n=10 yaş 11±08) olmak üzere toplamda 20 gönüllü olmuştur. Araştırmanın örneklem büyüklüğü Gpower analizi ile belirlenmiştir. Kırşehir yöresi oyunlarından belirlenen karakter dans adımlarının katılımcıların fiziksel düzeylerine etkinliği araştırmanın konusuydu. Deneysel araştırmada katılımcılara bazı fiziksel uygunluk testleri uygulanmıştır. Aerobik uygunluğun değerlendirilmesinde; Harvard basamak testi, kuvvetin değerlendirilmesinde; El kavrama testi ve bacak kuvveti testi, çevikliğin değerlendirilmesinde; T testi, denge performansının ölçümlerinde; Standing Strong ve flamingo denge testleri. Anaerobik gücün değerlendirilmesinde ise Jump Testi uygulanmıştır. Tüm veriler IBM-SPSS 25 istatistik programında analiz edilmiştir. Bu çalışmada elde edilen bulgular; Kırşehir yöresi oyunları içerisinde belirlenmiş karakter dans adımları ile yapılan antrenmanlarda, orta öğretim düzeyindeki antrene edilen 11-14 yaş erkek ve kadın Halk Oyunları performans sporcularının aerobik kapasitelerinde, kuvvet değişkenlerinde ve çeviklik yeteneklerinde anlamlılık gözlemlendi ($p < \alpha=0.05$). Bu sonuçlar, seçilmiş karakter dans adımları çalışmalarının katılımcılarda fiziksel uygunluğu önemli ölçüde geliştirdiği gözlemlendi.

Anahtar kelimeler; Halk Oyunları, Karakter Dans Adımları, Fiziksel Uygunluk.

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Introduction

In the teaching of folk dances, the athletes' training in a programmed manner, ensuring the permanence of the dances and showing high level performance in the competitions, and monitoring the holistic development of the trained athletes depend on the people who coach in this field. The basic play step in folk dance performed with wooden spoons is to bounce continuously on the heel of one foot and the paw of the other foot, like a hobble. Sudden while constantly bouncing and feet are thrown are the most characteristic feature of the movements. In the folk song sections of the dance tunes sung immoderately, people walk with free movement. Common movements are made in the chorus sections of the melody. In the walking step sentence, the arms are generally raised to shoulder level and kept parallel to the ground. In the bouncing parts, the arms are moved continuously, up and down, in a semicircle on the side (Köse, 2006). In general, folk dance performed while beating time with wooden spoon are dances with movement features such as springing, jumping, running, and falling down (Mis, 2001). We can call the form of expression, which has its own characteristics and reflects the characteristics of the region to which it belongs, a characteristic feature. Hechavarría and Carmen says, for character dances; "They are theatrical and lively dances based on folkloric origins, including witches, old men, national figures, original characters." (Hechavarría and Carmen, 1998). In order to determine the characteristic features of the dances of a region, we need to define the dance style of the region well. Attitude is a special way of being or acting (Kılıç, 2002). Arm positions, bounces, weight units and slumps contain the most prominent step figures that determine the characteristic features of Kırşehir region dances. In the formal structure of the dance, the direction of movement, the flow of movement, the decisive structure of the steps in the- functionality ensure that they can be played connected or unconnected. Character dance steps in teaching folk dances are certain steps that reflect the dance characteristics of the region in the performance of traditional dances of the region. These steps, which determine the attitude of Kırşehir region dances, will make the player's dominance of local games stronger in game teaching and will enable him to reflect the game characteristics of the region at a high level with the performance exhibited during the competition period. There is a dynamic structure that ensures the integrity of the figures and the movements that make up the figures in the folk dances of the Kırşehir region. The transfer of these dynamic structures to the athletes will strengthen the performance of the athletes on the local dances by working on the basic character dance steps selected from the game steps of the region, which reflect the attitudinal and characteristic features of the region in which they are played, within the training program. "We had to discover our own methods and creative methods for studying and performing a tremendous number of national folk dances, diverse in character and style." (Shay, 2002). In this context, the research focused on the

extent to which the character dance steps determined from the Kırşehir region dances, which are applied within the regular folk dance training, improve the physical fitness of the athletes.

Method

Research Design

The research model is a quasi-experimental design, one of the quantitative research methods.

Participants and protocol

A total of 20 volunteers were included in the sample group of the study (male; n=10, age; 11±08, female; n=10 age; 11±08). The sample size of the study was determined by Gpower analysis. “The Higher Education Institutions Scientific Research and Publication Ethics Directive.” The research was approved by the ethics committee of Kırıkkale University Non-Interventional Research Ethics Committee with the number 2023.03.26.

Research Protocol

The effectiveness of the character dance steps determined from the Kırşehir region dances on the physical levels of the participants was the subject of the research. In the experimental research, some physical fitness tests were administered to the participants as pre-test and post-test, eight weeks apart. In evaluating the aerobic fitness of the participants; Harvard step test is used to evaluate strength; Hand grip test and leg strength test are used to evaluate agility; T test, in measurements of balance performance; Standing Strong and flamingo balance tests and VKI values were recorded to evaluate body composition. Jump Test was applied to evaluate anaerobic power.

Exercise Protocol

The experimental group of the research consists of a total of 20 volunteers, including 10 women and 10 men in the branch of Folk Dances of the Provincial Directorate of Youth and Sports operating in the province of Kırıkkale. The intensity of the exercise constitutes folk dance workouts with a moderate intensity of 40% -60% of the maximum heart rate. The duration of the exercise consists of eight weeks, 120 minutes three days a week. The intensity of the exercise, on the other hand, consists of 60 minutes of folk dance exercises performed, character dance steps determined from Kırşehir Region dances (heel pressing, kneeling, spoon playing, knee pulling, hopping and foot swinging). In the study, the nutrition culture was excluded and warnings were given to the participants to pay attention to regular nutrition and circadian rhythm.

Analysis of the Data

When we look at the normal distribution assumption of the data, it is seen that the total scale and the Ease of Use sub-dimension come from a normal distribution ($p > \alpha = 0.05$). So parametric tests will be used in the analysis of variables. Since the research is an experimental design with pre-posttest, variables will be analyzed with Dependent Samples t test statistics. All data were analyzed in the IBM-SPSS 25 statistical program.

Results

Table 1

Descriptive Statistics of Continuous Variables for Participants

	Variable	Minimum	Maximum	Average	standard deviation	Variance
Male	Age	11,00	13,00	11,80	0,89	0,80
	Height	141,00	166,00	154,00	8,32	69,26
	Weight	32,00	70,00	48,45	9,07	82,32
	VKİ	16,10	26,67	20,36	3,08	9,49
	Variable	Minimum	Maximum	Average	Standard deviation	Variance
Female	Age	11,00	13,00	11,70	0,80	0,64
	Height	143,00	162,00	152,30	6,55	42,96
	Weight	33,00	47,65	38,69	3,91	15,30
	VKİ	14,27	19,20	16,71	1,68	2,84

Table 2

Pretest-Posttest Comparisons of Male Participants

Variable	Level	Average	Standard deviation	Test statistics	p-value
Hand Grip Strenght	Pre	16,93	4,09	-2,329	0,045*
	Post	17,78	4,49		
Leg Strenght	Pre	41,90	11,44	-7,120	0,000*
	Post	53,58	11,84		
Balance 1 Standing Strong	Pre	4,80	3,61	1,132	0,287
	Post	3,90	3,41		
Balance 2 Flamingo	Pre	10,20	5,51	,768	0,462
	Post	9,40	4,30		
Harward Step Test	Pre	89,30	4,72	7,117	0,000*
	Post	84,90	3,90		
T Test	Pre	14,75	0,99	4,652	0,001*
	Post	11,83	2,09		
Jump Test	Pre	0,66	0,22	-1,782	0,108
	Post	0,73	0,21		

Considering the dependent samples t test analysis results for men, there was a statistically significant difference between the pre-posttests of hand grip strength, leg strength, Harvard step test and T test variables ($p < \alpha=0.05$), while Balance 1 Standing Strong Balance 2 No statistically significant difference was found between the pre-posttests of flamingo and Jump test variables ($p > \alpha=0.05$). Considering the significant differences found, they arise from the final measurements for

hand grip strength and leg strength, and from the preliminary measurements for the Harvard step test and T test.

Table 3

Pretest-Posttest Comparisons of Female Participants.

Variable	Level	Average	Standard deviation	Test statistics	p-value
Hand Grip Strenght	Pre	13,26	2,76	-3,018	0,015*
	Post	15,63	3,41		
Leg Strenght	Pre	39,85	6,86	-4,799	0,001*
	Post	50,89	6,76		
Balance 1 Standing Strong	Pre	4,40	2,59	3,354	0,008*
	Post	2,40	1,84		
Balance 2 Flamingo	Pre	9,70	4,19	-1,113	0,295
	Post	10,60	2,95		
Harward Step Test	Pre	94,20	9,96	5,741	0,000*
	Post	85,90	6,42		
T Test	Pre	15,46	1,43	6,483	0,000*
	Post	12,85	1,67		
Jump Test	Pre	0,81	0,13	0,000	1,000
	Post	0,81	0,10		

Considering the dependent samples t test analysis results for women, a statistically significant difference was found between the pre-posttests of hand grip strength, leg strength, Balance 1 Standing Strong, Harvard step test and T test variables ($p < \alpha=0.05$), No statistically significant difference was found between the pre-posttests of the 2 flamingo and Jump test variables ($p > \alpha=0.05$). Considering the significant differences found, they arise from the final measurements for hand grip strength and leg strength, and from the preliminary measurements for Balance 1 Standing Strong, Harvard step test and T test.

Table 4

Training Group (Female + Male) Pre-Posttest Comparisons.

Variable	Level	Average	Standard deviation	Test statistics	p-value
Hand Grip Strenght	Pre	15,10	3,89	-3,524	0,002*
	Post	16,70	4,04		
Leg Strenght	Pre	40,88	9,24	-8,250	0,000*
	Post	52,24	9,48		
Balance 1 Standing Strong	Pre	4,60	3,07	2,901	0,009*
	Post	3,15	2,78		
Balance 2 Flamingo	Pre	9,95	4,77	-,075	0,941
	Post	10,00	3,64		
Harward Step Test	Pre	91,75	7,99	7,164	0,000*
	Post	85,40	5,20		
T Test	Pre	15,11	1,25	7,579	0,000*
	Post	12,34	1,92		
Jump Test	Pre	0,73	0,19	-1,619	0,122
	Post	0,77	0,17		

Considering the dependent samples t test analysis results for the training group, a statistically significant difference was found between the pre-posttests of hand grip strength, leg strength, Balance 1 Standing Strong, Harvard step test and T test variables ($p < \alpha = 0.05$). No statistically significant difference was found between the pre-posttests of the Balance 2 flamingo and Jump test variables ($p > \alpha = 0.05$). Considering the significant differences found, they arise from the final measurements for hand grip strength and leg strength, and from the preliminary measurements for Balance 1 Standing Strong, Harvard step test and T test.

Discussion and Conclusion

This research focused on the effect of character dance steps determined for eight weeks on the physical fitness of the participants. When the research results were examined, a statistically significant difference was found in the strength parameters, aerobic fitness and agility abilities of men and women ($p < \alpha = 0.05$), (Table 2), (Table 3). These findings show that character dance steps in Kırşehir region folk dances strengthen the lower extremity muscle groups and increase endurance in trained athletes. Korkmaz (2018) conducted a study in which both vertical jump and maximum leg strength were measured. The results of this study indicated that the forces exerted by the experimental group when they fell to the ground after jumping were 2704.03 ± 1028.50 w in the pre-test. The data for maximum leg strength, recorded as 2827.97 ± 1020.61 w in the post-test, were found to be statistically significant at the $p < 0.05$ level. In contrast, no significant result was found when the control group data were analysed. Turan and Turan (2023) observed a significant difference in vertical jump and standing long jump values between Caucasian dancers and Zeybek dancers. Additionally, the intensity, direction and intensity of the movements in terms of the type of dances performed varied. In particular, the skill-based movements performed by the men in the solo dances section were predominantly characterised by speed and explosive strength in Caucasian dances. Pekkarine et al., (1989) In their study on the physical and physiological profiles of 27 young ballet dancers, they found that explosive strength and mechanical strength in the leg muscles were good. In a further study, Çalışkan (2020) The study revealed that incorporating CrossFit training into the regimen of female volleyball players led to enhanced leg strength and vertical jumping ability. It has been observed that by strengthening the forearm and rear arm muscles and tendons, it increases the spoon playing ability and strength of the muscles on the palmar side of the hand. Chong et al., (1994) They found that grip strength was independent of anthropometric measures In contrast, Chau et al., (1997) observed a decline in grip strength with age, with women exhibiting lower values than men. Rhythmically repeating the character dance steps selected from Kırşehir region folk dance steps at low intensity and for a long time has shown that the aerobic fitness of the athletes positively improved ($p < \alpha = 0.05$), (Table 2), (Table 3). On the other hand, when the balance abilities of the participants were evaluated, no statistically significant difference

was found. The reason for this is thought to be due to the fact that the center of balance in the regional steps changes constantly, not for a long time, but for a short time, when we look at the whole of the movements in the static stances in the dances of the Kırşehir region. In their study, Thompson et al., (2017) examined the difference in balance between 12 individuals who do sports and 12 individuals who do not do sports. In the study, they found significant differences between groups that do sports and those that do not. Statistically significant improvements were detected in strength, balance, agility and aerobic fitness in men and women ($p < \alpha=0.05$), (Table 4). These findings show that the training program implemented with character dance steps determined from Kırşehir region dances improved the tested physical fitness. İmamoğlu et al., (2002) In a study in which they investigated the effects of 3 months of exercise for 1 hour, 3 days a week on 45 sedentary women, on physical fitness, body composition and some blood parameters, they found that there was a significant difference in heart rate. Akyüz (2017) In his study with 10 male football players with an average age of 17, he reported that the athletes' speed skills improved significantly after 8 weeks of training. When evaluating the anaerobic power in the study, no statistically significant difference was found in the participants after training. This result shows that sufficient anaerobic-based capacity is not very effective in folk dance studies. Ünveren (2005) Observed significant changes in body weight, body fat percentage, anaerobic and aerobic power, and leg strength parameters in men during 12 weeks of folk dance training. In another study, McCord et al. (1989) Reported that low-intensity dance training had positive effects on aerobic capacity, heart rate, and body composition in submaximal exercise. Tohumat and Arabacı (2017) In their research, they stated that zeybek dances did not cause a significant change in vertical jump performance. Character dance step exercises revealed that the experimental group, who received training in Kırşehir region dances, played the local dances more successfully in terms of performance. An increase in the balance level, an increase in aerobic fitness, an increase in maximum leg strength and hand grip strength were detected in the trained performance athletes ($p < \alpha = 0.05$). No significant difference could be detected in speed and anaerobic power level. We can say that the character dance steps determined from Kırşehir region dances are not effective on the level of speed and anaerobic power. As a result, it was determined that there were significant improvements in the physical fitness components of the participants included in the Kırşehir region folk dance exercise program ($p < \alpha = 0.05$). It can be said that the tempo, frequency and quality of the training are effective in obtaining positive results in these components. Since the relevance of these variables to Kırşehir region's Folk Dances is examined, it is thought that the research will contribute to the literature. This study on Kırşehir Region Folk Dances can be expanded and a comparison can be made between different regions. Selected character dance steps specific to Kırşehir region dances and exercise programs performed by the participants for eight weeks showed significant

improvements in the physical fitness levels of male and female participants. This result shows that it is thought that character dance step training can contribute significantly to the improvement of the physical fitness of Folk Dance participants.

Ethics Committee Permission Information

Ethics Committee Permission Information: Kırıkkale University Non-Interventional Research Ethics Committee

Date of the ethical assessment certificate: 19.04.2023

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Declaration of Contribution Rates of Researchers

Both authors contributed equally to all stages of the study.

Conflict Declaration

There is no conflict of interest related to the research.

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