

The Impact of Football Basic Training on Some of Motoric and Skills Parameters in Children Between 14-18 Years Old

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Abstract

Aim: The aim of this study is to investigate the effect of basic football training on the values of some of the skills and motoric performance on primary school students.

Materials and Methods: A total of 72 male volunteers were included in the study. They reside in the province of Adiyaman. 36 of them whose mean of age 15.88 ± 1.16 (years), the mean of height 175 ± 0.7 (cm) is in the experimental group. The other half group is the control group whose mean of age 15.47 ± 1.13 (years), the mean of height 171 ± 0.6 (cm). A basic soccer training which consists of a total of 1.5 hours per day, 3 days a week for 16 weeks was done by all participants. Participants' height, BW (Body Weight), BMI (Body Mass Index), 30 m Sprint, Push-ups, shuttle, Flexibility, Giant Slalom, Shooting, Ball Bounce parameters were measured twice as the pre-test and post-test. SPSS-18 software package was used to evaluate the data. Intra-group comparisons, paired-samples t-test, Independent-samples t-test were used for comparisons between groups.

Findings: The average order of years of age and the height of the experimental group is respectively 15.88 ± 1.16 years of age (years), 175 ± 0.7 (cm); the average age and height of the control group, 15.47 ± 1.13 (years) of 171 ± 0.6 (cm), respectively was found. Values of body weight of the experimental group pre-test: 62.69 ± 8.43 (kg) final test: 61.17 ± 7.32 (kg) BMI pre-test: 20.33 ± 1.58 post-test: 19.15 ± 1.32 was found statistically significant ($p < 0.05$). The experimental group's pre-test and 30 m sprint values: 4.55 ± 0.24 (s), the final test: 4.45 ± 0.21 (s), Push-values pre-test: 22.08 ± 9.47 post-test: $28, 22 \pm 6.33$, pre-test values for the shuttle: 21.58 ± 3.65 post-test: 27.66 ± 2.51 , Flexibility pre-test values: 25.81 ± 7.32 (cm) post-test: 28.06 ± 7.12 (cm), Shooting the values pre-test: 28.11 ± 5.37 post-test: 33.88 ± 2.90 , Slalom pre-test values: 8.94 ± 1.01 post-test: 8.51 ± 0.59 , Ball Bounce pre-test values: 87.80 ± 11.34 post-test: 136.75 ± 14.05 , with the head Ball Bounce pre-test values: 22.02 ± 10.36 post-test: $36.08 \pm 12, 22$ was found statistically significant ($p < 0.05$).

The result: We think that a 16-week football training on technical and tactical skills on the parameters of some of the motor has a positive impact.

KEYWORDS: Soccer, Children, Skill, Motoric

INTRODUCTION

If evaluated physiologically soccer is a high degree sport discipline in which factors such as speed that aerobic and anaerobic exertion repeatedly used, strength, agility, flexibility, muscular endurance and co-ordination effecting performance together. (2). Concepts such as being fast, making long distance power shots and surviving in

tackles and endurance in football are considered as soccer-specific rules and as a key feature of modern-day football. However; football can be explained as a sport branch that aerobic and anaerobic reserves are used repeatedly and conditional and coordinative properties influence performance together. (1, 3) Ability is to learn difficult moves quickly and to react in appropriate to purpose and quickly in different situations. (15). Whereas skill in soccer is to be in the right place at the right time and the ability to use the right technique according to the situation (19). The aim of soccer trainings be applied to children and adolescents is to improve child's ability of sportive yield by forming a systematic, versatile and solid basis. (7). Development in children show continuity, but the acceleration of the development in this continuity differs in periods (13). In order to be able to do the soccer sport successfully in adults ages, It is necessary to to be experienced specific learning circuits from childhood. (5). And these learning circuits including a comprehensive study and a long learning process are determined according to the characteristic features that child showed in certain biological development periods. So the child shows a number of characteristic movement features in every age since its birth. (4).

The purpose of this research is to investigate the influence of the basic technical and tactical soccer training in children on some of motor and skill parameters and to improve recommendations according to the result by interpreting the findings as a result of the study.

MATERIALS AND METHODS

36 children, the mean age of 15.47 ± 1.13 (years), mean height of 171 ± 0.6 (cm), in the control group and again 36 children, the mean age of 15.88 ± 1.16 (years), mean height of 175 ± 0.7 (cm), in the experimental group as a total of 72 male volunteer children residing in the province of Adiyaman were included in the research. Levels of participants' desire and motivation are increased by giving the necessary information about the importance and the aim of research. All participants were done basic soccer training 3 days a week, average 1.5 hours per day, for 16 weeks.

Measurement of Height: participants' height was measured by using 0:01 cm precision digital height gauge tool.

Body Weight: Body Weight were measured by using 0,1 kg precise a weighbridge.

Body Mass Index: was obtained by body mass divided by the square of their height - with the value universally being given in units of kg/m^2 .

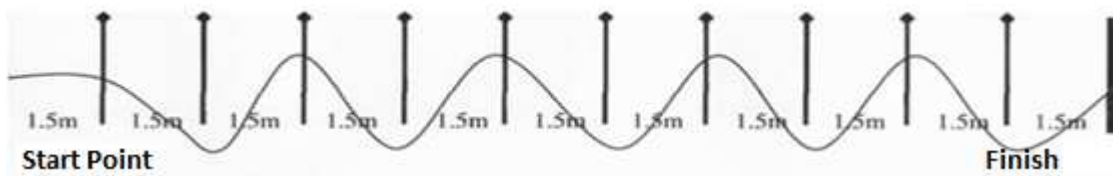
Measurement of Flexibility: Sit-Reach flexibility stand is used for the measurement of flexibility. It is provided with hands on stand to reach forward as far as possible by having sportmen's feet placed under the stand and providing their full touch.

30 Seconds Shuttle Test: 30 seconds shuttling measurement was made with the shuttle movement. Child was laid back, hands on nape of neck, his body stretched, his feet were united condition and he was told to straighten the body forward without support and it was counted and the number of correctly completed in 30 seconds was recorded as units.

30 Seconds Push-up Test: The measurement of Push-up movement; hands placed by the shoulders, and tiptoes placed on the floor the body bent and straightened and it was counted and the number of correctly completed in 30 seconds was recorded as units.

30 m Sprint Test: The subjects warmed up for 10 to 15 minutes before starting the test. Test subjects started the test from the starting line 1 meter behind starting photocell when they are ready. Measurements were done with photocells placed on the starting and ending points of 20 meter running. 2 measurements were gained with 3-minute rest intervals and the best degree was recorded.

Slalom Test: Athletes were asked to pass through 16.5 m including 10 hardles within a range of 1,5 m distance by doing slalom. Results were recorded in "s". This track was used by Sevinc in year 2008.



1. **Figure 1** slalom track (16).

Shot at Goal Test: The goal was divided into 15 pieces. Scores were given to each piece. Subjects made six shots in any way (inside, top, vole) from an area 16.5 m away across the goal and the total of these 6 shots was recorded.

4	2	2	4
3	1	1	3
4	2	2	4

Figure 2: The first five track Divided Football Goal

Ball Bounce: Athletes were first asked to play ball bounce on their feet in 1.80cm in diameter of the circle. Three rights were given to each athlete. Each time the number of the number of bounce without crossing out the circle and dropping the ball was recorded. At the end of the three rights the total number of bouncing times of Subjects used all three rights was recorded as units. The same process was applied for bouncing ball over the head

Statistical Analysis: The analysis of the data obtained in this study was evaluated by using SPSS 18 predictive analytics software. To compare the control and experimental groups independent samples t-test was used. For comparisons of Groups in their own pre-test and post-test was done with paired-samples T-test. Research was accepted as $p < 0.05$ significant.

RESULTS

From Table 1, mean age and height in the order of the experimental group were found as 15.88 ± 1.16 (years) 175 ± 07 (cm), mean age and height of the control group were found as 15.47 ± 1.13 (years), $171 \pm 0, 6$ (cm). Values of body weight of the experimental group on pre-test: 62.69 ± 8.43 (kg) post test: 61.17 ± 7.32 (kg) BMI values on pre-test: 20.33 ± 1.58 on post-test: 19.15 ± 1.32 were statistically significant ($p < 0,05$). When mean BW and BMI measurements of the experimental and the control group were compared statistically significance ($p < 0,05$) was determined between both of the groups.

From Table 2, 30 m sprint values of the experimental group on pre-test 4.55 ± 0.24 (sc), on the final test: 4.45 ± 0.21 (s), Push-values on pre-test: 22.08 ± 9.47 on post-test: 28.22 ± 6.33 , the values of the shuttle on pre-test: 21.58 ± 3.65 on post-test: 27.66 ± 2.51 , values of Flexibility on pre-test: 25.81 ± 7.32 (cm) on last test: 28.06 ± 7.12 (cm), the values of shooting on pre-test: 28.11 ± 5.37 on post-test: 33.88 ± 2.90 , values of Slalom on pre-test: 8.94 ± 1.01 on post-test : 8.51 ± 0.59 , values of keepie-uppy on pre-test: 87.80 ± 11.34 on post-test: 136.75 ± 14.05 , with the values of Ball Bounce With Head on pre-test: 22.02 ± 10.36 on post-test: 36.08 ± 12.22 was statistically significant ($p < 0,05$). When it is compared 30 m sprint, push-ups, shuttle, Flexibility, Shooting, Slalom, Ball Bounce mean values of experimental and the control group between the two groups statistically significance ($p < 0,05$) was determined on these parameters

Table 1: Comparison of the experimental and the control group Means of Anthropometric Measurement

Variables	Measurements	The experimental group	Control group	P
		XX / SS	XX / SS	
		XX / SS	N: 36	
		N: 36		
Age (years)	-	15.88 ± 1.16	15.47 ± 1.13	-
Height (cm)	-	175 ± 0.7	171 ± 0.6	-
Body weight (kg)	Pre-Test	62.69 ± 8.43	67.67 ± 15.38	0.05
	Last Test	61.17 ± 7.32	68.28 ± 15.76	
	P *	0.05	0.86	
BMI (kg / m ²)	Pre-Test	20.33 ± 1.58	22.88 ± 4.86	0.05
	Last Test	19.15 ± 1.32	23.03 ± 4.98	
	P *	0.05	0.86	

* P: measuring the differences before and after exercise, ** P: differences in the experimental and control groups

Table 2: Experimental and Control Group Comparison of Means of Measuring Parameters of Motoric and Skills

Variables	Measurements	The experimental group	Control group	P **
		XX / SS	XX / SS	
		XX / SS	N: 36	
		N: 36		
30 m Sprint (s)	Pre-Test	4.55 ± 0.24	4.99 ± 0.21	0.05
	Last Test	4.45 ± 0.21	5.02 ± 0.22	
	P *	0.05	0.63	
Push-up	Pre-Test	22.08 ± 9.47	14.86 ± 8.27	0.05
	Last Test	28.22 ± 6.33	14.47 ± 7.66	
	P *	0.05	0.83	
Shuttle	Pre-Test	21.58 ± 3.65	17.22 ± 2.84	0.05
	Last Test	27.66 ± 2.51	16.80 ± 2.96	
	P *	0.05	0.54	
Flexibility (cm)	Pre-Test	25.81 ± 7.32	22.90 ± 4.94	0.05
	Last Test	28.06 ± 7.12	23.13 ± 4.74	
	P *	0.05	0.83	
Shot	Pre-Test	28.11 ± 5.37	16.97 ± 4.15	0.05
	Last Test	33.88 ± 2.90	17.08 ± 3.11	
	P *	0.05	0.89	
Slalom (sc)	Pre-Test	8.94 ± 1.01	13.77 ± 1.74	0.05
	Last Test	8.51 ± 0.59	14.41 ± 1.42	
	P *	0.05	0.09	
Ball Bounce	Pre-Test	87.80 ± 11.34	17.27 ± 7.69	0.05
	Last Test	136.75 ± 14.05	18.25 ± 7.66	
	P *	0.05	0.59	
Ball Bounce With Head	Pre-Test	22.02 ± 10.36	5.97 ± 2.91	0.05
	Last Test	36.08 ± 12.22	6.69 ± 2.75	
	P *	0.05	0.28	

* **P**: Measuring the differences before and after exercise, ** **P**: Measuring differences in the experimental and control groups

DISCUSSION

In our research mean age and height in the order of the experimental group were found as 15.88 ± 1.16 (years) 175 ± 07 (cm), mean age and height of the control group were found as 15.47 ± 1.13 (years), 171 ± 0, 6 (cm).

The comparisons of experimental group pre-test and post-test of BW and BMI values were statistically significant (p <0,05). When the mean of BW and BMI

measurements of experimental and the control group were compared statistically significance were determined ($p < 0.05$) between the two groups (Table 1).

The same way as the comparisons of the experimental group, 30 m sprint, push-ups, shuttle, Flexibility, Shooting, Slalom, Ball Bounce, Ball Bounce With Head pre-test and post-test values were found statistically significant ($p < 0,05$). In the same way on these parameters statistically significance was determined between the experimental and control group ($p < 0.05$) (Table 2).

In our study a decrease on BW values and correspondingly on BMI values was observed rather than before training..

Sevinc (2008), research results that identified significant difference in body weight for children as a result of soccer skills training applied to children between the ages of 10 to 14 (16), Sen (2002) The results of his study applied on male students of 12 years that identified significant improvement on body weight values of training group (18) supports our findings.

In our study, a significant increase was observed in values of 30 m sprint, Push up, Shuttle and Flexibility compared to before exercise.

Bozkurt (2000) the results of their research identified shuttle values of 13 age-group athletes as $24, 00 \pm 3, 36$ repetition, of 14 age-group athletes $24, 96 \pm 3, 82$ repetition in his study applied on the 13-14 age group (5); Falcon (2007) research results found statistically significant as mean pre-test $\pm 4.18, 30$ sec, and the mean values of post-test $3.90 +, 24$ sec. in 20 meter sprint test group (17); Savucu (2004) research results found statistically significant differences in the parameter of 30 m sprint applied on 10 -12 age group athlete in his study of boys over a period of 12 weeks. (14); Diallo (2001) research results found significant differences in values of 20-meter sprint in the study applied on 10-12 year-olds (6), Ibiş & friends (2002) research results identified a significant increase in flexibility while flexibility before training had average measured 30.94 ± 3.54 cm, after training reached a value of 32.56 ± 3.60 cm in the study applied to summer sports schools, (9); İbiş friends, the) research results found statistically significant as flexibility on pre-test 30,94cm on last test 32,56 cm in their study which they studied in order to examine some of the physical and physiological parameters of children's who attended summer school and who didn't (8). Yenal et al., study results found statistically significant differences, in terms of flexibility, in the experimental group than the control group in a study applied on 10-11 age children group, and (20) Kien et al., results found that children age group 10-12 attending secondary recreational sports were faster than non-participants of recreation programs, activities in their own age group (10) support the values we found in this study that we have done.

When compared to before training, a significant increase was observed on the skill tests values of Shooting, Slalom, Keepie and Uppy, Keepie and Uppy with head.

Bozkurt (2000), the results that they identified the values of Slalom with ball as $11, 69 \pm 1, 64$ sec., the values of Ball Bounce as $134, 03 \pm 86, 38$ repetition, the values of Ball Bounce With Head $64, 00 \pm 103, 58$ repetition in 13 age-group athletes and the values of Slalom with ball as $11, 88 \pm 1, 83$ sec., the values of Ball Bounce as $171, 46$

+ 190, 07 repetition, the values of Ball Bounce With Head $85, 27 \pm 80$, 57 repetition in 14 age-group athletes in their research applied on 13-14 age group athletes (5); the results of the research, a study done by Malina et al. (2005), the values of athletes were identified as 56.5 ± 46.1 shots for Ball Bounce test, 10.5 ± 7.5 shots for Ball Bounce With Head, 8.1 ± 1.1 s for dribbling with quick passes, 14.0 ± 1.2 s for dribbling fast, 2.5 ± 1.6 points for passing test and 7.0 ± 3.2 points for shooting as a result of practiced basic technical tests applied to 69 male soccer players from the age group 13 to 15, (12), Kurban(2008) and the results of the research, a study was made on the technical development of children the mean values of pre-test. for the ability of dribbling technique were indentified as 20.03 ± 2.27 sec and for the final test 18.34 ± 2.42 s. The mean of pre-test for the ability of shooting was determined as 35.87 ± 24.70 and the mean score of the final test as 50.30 ± 21.23 points. The mean of pre-test for the ability of Ball Bounce identified as 36.33 ± 10.83 and mean of post-test as 43.40 ± 10.38 repetition (11) support the findings from our study that we have done.

As a result, we can say that the 16-week soccer technical and tactical training has a positive impact on the values on 30 m sprint, one of motor parameters, Push-up, the shuttle in primary school-level children. We also believe that the training improved football skill tests as shooting, Slalom and Ball Bounce.

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