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The effects of eight weeks of sports activities on self-sufficiency, social skills and some physical fitness parameters in children 9-10 years of age

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Abstract

In this study, the effects of 8 weeks of sports activities on self-sufficiency, social skills and some physical fitness parameters in children 9-10 years of age were examined. The sampling of the study was composed of a total of 45 students with 25 in the test group (10 males and 15 females), and 20 in the control group (8 males and 12 females), attending the Petkim Latife Hanım Primary School in İzmir. Different sports activities (athletics, yoga, basketball, educational games and dancing) were implemented for the test group for a total of 32 class periods. The “General Self-sufficiency Scale”, “Matson Evaluation of Social Skills with Youngsters (MESSY)” and the “Physical Fitness Tests” were implemented with the first test, final test method. The SPSS 15.0 program was used in the analysis of the data, the “Paired Samples T-Test” was used in the determination of the differences within the group, whereas, for the independent groups, the “Independent Samples T-Test” was used. It was found from the results obtained that there was not a statistically significant difference in the social skills and self-sufficiency values between the test and control groups ($p>0.05$). When the change within the test group was considered, it was observed that there was a positive statistically significant difference in the height, weight, flexibility, balance and fat percentages, whereas, it was observed that in the control group there was a positive statistically significant difference only in the height, weight and balance parameters ($p<0.05$).

Keywords: Self-Sufficiency, Social Skills, Physical Fitness, Sports Activities;

1. Introduction

To raise physically and mentally healthy individuals is in the lead of the basic objectives of societies. Consequently, sports activities implemented especially during the childhood period are of importance in the raising of future generations. However, it is observed that the present-day children are less active along with the restriction of areas in which sports can be engaged and with the changing city life. From this aspect, greater importance should be placed on physical education activities, because it is easier to acquire the basic information, skills and habits, which are necessary for individuals in the primary school period (Çubukçu, Gültekin, 2006). Children can both develop their physical appearances and health and furthermore, they can also acquire skills, such as knowing themselves, establishing communications, self-confidence and self-sufficiency through physical education and sports (Özbar 2009). For children to acquire these gains is dependent on them positively developing their social skills (Kuzgun et

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al. 2000). The self-sufficiency concept is also one of the important factors, which assists the individual in evaluating herself/himself as successful in social relations (Bilgin, 1997). Self-sufficiency is, at the same time, an important incentive for the behavior of an individual and has an important place in the mental health of a child and adolescent (Akkök, 1999). Self-sufficiency in children can be explained as having confidence in their skills and abilities in physical activities: (Dishman et al. 2004). Self-sufficiency is the belief of the individual about being able to do something for coordinating talents and skills for competing in situations and in changing them (Snyder&Lopez, 2002: 278). Self-sufficiency plays an important role in the initiation of a behavior, in displaying a performance and in the formation of its continuity. Similarly, the belief of self-sufficiency acts as an intermediary to other variables, such as skill, talent and knowledge and it provides for the operation of these variables in an effective manner by harmonizing them (Pajares & Miller, 1994; Teti & Gelfand, 1991). Physical education and sports are areas where knowledge, skill and talent are used together. Consequently, it should be aimed to provide contributions to the development of children, both from the physical and psychosocial aspect, with physical education and sports by diversifying the educational programs organized according to the levels of the primary school students (Mengütay; 2005). In light of these targets, it can be accepted that sports activities are the only area for children to be able to develop their physical and mental health together by finding the opportunity to be active within contemporary life. The study made is of great importance from this aspect. In this study, it was aimed to examine the effects of 8 weeks of sports activities on self-sufficiency, social skills and some physical fitness parameters in children 9-10 years of age.

2. Method

A total of 45 third grade students with 25 in the test group (10 males and 15 females), and 20 in the control group (8 males and 12 females), attending the Petkim Latife Hanım Primary School in İzmir volunteered to participate in the study. The group on which the study was made was determined with the random sampling method. Basic training activities in yoga, dancing, educational games, athletics and basketball were implemented for 8 weeks in the test group for a total of four class periods two days per week.

Measurements and Means of Measurements

Weights were measured with an electronic scale have a sensitivity of 0.1 kg and heights were measured with a digital height measuring instrument having a sensitivity of 0.01 cm. The Holtain brand skinfold calipers (0.1 mm) were used for measuring the subcutaneous plica thickness and measurements were taken on the right side of the body in 7 regions (subscapula, suprailiac, biceps, triceps, abdomen, thigh and calf).

The fat percentage was calculated by using the Durnin-Womersley formula.

Durnin-Womersley: % fat = $(4.95/D-4.5) \times 100$

For boys: $D=1.1553-0.0643 \times \log X$ For girls: $D=1.1369-0.0598 \times \log X$

$\log X = (\text{biceps} + \text{triceps} + \text{subscapula} + \text{suprailiac})$ (Houtkooper, 1989).

The sit-reach test was used in the measurement of flexibility (Tamer, 2000). An iron balance instrument with a length of 50 cm, height of 4 cm and width of 3 cm was used for the balance measurement. It was considered to be an error in case any part of the body touched the ground. It was requested of the test group to continue to balance up until completing a period of 1 minute and the number of errors was evaluated.

General Self-sufficiency Scale

The General Self-sufficiency Scale, which was designed and developed by Schwarzer and Jerusalem with the objective of making a general evaluation about self-sufficiency, was adapted to Turkish by Luszczyńska, Gibbons, Piko and Teközel. It is a scale with a single dimension composed of 10 items. Every item in the scale has a four-part evaluation step. The Chronbach's alpha internal consistency coefficient was calculated to be .82. (Schwarzer et al 1995).

Matson Evaluation of Social Skills with Youngsters (MESSY)

The scale, which was developed in 1983 by Matson, Rotatori and Helsel, was prepared with the objective of evaluating the social skills of youngsters. The adaptation to Turkish of the scale was realized by Bacanlı and Erdoğan (2003). The scale is composed of a total of 47 items and is a 5-point Likert type scale. The lowest points that can be obtained from the scale are 47 and the highest points are 235. The correlation coefficient of test-retest in the scale is .77 (Bacanlı and Erdoğan, 2003).

3. Findings

Table 1. Pretest–Final Test Parameters of Physical Fitness for the Test Group

Students (n=25)	Average	Ss.	p
Height (cm)	-2.640	1.220	.000
Weight (kg)	-1.560	2.488	.005
Flexibility (cm)	-1.380	1.827	.001
Balance (number)	1.880	2.297	.000
Fat percentage (%)	1.111	1.303	.000

According to the data in Table 1, a statistically significant difference was found in the height, weight, flexibility, balance and fat percentages between the pretest and final test values of the test group ($p < 0.05$).

Table 2. Pretest–Final Test Parameters of Physical Fitness for the Control Group

Students (n=20)	Average	Ss.	p
Height (cm)	-.975	1.129	.001
Weight (kg)	-.550	1.122	.041
Flexibility (cm)	.000	.162	1.00
Balance (number)	1.500	2.645	.020
Fat percentage (%)	-.177	.898	.389

According to the data in Table 2, while a statistically significant difference was found in the height, weight and balance values of the control group ($p < 0.05$), a statistically significant difference was not found in the flexibility and fat percentages ($p > 0.05$).

Table 3. Pretest–Final Test of Self-sufficiency and Social Skills for the Test Group

Students (n=25)	Average	Ss.	p
Self-sufficiency	-.240	3.918	.762
Social skills	2.160	13.615	.435

According to the data in Table 3, a statistically significant difference was not found in the self-sufficiency and social skills values between the pretest and final test values of the test group ($p > 0.05$).

Table 4. Pretest–Final Test of Self-sufficiency and Social Skills for the Control Group

Students (n=20)	Average	Ss.	p
Self-sufficiency	.550	6.142	.400
Social skills	10.600	37.863	1.252

According to the data in Table 4, a statistically significant difference was not found in the self-sufficiency and social skills values between the pretest and final test values of the control group ($p > 0.05$).

Table 5. Difference between the Test Group and Control Group for Physical Fitness Parameters

Students (n=25 test, n=20 control)		Average	Ss.	p
Height (cm) pretest	Test	135.440	7.047	.210
	Control	132.950	5.771	
Height (cm) final test	Test	138.080	7.653	.059
	Control	133.925	6.416	
Weight (kg) pretest	Test	28.840	6.004	.574
	Control	27.850	5.575	
Weight (kg) final test	Test	30.400	6.135	.277
	Control	28.400	5.941	
Flexibility (cm) pretest	Test	5.280	5.365	.226
	Control	7.200	5.001	
Flexibility (cm) final test	Test	6.660	5.773	.742
	Control	7.200	4.966	
Balance (no.) pretest	Test	6.560	4.113	.015
	Control	10.600	5.994	
Balance (no.) final test	Test	4.680	3.484	.001
	Control	9.100	5.179	
Fat percentage (%) pre-test	Test	18.611	5.965	.998
	Control	18.617	6.073	
Fat percentage (%) final test	Test	17.500	5.937	.484
	Control	18.794	6.327	

According to the data in Table 5, a statistically significant difference was found among independent variables in the balance pretest and final test values ($p < 0.05$).

Table 6. Difference between Test Group and Control Group for Self-sufficiency and Social Skills

Students (n=25 test, n=20 control)		Average	Ss	p
Self-sufficiency pretest	Test	31.560	4.682	.611
	Control	32.400	5.994	
Self-sufficiency final test	Test	31.800	4.690	.973
	Control	31.850	5.314	
Social skills pretest	Test	206.920	15.351	.037
	Control	195.600	19.943	
Social skills final test	Test	204.760	17.947	.017
	Control	185.000	31.028	

According to the data in Table 6, a statistically significant difference was found among the independent variables in the social skills pretest and final test values ($p < 0.05$). Whereas, there was not a statistically significant difference in the self-sufficiency pretest and final test values ($p > 0.05$)

4. Results and Discussion

This study was made with the objective of examining the effects of 8 weeks of sports activities (yoga, dancing, educational games, athletics and basketball basic training) on self-sufficiency, social skills and some physical fitness parameters in children 9-10 years of age. In the study, a positive statistically significant difference was found between the pretest and final test in the height, weight, flexibility, balance and fat percentage values of the test group ($p < 0.05$). When the pretest and final test values of the control group are examined, while a positive statistically significant difference was found in the height, weight and balance values of the control group ($p < 0.05$), a significant difference was not found in the flexibility and fat percentages ($p > 0.05$). Sothorn et al. had 48 obese children between 7-12 years of age do aerobic and flexibility exercises for 10 weeks. In conclusion, a difference at a significant level was observed in the weight, BMI values and the body fat percentages in the exercise group (Sothorn et al. 2000). In a study made by Öztürk in 2009, it examined the effects of aerobic exercises in obese children on health-related components of physical fitness and blood lipids. Significant differences were determined among the

BMI values of the female and male test subjects who participated in the study prior to and after exercises (Öztürk, 2009). The findings show parallelness to this study. Studies show that when the required environment is provided regularly for children to engage in physical activities for becoming healthy individuals that children prefer to engage in sports rather than doing anything else (Leblanc & Dickson 2005).

According to the results obtained in the study, a statistically significant difference was found between the test and control groups in the balance pretest and final test values ($p < 0.05$). A statistically significant difference was not found in the other physical fitness variables ($p > 0.05$). From the data obtained it was found that the result did not constitute a statistically significant difference in the social skills and self-sufficiency values between the test and control groups for the 8 week sports activities ($p > 0.05$). It was aimed to encourage self-sufficiency, thanks to the game, in the study made by Kimbrough 2007 on 72 students for a period of 8 weeks. In conclusion, it was found that one of the benefits, which developed self-sufficiency, was playing games (Kimbrough, 2007). In an environment of organized sports, when positive relationships are established between the trainer and athlete in conformance with social morals, it is known that children acquire social behaviors and stay away from anti-social behaviors (Rutten et al. 2007). However, in this study, a positive development in the social skills and self-sufficiency concepts was not observed. This could be related to the insufficiency of the period of time. Sports activities, which are implemented with a correct approach and a sufficient period of time could be an experience, which forms positive character. Furthermore, it could form one of the best opportunities, which provides for children to enter into a relationship with rules and societal values.

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