

# The Effects of Folk Dance Training on 5-6 Years Children's Physical and Social Development

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## Abstract

The purpose of this study is to analyze the effects of folk dance training on 5 - 6 year old Pre-school children's physical and social development. The experimental design with an experimental and control group was used in accordance with the quantitative research methods in this research. The research has been conducted with the participation of 40 children. During the research, 32 hours of folk dance training instructed in all, across two months with 4 training periods in a week. Control group students were attended their daily pre-school education programme. As a result of the analysis, it has been detected that there is a significant difference between the experimental group who attended the folk dance training and those who did not in terms of physical and social development.

**Keywords:** physical development, social development, folk dance

## 1. Introduction

Pre-school education is an education process that involves children aged 0 - 6 years, provides the opportunity for a stimulant – rich environment according to their level of development, provides a structured environment for children's mind, body, emotions and social development, allows them to gain good habits and behaviors, helps their abilities improve, prepares them for elementary school and directs all of their development in the best way in accordance with their community's cultural values and properties (Fosnot and Perry, 2005). Supporting children in all fields of development is the main purpose of the pre-school education period (Knitzer, 2008). Research reveals that 33% of school success shown until the age of 18 depends on the education received up to the age of six, 50% of mental development until the age of 17 forms until the age of 4, and %30 forms from 4 to 8 (Tekiner, 1997). The pre-school period, from age 0 - 6, is the most intense period in terms of comprehension, speed and quality of human development. Some properties, which are extremely important in terms of such as physical, emotional, social, cognitive, did so on determines the future, are acquired in the period starting from birth. Considering these features, maximizing children's capability and in this way finding the opportunity for self-actualization depend only on getting through this period healthily, consciously, and meaningfully. Experiences between the ages of 0-6, encountered reactions and received training determine how the improvement of erudition in capacity will be and how a person will become (Sevinç 2005).

Human development involves an ongoing process starting with fertilization and continuing until the end of life. The three basic principles effecting development can be discussed. These principles are:

1. Development follows a predictable sequence; structural and functional properties arise in a specific order during physical and motor development. Development starts from the head and progresses down to the feet. Development occurs from the interior of the body outwards, in the direction of the external organs. Development is from general to specific. Firstly, undifferentiated large muscle movements are established, then control of small muscles are observed.

2. There are individual differences in development. Although each individual passes through the same stages of development, each of them varies depending on their own biological maturation and learning experiences.

3. Different types of development become important in different periods of life. Different development al features loom large in different development periods. For example, during infancy physical and motor development is faster and more dominant than psychological and mental development (Erdem and Akman, 1996).

Together with every normal child more advanced than others in some way, or behind in some way; developing on time and in an ineluctable way at every stage of childhood is a definite sign of normality (Sevinç et al, 2003).

Physical development speed in the pre-school period slows down compared to the infancy period. The growth rate of children nearly doubles between the age of 3 to 5 compared to the rate between ages 1 and 3. The average height for girls aged 3 is 94 cm, with an average weight of 13 kg. When they are six years old, their lengths reach 115 cm, and their weight reaches 15 kg. However, boys are slightly taller and heavier than girls. When children are six years old, they reach up to seven times their birth weight (Erdem and Akman, 1996).

Significant changes occur to children's appearance, organs and the proportion of their body parts in this period. A six year old child has an appearance similar to an adult's appearance. In addition to this, significant changes occur in the muscles. Because the development of gross motor skills is completed previously, while actions such as running, jumping, walking, etc. which are called basic actions are performed successfully, children have difficulty with these actions, which require a high level of motor coordination such as when balancing on a narrow plank. It is only in adolescence that the fine motor muscles can fulfill all their functions in a coordinated way. Hand-eye coordination is also not fully developed in this period, (Ozer and Ozer, 2004). Although boys are superior to girls in terms of height and weight in the preschool period, girls are more successful than boys in terms of fine motor skills. Girls perform well in activities such as manual skills, balance, etc. These differences should be considered in physical training programs (Neyzi, 1993).

Psychomotor development is an ongoing lifelong process and includes changing processes of physical structure and nerve-muscle functions. In addition, it deals with all of the physical changes such as decrease in motor skills or the acquisition of a new skill. It involves children's motor development, development of mobility, and development of physical abilities. Motor development is to gain mobility of organism optionally parallel with physical growth and the central nervous system's development (Gökmen et al, 1995).

The period including movements, which are acquired between 2 and 7 years of age, is called the basic movements period. Movements that form the basic skills are running, jumping, hopping, bouncing, catching, throwing, hitting a ball with the foot, etc. These movements, which begin to be performed rudimentary from the age of two, are performed as an acquired skill when children reach the age of seven (Muratlı, 1997).

In the basic movement's period, children first start to perform these basic movements primitively. They master these basic movements towards the end of the period. It is not possible to distinguish these processes with clear boundaries. Progress/develop in an interdependent manner (Özer and Özer 2004). Children's maturation in motor skills which are expected to be acquired in the acquire basic movements period depends on education, readiness level and training opportunities (Adolph and Berger, 2007).

Physical activity experiences of children enable them to gain successful movement skills. Basic knowledge and behaviors obtained through early - age experiences have the power to influence children's social and emotional life as well as their later academic life. When children realize their level of ability within sport activities, they can make their communication with the environment more effective with the experience they gain on how to use their bodies. Children not only learn how to use their body in a coordinated and skill-based way, but also they strengthen their communication with the environment with the self-confidence they gain with these skills. This is another effective way of self-expression (Tugrul, 1997). Children can approach the level of development required by their age even when they are not given a special physical education, however, to get a regular education in a pre-school, participating in activities improving small and large muscle groups provide significant benefits for children in motor skills (1989 Bohren and Vlahov; Kelly et al, 1989).

According to Özer S. and Özer K. (2000), physical education activities are the activities that are given the least importance in Kindergartens and by parents. That physical education programs are not planned and implemented in a conscious way has caused a great deficiency in pre-school education. The first vehicle that a child uses to explore and identify the world is his body. The child forms his personal tendencies with the movements he makes naturally such as walking, running, jumping, climbing, pushing, pulling and turning; he develops his own basic physical repertoire. Physical effort is multidimensional; comfort, breathing, spasm, relaxation, to be awareness of the behavior of the body, improving the use of sides of the body, awareness of the reflexes, reactions and balance are all elements of physical education activities. If we want to sort the factors related to readiness for primary school; mostly physical, mental, emotional, social and environmental factors draw attention. While the mental factor was previously accepted as the most important factor, today it is generally acknowledged that all factors affect each other and they have the same severity level (Oktay, 1999).

Social development, which is in parallel with the physical, cognitive and language development of a child, involves processes such as socialization, ego and personality formation. Positive social behaviors are behaviors exhibited

voluntarily, such as helping, sharing and collaborating by considering someone else's favor (Eisenberg and Fabes, 1998). Therefore, activity education involving a healthy and energetic body structure, having awareness of body, mental development and social satisfaction factors also have an aesthetic and artistic content. Musical activities especially provide rhythmic movement and add aesthetic elements to the actions. A movement education program that supports children who are able to perform the basic actions perfectly, which leads to a transition into the sports industry, is critically important in terms of the sporting success of society (Evrídiki, Aggeliki and Vassiliki, 2004).

Pre-school children love to act together with music. Participate to improve listening skill, follow visual clues and discover rhythmic movements with music. Moving with the music also helps children to understand the meanings of notions such as space, effort and relationships (Warrener, 1985; İnan, 2004a). Folk dance improves structural features such as balance, coordination, flexibility and rhythm. It is one of the most entertaining ways to improve children's structural and motor skills. The children mature and at the same time they work with music. Composing the folk dance to work suitably with the game techniques makes lessons more efficient (İnan, 2004b)

## 2. Method

### 2.1 Purpose of the Study

The purpose of this research is to examine the effects of folk dance education on physical and social development of 5-6 year old children who have been continuing preschool education.

To achieve this goal, the following questions are proposed:

1. Do the physical development and social adaptation skills of the children in the experimental and control groups differ significantly between pretest and post-test scores?
2. Do the physical development and social adaptation skills of the children in the experimental groups differ significantly with the effects of the given education between pretest and post-test scores?
3. Do the physical development and social adaptation skills of the children in the control groups differ significantly between pretest and post-test scores?

### 2.2 Research Design

The experimental design with an experimental and control group was used in accordance with the quantitative research methods in this research. Pre and post-test was carried out with the purpose of measuring the effects of folk dance education on 5-6 year old children in the experimental group. The control group was formed in order to compare the effects of folk dance education on the experimental group. No training was given to the children in the control group but they have underwent pre and post-tests.

### 2.3 Data Sources

In research, in 2014 - 2015 education terms in Balıkesir, of the children 5-6 year group who attended Sabiha Gökçen Preschool of NEF (Necatibey Education Faculty) department, 20 children form the experimental group and 20 children who was attending Sabiha Gökçen Preschool of central department form the control group.

For this research, the experimental group has been trained in folk dance four times a week for a 2 month period, or 32 course hours in total. The control group has continued to attend their daily preschool education program. Measurement results of the dependent variable have been compared with the appropriate techniques for the purpose of analyzing the effects of the experimental process.

Table 1. Frequency of Children Attending the Survey according to Age, Gender, Height and Weight Status (Frequencies)

	Experimental group		Control group	
	N	%	n	%
Age				
48-60 months	20	100,0	9	45,0
61-72 months	--	--	11	55,0
Gender				
Female	10	50,0	10	50,0
Male	10	50,0	10	50,0
Height				
95-120 cm	19	95,0	19	95,0
121-136 cm	1	5,0	1	5,0
137-151 cm	--	--	--	--
Weight				
14-21 kg	16	80,0	13	65,0
22-29 kg	4	20,0	7	35,0
30-37 kg	--	--	--	--

## 2.4 Data Collection

In the data gathering process, anthropometric data (height, weight, sitting height, arm span and leg length) have been determined by measurement in order to identify physical development of the children. The social adjustment and skills scale, developed by Ömeroğlu and Kandır (2005) for primary school students and adapted to the 5-6 year age group by Işık (2007), has been used to determine social adjustment and skills. The scale is divided into two factors: social adjustment and social maladjustment. Cronbach's alpha values for score reliability of the social adjustment and skill scale are 93 for social adjustment, and 83 for social maladjustment. The scale has been applied to the 5-6 age group children by getting information from their teachers. For this investigation, the experimental group has been trained in folk dance for 4-course time in each week for 2 months period, 32 course hours in total. Control group has been continuing preschool education program. Traditional folk dance steps of the Balıkesir province have been used in the folk dance training. A 40-minute lesson plan is seen in Table-2.

Table 2. Daily training program period of experiment group

Experimental group	Training period			Total
	Introduction	Body	Conclusion (dak.)	
Folk dance education	10 mins	25 mins	5 mins	40 mins
Control group	MEB curriculum has been implemented within the period of 40 minutes.			

The daily training session was conducted four days a week. During the training, pre-prepared games and warm-up activities were used in the first 10 minutes. In body part, the "Koca Kuş" Folk Dance (native to the region of Balıkesir) was performed by dividing it into figure steps, and the lesson was finished by placing a game at the end. A sample of the daily folk dance plan is provided below:

## 2.5 Daily Folk Dance Plan Sample

Course Title: Movement Education

Unit Name: Development of Basic Motor Movement

Topic: "Koca Kuş" in Folk Dance (Region of Balıkesir)

Objective: to make certain actions which require physical coordination

Grade: Pre-school 5-6-year-old Class Size: 20

Location: Sabiha Gökçen Kindergarten, NEF Branch

Course Duration: 40 min

Apparel: Sport Outfit

Materials: Gym and Music Player

Teaching Strategy: Expository

Teaching Methods: Exercises, narration, sampling, question-answer

## 2.6 Process

The teacher greets the children, and makes an assessment about the previous course. He reminds the students how they should be dressed when they come to the movement education course.

He gives a brief summary about which rules should be adhered to during the process of the movement education course. They mark their places by drawing a circle on the playground. There is no place for it. As soon as the teacher calls the names of the fish, the fish that is called goes behind it and starts to walk around, and jump up and down with who. Suddenly, the teacher starts to shout "There is a wave in the sea". The students choose a circle and try to get behind it. The fish who cannot get to a circle becomes "it". The game is finished. After making necessary preparations, the study is conducted. Firstly warm - up actions are performed. Figure 1 : Flat walk; First, repetitions are performed, such as while right foot one step walking without moving, Left foot one step walking without moving (15 repetitions). Straight walking repetitions are performed in the order right-left-right (1-2-3) 3 by 3 (20 repetitions). Figure 2: While hopping on the right foot, the backward forward movement of the left foot is studied (10 Repetitions). The first figure is combined with the second figure; right - left - right, flat walk, hopping on the right foot, left foot forward and back (20 repetitions). The figures are repeated with learned music (10 reps). The lesson begins with the "there is a wave in the sea" game. The children, amongst themselves, give each other the name of a fish. "The bicycle riding game" is played. Children move their arms and legs in accordance with the instructions. They behave legitimately when rules conflict with their wishes. Children are divided into pairs and they stand opposite each other. The children mimic bicycle riding

motions by sitting opposite each other and touching their feet together. Additionally, they pull each other by holding their arms. The game continues like this.

### 3. Conclusion

The teacher gives information about the goal of the day's course by making small talk with the kids. He addresses questions such as "Does anyone want to show what we have learned?". Then, he says that they can easily dance by combining the figures that have just been learnt and ends the lesson by saying, "Thank you very much". The study was conducted between March 2014 and May 2014; both experiment and control groups underwent pre-testing in March 2014, and post-testing in May 2014.

### 4. Results

Anthropometric measurements have been applied to 5-6 year old children in both experiment and control groups in March (pre-test) and in May (post-test) in order to investigate the effects of folk dance education on children's physical and social development and the Social Adjustment and Skill Scale has been applied. The scale scores of the children who participated in the practice are presented below in tables. Minimum, maximum and average values of pre- (1) and post-tests (2), which are made for the anthropometric measurements of the experimental group, are given in Table 3.

Table 3. Pre-posttest, minimum-maximum and average values of experimental group's anthropometric measurements

Pre-test, post-test	N	Mean	Standard deviation	minimum	maximum
Weight 1(kg)	20	22,05	5,689	16	40
Weight 2 (kg)	20	23,40	6,159	17	43
Height 1 (cm)	20	115,40	6,816	105	132
Length 2 (cm)	20	117,40	6,613	107	134
Arm span 1 (cm)	20	113,20	7,945	103	131
Arm span 2 (cm)	20	113,90	8,491	103	133
Sitting height 1(cm)	20	61,75	3,640	56	70
Sitting height 2 (cm)	20	63,10	3,401	58	72
Leg length 1 (cm)	20	53,45	3,953	48	62
Leg length 2 (cm)	20	54,30	3,948	48	62

The differences between pre and post-test measurements for experimental group's anthropometric measurements are given in Table 4.

Table 4. The differences between the anthropometric measurements of experimental group

Differences between pre and post-test of experimental group	Matching differences				
	Mean	Standard deviation	t	sd	P
Weight 1 - Weight 2 (kg)	-1,350	1,040	-5,805	19	,0001
Length 1- Length 2(cm)	-2,000	,795	-11,255	19	,000*
Arm span 1- arm span 2(cm)	-,700	,865	-3,621	19	,002*
Sitting height 1- sitting height 2 (cm)	-1,350	,933	-6,469	19	,000*
Leg length 1- leg length 2(cm)	-,850	1,268	-2,998	19	,007*

$p < 0,01$ , \*\* $p < 0,05$

Considering the measurement results of pre- and post-tests carried out in order to examine the development of experimental group's anthropometric measurements for 2 months (Table 4), it has been identified that there is a significance of variance ( $p < 0,01$ ) between the weight average of the experimental group's pre-test and post-test's results. The pre-test weight average ( $22,05 \pm 5,68$  kg) is lower than the post-test weight average ( $23,40 \pm 6,15$  kg). It can be seen that weight increase was affected positively during the 2 month process and after education. It has been identified that there is a significance of variance ( $p < 0,01$ ) between the length average of the experimental group's pre-test and post-test's results. The pre-test length average was found to be ( $115,40 \pm 6,81$  cm) and the post-test length average was found to be ( $117,40 \pm 6,61$  cm). It can be seen that height growth was affected positively during the 2 month process and after education. It has been identified that there is a significance of variance ( $p < 0,01$ ) between the arm span average of the experimental group's pre-test and post-test's results. The pre-test arm span average ( $113,20 \pm 7,94$  cm) is lower than the post-test arm span average ( $113,90 \pm 8,49$  cm).

It has been identified that there is a significance of variance ( $p < 0,01$ ) between the average sitting height of experimental group's pre-test and post-test's results. The pre-test sitting height average of ( $61,75 \pm 3,64$  cm) is lower than the post-test sitting height average of ( $63,10 \pm 3,40$  cm).

It has been identified that there is a significance of variance ( $p < 0,01$ ) between the average leg length of the experimental group's pre-test and post-test's results. The pre-test leg length average of ( $53,45 \pm 3,95$  cm) is lower than the post-test leg length average of ( $54,30 \pm 3,94$  cm).

Minimum, maximum and average values obtained from pre and post-test measurements for anthropometric measurements of the control group are given in Table 5.

Table 5. Pre-test, post-test, minimum, maximum and average values of control group's anthropometric measurements

Pre-test - post-test	N	mean	Standard deviation	Minimum	Maximum
weight 1 (kg)	20	21,50	2,373	18	27
weight 2 (kg)	20	22,35	2,720	18	30
length 1 (cm)	20	114,10	3,523	106	120
length 2 (cm)	20	116,75	3,919	108	124
arm span 1 (cm)	20	112,10	4,025	103	120
arm span 2 (cm)	20	115,30	3,342	108	121
sitting height 1 (cm)	20	61,65	1,694	59	66
sitting height 2 (cm)	20	62,30	1,658	59	66
leg length 1 (cm)	20	52,80	2,783	48	59
leg length 2 (cm)	20	54,60	2,981	50	61

Differences between pre and post-tests made for control group's anthropometric measurements are given in Table 6.

Table 6. Differences between pre and post-test of control group's anthropometric measurements

Differences between pre and post-test of control group	Matching differences				
	mean	Standard deviation	t	sd	P
weight 1 - weight 2 (kg)	-,850	,875	-4,344	19	,000*
length - length (cm)	-2,650	1,089	-10,878	19	,000*
Arm span – arm span (cm)	-3,200	1,673	-8,552	19	,000*
Sitting height 1 – sitting height 2 (cm)	-,650	,988	-2,942	19	,008*
Leg length 1 – leg length 2 (cm)	-1,800	1,281	-6,282	19	,000*

\* $p < 0,01$ , \*\* $p < 0,05$

Considering the measurement results of pre and post-test carried out in order to examine the development of control group's anthropometric measurements over 2 months (Table 6), it has been identified that there is a significance of variance ( $p < 0,01$ ) between the weight average of pre-tests and post-test's results. The pre-test weight average of ( $21,50 \pm 2,37$  kg) is lower than the post-test weight average of ( $22,35 \pm 2,72$  kg) . It can be seen that weight increase was affected positively during the 2 month process and after education. It has been identified that there is a significance of variance ( $p < 0,01$ ) between the length average of the control group's pre-test and post-test's results. The pre-test length average was found to be ( $114,10 \pm 3,52$  cm) and the post-test length average was found to be ( $116,75 \pm 3,91$  cm). It can be seen that height growth was affected positively during the 2 month process and after education. It has been identified that there is a significance of variance ( $p < 0,01$ ) between the arm span average of the control group's pre-test and post-test's results. The pre-test arm span average of ( $112,10 \pm 4,02$  cm) is lower than the post-test arm span average of ( $115,30 \pm 3,34$  cm).

It has been identified that there is a significance of variance ( $p < 0,01$ ) between the sitting height average of the control group's pre-test and post-test's result. The pre-test sitting height average ( $61,65 \pm 1,69$  cm) is lower than the post-test sitting height average ( $62,30 \pm 1,65$  cm).

It has been identified that there is a significance of variance ( $p < 0,01$ ) between the leg length average of the control group's pre-test and post-test's results. The pre-test leg length average ( $52,80 \pm 2,78$  cm) is lower than the post-test leg length average ( $54,60 \pm 2,98$  cm).

Table 7. Absolute development values of the anthropometric measurements of experimental and control groups

No	Test	Control group				Experimental group			
		Pre-test x	Post-test x	Divergence	%	Pre-test x	Post-test x	Divergence	%
1.	Weight (kg.)	22	23,4	+1,35	5,8	21,50	22,3	+0,8	3,8
2.	Length (cm.)	115,4	117,4	+2	1,7	114,1	116,75	+2,6	2,7
3.	Arm span (cm.)	113,2	113,9	+0,70	0,6	112,1	115,3	+3,2	2,8
4.	Sitting height (cm.)	61,75	63,1	+1,35	2,1	61,6	62,3	+0,65	1,0
5.	Leg length (cm)	53,4	54,3	+0,85	1,6	52,8	54,6	+1,80	3,3
	mean				2,36				2,72

Absolute development values of the anthropometric measurements are given in Table 7. While the highest absolute growth was seen in the experimental group, the mean has been determined as 2,72% and the absolute development value of the control group is 2,36%.

The fact that high absolute development values for height, arm span and leg length were observed in the experimental group can be interpreted as folk dance training having had an affect on these features. That the control group has the highest absolute development values for body weight and sitting height parameters show that these factors have not been affected by the working method.

Table 8. The correlation between the first measurements of experimental group and anthropometric characteristics

TEST	Body weight. (kg.)	length (cm)	Arm span (cm)	Sitting height (cm.)	Leg length (cm.)
Body weight (kg.)	Xxx	,738**	,625**	,700**	,633**
Length (cm.)		xxx	,926**	,880**	,876**
Arm span (cm)			Xxx	,777**	,862**
Sitting height ( cm.)				Xxx	,579**
Leg length ( cm)					xxx

(\* p<0,01, \*\* p<0,05)

As shown in Table 8, the highest correlation was found between height and arm span ( $r = 0.926$ ), the second highest between height and sitting height ( $r = 0.880$ ), and the third between height and leg length ( $r = 0.876$ ). It is seen that height has positively affected arm span, leg length and sitting height.

Table 9. The correlation between the last measurements of experimental group and anthropometric and motor characteristics

TEST	Body weight (kg.)	length (cm)	Arm span (cm)	Sitting height (cm.)	Leg length (cm.)
body weight (.kg.)	Xxx	,779**	,685**	,789**	,642**
length (cm.)		Xxx	,933**	,915**	,906**
Arm span (cm)			xxx	,830**	,897**
Sitting height ( cm.)				Xxx	,684**
Leg length. ( cm)					xxx

(\* p<0,01, \*\* p<0,05)

As shown in Table 9, the highest correlation was found between height and arm span ( $r = 0,933$ ), the second highest between height and sitting height ( $r = 0,915$ ), and the third is between height and leg length ( $r=0,906$ ). It is seen that height has positively affected arm span, leg length and sitting height.

As shown in Table 10, the highest correlation was found between height and leg length ( $r = 0,866$ ), and the second highest between height and arm span ( $r = 0,738$ ). It is seen that height has positively affected arm span and leg length.

Table 10. The correlation between the first measurements of group and anthropometric and motor characteristics

TEST	Body weight (kg.)	Length (cm)	Arm span (cm)	Sitting height (cm.)	Leg length (cm.)
Body weight (kg.)	Xxx	,264	,512*	,596**	-,032
Length (cm.)		Xxx	,738**	,562**	,866*
Arm span (cm)			xxx	,592**	,486*
Sitting height(cm.)				xxx	,096
Leg length ( cm)					xxx

(\* p<0,01 \* \* p<0,05)

Table 11. The correlation between the last measurements of control group and anthropometric and motor characteristics

TEST	Body weight (kg.)	length (cm)	Arm span (cm)	Sitting height (cm.)	Leg length (cm.)
Body weight (kg.)	xxx	,275	,497*	,524*	,038
Length (cm.)		Xxx	,822**	,709**	,888**
Arm span (cm)			xxx	,753**	,604**
Sitting height ( cm.)				xxx	,324
Leg length ( cm)					xxx

(\* p<0,01, \* \* p<0,05)

As shown in Table 11, the highest correlation was found between height and leg length( $r = 0,888$ ), the second highest between height and arm span ( $r = 0,822$ ), and the third between arm span and sitting height ( $r=0,753$ ).It is seen that height has positively affected arm span and leg length.

The fact that the correlation values of anthropometric characteristics of pre-school children in the experimental group are higher than those of the control group shows the development differences of children affected by folk dance education.

Table 12. Percentage of experimental group pre-test-post-test frequency distributions of items that take place in Social adjustment and Skills Scale-1

ITEMS	Sub-factors of social adjustment	Always			Sometimes			Never			Always			Sometimes			Never		
		Pre-test						Post-test											
		n	%	n	%	n	%	n	%	N	%	n	%	n	%	n	%		
1	The success of communicating with friends	16	80,0	4	20,0	--	--	19	95,0	1	5,0	--	--						
2	To make friends easily	14	70,0	6	30,0	--	--	19	95,0	1	5,0	--	--						
3	To try to understand somebody by empathizing	11	55,0	9	45,0	--	--	18	90,0	1	5,0	1	5,0						
4	To understand if others are happy or sad	18	90,0	2	10,0	--	--	19	95,0	1	5,0	--	--						
5	To try to solve problems with his friends	14	70,0	6	30,0	--	--	18	90,0	2	10,0	--	--						
6	To be willing to cooperate with people	16	80,0	4	20,0	--	--	20	100	--	--	--	--						
7	To express his feelings clearly	15	75,0	5	25,0	--	--	18	90,0	2	10,0	--	--						
8	To be a child at peace with people	15	75,0	5	25,0	--	--	19	95,0	1	5,0	--	--						
9	To be willing to practice new learnings	19	95,0	1	5,0	--	--	20	100	--	--	--	--						

As seen in table 12, the communication success of children in the experimental group increased from 80% (pre-test) to 95% (post-test). Ability to make friends easily increased from 70% to 90%. Attempting to understand others through empathy from 55% to 90%. Trying to solve problems with friends increased from 70% to 90%. Moreover, willingness to cooperate with people increased from 80% (pre-test) to 100% (post-test).

Looking at Table 13, it can be seen that willingness of the experimental group members to help people around them when necessary increased from 85% (pre-test) to 100% (post-test). Trying not to repeat negative behaviors when warned increased from 60% to 75%. Warning of friends who evade regulations increased from 75% to 100%. Feeling regretful of negative behaviors increased to from 55% (pre-tests) 95% (post-tests). Moreover, caring about complying increased from 85% to 90%.

Table 13. Percentage of experimental group pre-test-post-test frequency distributions of items that take place in Social adjustment and Skills Scale-2

ITEMS	Sub-factors of social adjustment	Always		Sometimes		Never		Always		Sometimes		Never	
		Pre-test						Post-test					
		n	%	n	%	n	%	n	%	n	%	n	%
10	To be willing to help the people around him, when necessary	17	85,0	3	15,0	--	--	20	100	--	--	--	--
11	To be aware of what is happening around him	19	95,0	1	5,0	--	--	20	100	--	--	--	--
13	To try not to repeat the negative behaviors when warned	12	60,0	8	40,0	--	--	15	75,0	5	25,0	--	--
14	To be tolerant to younger people	18	90,0	2	10,0	--	--	17	85,0	3	15,0	--	--
15	To warn his friends who evade regulations	15	75,0	5	25,0	--	--	20	100	--	--	--	--
16	To regret after a negative behaviors	11	55,0	9	45,0	--	--	19	95,0	1	5,0	--	--
17	To care about complying	17	85,0	3	15,0	--	--	18	90,0	2	10,0	--	--
18	To wait one's turn when necessary	17	85,0	3	15,0	--	--	17	85,0	1	5,0	2	10,0

Table 14. Percentage of experimental group pre-test-post-test frequency distributions of items that take place in Social adjustment and Skills Scale-3

ITEMS	Sub-factors of social maladjustment	Always			Sometimes			Never			Always			Sometimes			Never		
		Pre-test									Post-test								
		n	%	N	%	n	%	n	%	n	%	n	%	n	%	n	%		
19	To quarrel with friends	--	--	5	25,0	15	75,0	--	--	4	20,0	16	80,0	--	--	4	20,0	16	80,0
20	To interrupt others	--	--	7	35,0	13	65,0	1	5,0	3	15,0	16	80,0	--	--	3	15,0	16	80,0
21	To damage to surrounding objects consciously	--	--	1	5,0	19	95,0	--	--	1	5,0	19	95,0	--	--	1	5,0	19	95,0
22	To complain about life (rules, activities, relationships with others, and so on.)	1	5,0	8	40,0	11	55,0	--	--	3	15,0	17	85,0	--	--	3	15,0	17	85,0
23	To be angry with the situations he does not like	--	--	6	30,0	14	70,0	--	--	4	20,0	16	80,0	--	--	4	20,0	16	80,0
24	To be a child who is difficult to get along	--	--	4	20,0	16	80,0	1	5,0	--	--	19	95,0	--	--	--	--	19	95,0
25	To give something up as a bad job	--	--	10	50,0	10	50,0	1	5,0	3	15,0	16	80,0	--	--	3	15,0	16	80,0
26	To be affected by friends who evade regulations	--	--	2	10,0	18	90,0	--	--	7	35,0	13	65,0	--	--	7	35,0	13	65,0

Considering Table 14, the data shows that quarrelling with friends increased from 75% (pre-tests) to 80% (post-tests). Consciously damaging surrounding object remained constant at %95. Complaining about life increased from 55% to 85%. Giving up something as a bad job increased from 50% to 80% and 5% of children began to exhibit this behavior constantly. However, being influenced by friends who evade regulations decreased from 90% to 65%.

As seen in Table 15, the success of communicating with friends of children in the control group increased from 60% (pre-tests) to 70% (post-tests). Attempting to understand others through empathy increased from 30% to 50%. Understanding of whether someone is happy or sad increased from 45% to 85%. Trying to solve problems with friends increased from 25% to 55%. Willingness to cooperate with people remained constant at 65%.

Table 15. Percentage of control group pre-test-post-test frequency distributions of items that take place in Social adjustment and Skills Scale-1

ITEMS Sub-factors of social adjustment	Always			Sometimes			Never			Always			Sometimes			Never		
	Pre-test									Post-test								
	n	%	n	%	N	%	n	%	n	%	n	%	n	%	n	%	n	%
1 The success of communicating with friends	12	60,0	5	25,0	3	15,0	14	70,0	6	30,0	--	--	--	--	--	--	--	
2 To make friends easily	9	45,0	7	35,0	4	20,0	13	65,0	7	35,0	--	--	--	--	--	--	--	
3 To try to understand somebody by empathizing	6	30,0	9	45,0	5	25,0	11	55,0	9	45,0	--	--	--	--	--	--	--	
4 To understand a person is happy or sad	9	45,0	8	40,0	3	15,0	17	85,0	3	15,0	--	--	--	--	--	--	--	
5 To try to solve problems with his friends	5	25,0	11	55,0	4	20,0	11	55,0	9	45,0	--	--	--	--	--	--	--	
6 To be willing to cooperate with people	13	65,0	6	30,0	1	5,0	13	65,0	7	35,0	--	--	--	--	--	--	--	
7 To express his feelings clearly	5	25,0	8	40,0	7	35,0	8	40,0	10	50,0	2	10,0	--	--	--	--	--	
8 To be a child at peace with people	8	40,0	11	55,0	1	5,0	13	65,0	7	35,0	--	--	--	--	--	--	--	
9 To be willing to practice new learnings	12	60,0	6	30,0	2	10,0	11	55,0	9	45,0	--	--	--	--	--	--	--	

Table 16. Percentage of control group pre-test-post-test frequency distributions of items that take place in Social adjustment and Skills Scale-2

ITEMS Sub-factors of social adjustment	Always			Sometimes			Never			Always			Sometimes			Never		
	Pre-test									Post-test								
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
10 To be willing to help the people around him, when necessary	10	50,0	8	40,0	2	10,0	16	80,0	4	20,0	--	--	--	--	--	--	--	
11 To be aware of what is happening around him	18	90,0	2	10,0	--	--	16	80,0	4	20,0	--	--	--	--	--	--	--	
13 To try not to repeat the negative behaviors when warned	12	60,0	6	30,0	2	10,0	16	80,0	4	20,0	--	--	--	--	--	--	--	
14 To be tolerant to younger people	12	60,0	8	40,0	--	--	14	70,0	6	30,0	--	--	--	--	--	--	--	
15 To warn his friends who evade regulations	11	55,0	8	40,0	1	5,0	15	75,0	4	20,0	1	5,0	--	--	--	--	--	
16 To regret after a negative behaviors	13	65,0	6	30,0	1	5,0	14	70,0	6	30,0	--	--	--	--	--	--	--	
17 To care about complying	14	70,0	4	20,0	2	10,0	16	80,0	4	20,0	--	--	--	--	--	--	--	
18 To wait one's turn when necessary	16	80,0	4	20,0	--	--	16	80,0	4	20,0	--	--	--	--	--	--	--	

Considering Table 16, willingness to help the people around when necessary has increased from 50% (pre-tests) to 80% (post-tests). Awareness of what is happening around themselves decreased from 90% to 80%. Tolerance of younger children increased from 60% to 70%. Warning of friends who evade regulations has increased from 75% to 55%.

According to Table 17, quarreling with friends increased from 10% (pre-tests) to 15% (post-tests). Consciously damaging surrounding objects increased from 30% to 40%, but complaining about life decreased from 15% to 5%. Moreover, becoming angry with situations they do not like decreased from 50% to 15%.

Table 17. Percentage of control group pre-test-post-test frequency distributions of items that take place in Social adjustment and Skills Scale-3

ITEMS Sub-factors of social maladjustment	Always			Sometimes			Never			Always		Sometimes		Never	
	Pre-test						Post-test								
	n	%	n	%	n	%	n	%	n	%	N	%			
19 To quarrel with friends	4	20,0	13	65,0	3	15,0	7	35,0	11	55,0	2	10,0			
20 To interrupt others	3	15,0	17	85,0	--	--	6	30,0	10	50,0	4	20,0			
21 To damage to surrounding objects consciously	11	55,0	3	15,0	6	30,0	11	55,0	1	5,0	8	40,0			
22 To complain about life (rules, activities, relationships with others, and so on.)	3	15,0	14	70,0	3	15,0	3	15,0	16	80,0	1	5,0			
23 To be angry with the situations he does not like	2	10,0	8	40,0	10	50,0	10	50,0	7	35,0	3	15,0			
24 To be a child who is difficult to get along	8	40,0	8	40,0	4	20,0	10	50,0	3	15,0	7	35,0			
25 To give something up as a bad job	5	25,0	12	60,0	3	15,0	2	10,0	14	70,0	4	20,0			
26 To be affected by friends who evade regulations	2	10,0	14	70,0	4	20,0	4	20,0	16	80,0	--	--			

Table 18. Comparing two groups according to pre-test scores received from Social Adjustment and Skill Scale

Group	N	Mean ( $\bar{x}$ )	Standard deviation	s.d.	t	P
Experimental	20	67,45	4,839	18	2,127	,056
Control	20	66,90	4,826			

Significance of variance:  $p < 0,05$

Reviewing Table 18, in the experimental group, the mean pre-test total score for the Social Adjustment and Skill Scale used for measuring the effects of folk dance education on 5 - 6 year of children, was found to be 67.45. With a standard deviation of 4,839. In the control group, for which the same scale was used, the mean has been calculated as 66.90 with a standard deviation of 4,826 (for this group).

It has been examined whether or not there is a significance of variance for the groups between the children's physical-social development and folk dance education. A significance of variance was identified as 0,000. It is observed that there is no significance of variance between preschool children in both experimental and control groups according to the results obtained from comparing the social development of two groups.

Table 19. Comparing two groups according to post-test scores received from Social Adjustment and Skill Scale

Group	N	Mean ( $\bar{x}$ )	Standard deviation	s.d.	t	P
Experimental	20	72,10	4,494	38	5,870	,000*
Control	20	60,35	7,741			

Significance of variance:  $p < 0,05$

Reviewing Table 19, the Social Adjustment and Skill Scale post-test total mean score of the experimental and control groups has been calculated as 72,10 for the experimental group with a standard deviation of 4,494; in addition, for the control group has been computed as 60,35 and its standard deviation is 7,741.

It has been examined whether or not there is a significance of the variance for groups between the children's social development and folk dance education. It is observed that there is a significance of variance between children in the experimental and control groups according to the results obtained from comparing the social development of two groups.

Table 20. Comparing Social Adjustment and Skill Scale Scores of Experimental Group according to Tests

Test	N	Mean ( $\bar{x}$ )	Standard deviation	s.d.	t	P
Pre-test	20	56,90	7,826	19	2,007	,059
Post-test	20	60,35	7,741			

Significance of variance:  $p < 0,05$

Reviewing Table 20, the Social Adjustment and Skill Scale mean of the experimental group for pre-tests was found to be 56,90, and the standard deviation is 7,826. In post-test application of the same scale, total mean.

When comparing the experimental group's pre- and post- test results for social development during the folk education program, it can be seen that there is a significance of variance between the test points.

Table 21. Comparing Social Adjustment and Skill Scale Scores of Control Group according to Tests

Test	N	Mean ( $\bar{x}$ )	Standard deviation	s.d.	t	P
Pre-test	20	56,90	7,826	19	2,007	,059
Post-test	20	60,35	7,741			

Significance of variance:  $p < 0,05$

Reviewing Table 21, the pre-test Social Adjustment and Skill Scale total mean score of the control group was found to be 56.90, and the standard deviation is 7,826. In post-test application of the same scale, the total mean score was calculated as 60.35, with a standard deviation of 7,741.

When examining whether or not there is a significance of variance, according to the tests, between their social developments, a significance of variance was identified with a value of 0,059. It is observed that there is no significance of variance between pre-test and post-test scores based on the scores obtained from comparing the control group's social development according to the tests.

## 5. Discussion

The discussion made in accordance with the findings obtained from the studies which are made with the purpose of analyzing the effects of folk dance education on physical and social development of 5-6 year of children going on pre-school education, supporting folk dance education activities which can be implemented in preschool education programs, and throwing a new light on the other works to be done in this field is presented below.

According to this research, the experimental group pre-test average height is  $115.40 \pm 6,81$  cm and the post-test average height is  $117.40 \pm 6.61$  cm. The control group pre-test average height is ( $114,10 \pm 3,52$  cm) and post-test average height is ( $116,75 \pm 3,91$  cm). The average height for a 6 - year - old children has been determined as a minimum of 108 cm, and maximum of 125 cm, according to international norms (Crawford, 1996; Docherty, 1996; Martin, Ward, 1996; Martin, et al 2009). Özbar et al. (2004) have identified the average height of children who have participated in training practices as 106 cm in pre-tests, and 112 cm in post-test; the average height of children who have not participated in training practices is 108 cm in pre-test, and 112 cm in post-test according to their research made on pre-school children (Kayapınar and Özbar, 2004). Research findings are consistent with the related results of field research.

The average weight of the experimental group was identified as  $22,05 \pm 5,68$  kg in pre-tests and  $23,40 \pm 6,15$  kg in post-test. The average weight of the control group was identified as  $21,50 \pm 2,37$  kg in pre-test and  $22,35 \pm 2,72$  kg in post-test. There is no significance of variance for intergroup pre-/post-test weight measurement mean variations ( $p > 0,05$ ). Özbar et al (2004) have identified the average weight of preschool children as 20,94 kg in their study (Kayapınar and Özbar, 2004). The fact that there is no difference between groups - although there are differences between pre-/post-tests in the groups has shown that children maintain growth normally in 1 kg increments during this period and weight was affected by folk dance education.

Average weight for 5 - year - old children was determined to be minimum 14 kg, maximum 25 kg; for 6 - year old children, minimum 16 kg, and maximum 27 kg, according to international norms (Crawford, 1996; Docherty, 1996; Martin, Ward, 1996; Martin et al., 2001).

Height and body weight are known as the most useful variables in the evaluation of growth and development speed (Willmore, Costill, 1994). Depending on advancing age, an increment has been seen in body weight with the effect of growth.

The average arm span of the experimental group was identified as  $113,20 \pm 7,94$  cm in pre-tests and  $113,90 \pm 8,49$  cm in post-tests. The average arm span of the control group was identified as  $112,10 \pm 4,02$  cm in pre-tests and  $115,30 \pm 3,34$  cm in post-tests. Odabaşı et al. Identified the arm span of 5 - 6 year - old girls as 16.94 cm, and boys' as 111,23 cm (Odabaşı et al., 1998). The average sitting height of the experimental group was identified as  $61,75 \pm 3,64$  cm in pre-tests, and  $63,10 \pm 3,40$  cm in post-tests. The average sitting height of the control group was identified as  $61,65 \pm 1,69$  cm in pre-tests, and  $62,30 \pm 1,65$  cm in post-tests. According to the results obtained from this study, the folk dance education program has positively affected general height as well as sitting height, which is a component of length. A greater increase has been observed in experimental group compared to the control group. It is believed that this case results from the increase in length of the upper body, which occurs dependent on height growth. The average leg length of the experimental group was identified as  $53,45 \pm 3,95$  cm in pre-tests and  $54,30 \pm 3,94$  cm in post-tests. The average leg length of the control group was identified as  $52,80 \pm 2,78$  cm in pre-tests and  $54,60 \pm 2,98$  cm in post-tests. To Malina, anthropometric features such as height, hands, size, arm span and leg length are more dependent on genetic factors rather than environmental conditions. However, environmental dimensions, weight and fat composition have

been affected by environmental factors such as nutrition and training (Malina, Bouchard, 1991).

The experimental group pre-test average for the Social Adjustment and Skill Scale, which is used in order to measure the effects of a folk dance education program on the social development of 5 - 6 - year - old children, has been calculated as 67.45, and for post-test the average is 72.10. The average of the control group has been calculated as 66.90 for pre-test, and 67.95 for post-test.

When comparing the two groups, while there is a significance of variance between pre- and post-tests for the experimental group, it is seen that there is no such significance of variance for the control group. In our country, a pre-school education program is intended to support children's growth healthily in terms of cognitive, affective - social and psychomotor skills at home and in institutional environments. Basic knowledge, skills and habits acquired with a folk dance education, which will be implemented in addition to pre-school education and provides physical activity experience, have the power to shape a child's later life learning as well as social and emotional life (Arı and Tuğrul, 1996).

Games are the best learning tool for kids. They know themselves and their environment better thanks to games. Movement enhances a child's sense of individuality because they have the chance to show revealing themselves to other children during the game. Children both learn large motor skills and contribute to their social development (Gallahue, 1989; Williams, 1983).

Research findings make us think that the usual pre-school education program is not sufficient for children's physical and social development on its own, but that it needs supportive physical and social skill development programs.

In this study, the benefits of folk dance education have emerged clearly. It is observed that the experimental group made more progress than the control group. In other words, the physical development characteristics of the experimental group and their development of social skills were found to be greater compared to the control group. This means that the folk dance education model has directly affected physical, mental and social development. Therefore, the movement education programs taken during the preschool period will affect children throughout their whole life. Despite the physical differences in children's growth rate, it is seen that development follows a specific order according to genetic and environmental factors.

## 6. Suggestions

It has been identified that folk dance education has positive effects on children's physical and social development in accordance with the results obtained from the study and related suggestions have been put forward.

Supporting the pre-school education program with different education programs has positively affected the children's development. As seen in research, studies conducted by forming small groups give better results in pre-school education. Therefore, grouping students according to their interests, individual differences and developmental characteristics can be useful.

Considering that the education model becomes successful when it is suited to all the children, the model can be prepared by taking into consideration the aim, method, educational materials and the situations of weak and slow learners. Children may be provided the opportunity to do sport in addition to physical education classes and parental support can help children take on board how sport is useful and make it a lifestyle.

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