NORMATIVE VALUES FOR EDUCATION AND MEASURES OF PHYCICAL FITNESS AMONG FOR CHILDREN AND ADOLESCENTS AGED 7-14

VALORES NORMATIVOS PARA EDUCAÇÃO E MEDIDAS DE APTIDÃO FÍSICA ENTRE CRIANÇAS E ADOLESCENTES DE 7 A 14 ANOS

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Abstract. In sports, physical and motoric tests are applied to large groups and norm values are formed according to age, sports and gender. These normative values provide objective data to coaches and sports scientists or existing athletes during ability selection. This allows the correct evaluation and comparison. The aim of this study is to carry out norm studies on some physical and motoric parameter values according to age and gender of children aged 7-14 years. For the sample in this study,7,223 children and adolescents aged 7-14 (5404 boys and 1819 girls). The following field tests were applied to assess motor performance: agility test (sec), Sprint 20 m test (sec), long jump test (cm), sit-erish test (cm), flamingo equilibrium test (n/60sec). The results of the data show us that ın all data, a age has an increase with the age. In all age groups in favor of girls in sit-erish and flamingo equilibrium tests; agility, 20 m sprint, stopping long jump tests in favor of boys ($p < 0.05$). These reference values are especially important in health and education environments and can be added to the literature both national and worldwide about physical conformity values in children.

Keywords: Physical Education, Anthropometry, Motor Performance, Physical Activity, Education, Health-Related Fitness

Resumo. Nos esportes, testes físicos e motores são aplicados a grandes grupos e valores de norma são formados de acordo com a idade, esportes e gênero. Esses valores normativos fornecem dados objetivos para treinadores e cientistas esportivos ou atletas existentes durante a seleção de habilidades. Isso permite a avaliação e comparação corretas. O objetivo deste estudo é realizar estudos de norma em alguns valores de parâmetros físicos e motores de acordo com a idade e o gênero de crianças de 7 a 14 anos. Para a amostra deste estudo, 7.223 crianças e adolescentes de 7 a 14 anos (5.404 meninos e 1.819 meninas). Os seguintes testes de campo foram aplicados para avaliar o desempenho motor: teste de agilidade (seg), teste de sprint de 20 m (seg), teste de salto em distância (cm), teste de sit-erish (cm), teste de equilíbrio de flamingo (n/60seg). Os resultados dos dados nos mostram que, em todos os dados, a idade aumenta com a idade. Em todas as faixas etárias, a favor das meninas nos testes de equilíbrio de sit-erish e flamingo; agilidade, sprint de 20 m, testes de parada de salto em distância em favor dos meninos ($p < 0,05$). Esses valores de referência são especialmente importantes em ambientes de saúde e educação e podem ser adicionados à literatura nacional e mundial sobre valores de conformidade física em crianças.

Palavras-chave: Educação Física, Antropometria, Desempenho Motor, Atividade Física, Educação, Aptidão Física Relacionada à Saúde

1. INTRODUCTION

Physical fitness is considered a good measure of a person's ability to engage in physical activity or exercise (Galvani et al., 2024; Sepp et al., 2017; Štefan et al., 2022; Tomkinson et al., 2018; Wolfe, 2016) . It is possible to examine physical fitness in two different categories as parameters associated with health and skill (Ganley et al., 2011; Negra et al., 2024; Wolfe, 2016) . These two classifications are important because they are directly related to sport

participation and performance (Ramos-Sepúlveda et al., 2016; Wolfe, 2016) . This is because it becomes clear that children should be directed to appropriate sports branches at an early age or develop better in the current situation by being subjected to many tests to evaluate their motoric performance and physical parameters (Aslan, 2021; Kurt, 2018; Vanhelst et al., 2020; Zhang et al., 2021) . In addition, the increase in success in sports is directly proportional to the increase in the performance of athletes. However, in order to objectively evaluate the performance test results of athletes, follow their development, and inform the coach about the current situation, certain officially accepted criteria and standard scores are needed (Bayraktar & Bayrakdar, 2020; Berisha, 2021; Negra et al., 2024; Štefan et al., 2022) . These officially recognized criteria are called norms (Berisha, 2021). Norm literally means established principle, criterion, standard (Bayraktar, 2010). In the field of sports, the concept of norm refers to the determination of the visual status of the athlete within the group to which he belongs (Bayraktar, 2010; Sevinç, Yılmaz, 2021; Şahin, 2017). Norm values are generally categorized as poor, below average, average, above average and very good (JG, 1985; Ross et al., 1987) .
In sports, physical and motoric tests are applied to large groups and normative values are established according to age, branch, gender (Kryeziu et al., 2025; Ramos-Sepúlveda et al., 2016) . These normative values provide objective data to coaches and sports scientists during talent selection or about the status and development of current athletes, allowing for accurate evaluation and comparison, thus helping to increase success in sports (Berisha, 2021; Sepp et al., 2017) . In addition, thanks to norm data, it can be determined which sport branch children are suitable for according to their physical and motoric characteristics (Berisha, 2021).
In the literature, it is possible to see normative studies conducted at regional and national level in many countries in Europe and outside Europe (Berisha & Çilli, 2018; Deshmukh & Joshi, 2018; Dobosz et al, 2015; Joshi, 2011; Kryeziu et al., 2025; Martinez-de-Quel et al., 2021; Ramírez-Vélez et al., 2019; Ramos-Sepúlveda et al., 2016; Santos et al., 2014; Singh et al., 2011; Štefan et al., 2022; Tomkinson et al., 2018; Vaccari et al., 2021; Zhang et al., 2021) . In Turkey, there are no national normative studies on children under the age of 14. On the other hand, there are a limited number of regional studies with low sample sizes. (Bayraktar & Bayrakdar, 2020; Mülazımoğlu et al., 2013; Pekel, 2007; Sevinç, Yılmaz, 2021; Şahin, 2017) . The aim of this study is to contribute to the limited national literature by conducting a norm study of some physical and motoric parameter values of children aged 7-14 years according to age and gender. In addition, it is aimed to compare the findings with the norm values obtained from similar studies conducted both in Turkey and in different countries.

2. METHODOLOGY

Establishing norms for physical and motoric characteristics according to different variables such as age, gender or branch in sports provides the opportunity for accurate evaluation for both athlete selection and the current status and development of the athlete (Berisha, 2021; Sevinç, Yılmaz, 2021) . In addition, norm values can provide preliminary information to coaches and teachers about which sport branch the athlete may be suitable for.
The aim of this study was to determine the norm values of some physical and motoric parameters of children aged 7-14 years participating in sports schools according to age and gender. Secondarily, in our study, a normative study conducted throughout Turkey (Berisha, 2021) , it is aimed to compare the norm values obtained from the participants first with cross-sectional and regional studies conducted in Turkey and then with European standards

2.1. Participants of the Study

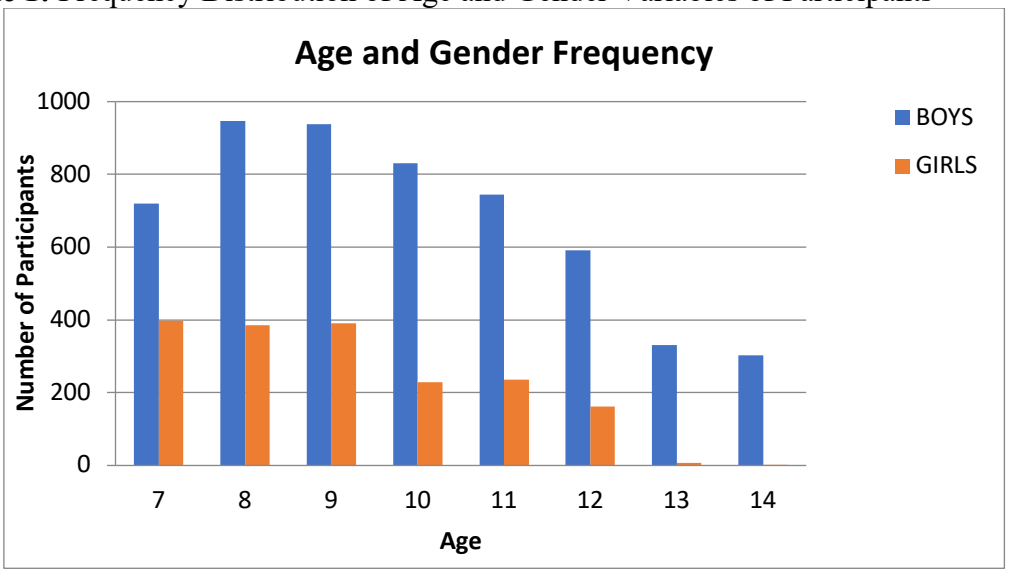
This study was conducted between April and August 2025 in sports schools municipalities, associations, foundations or private organizations on the Anatolian side of Istanbul (10

districts) and European side of Istanbul (14 districts) sides of Istanbul. A total of 7223 children aged between 7 and 14 years (boys=5404, Females=1819) who received education in different sports branches participated in our study. Children participated in our study with a voluntary consent form obtained from their parents due to their young age. Written informed parental consent and participant consent were obtained before the start of the study. All young athletes and their parents/legal representatives were informed about the experimental protocol and its potential risks and benefits before the start of the research project.

Table 1. Frequency Distribution of Participants by Age and Gender

Ages	*Frequency (n)*		Percentage %		Cumulative	
	MALE (n)	*FEMALE (n)*	MALE *(n)*	FEMALE *(n)*	Total *(n)*	Percentage *%*
7	720	398	64,4	35,6	1118	100,0
8	946	385	71,1	28,9	1331	100,0
9	938	391	70,6	29,4	1329	100,0
10	830	239	77,6	22,4	1069	100,0
11	744	235	75,9	24,0	980	100,0
12	*592*	*162*	78,5	21,5	754	100,0
13	331	7	97,9	2,1	338	100,0
14	303	2	99,3	0,7	305	100,0
Total *(n=7223)*	5404	1819	74,8	25,2	7223	100,0

Graphic 1: Frequency Distribution of Age and Gender Variables of Participants



2.2 Data Collection

The testing protocol consisted of one day. All anthropometric and motoric performance tests were performed on the same day. Each student had enough time to rest between tests (≈ 15 minutes). To reduce the intensity of the testing day, a group of students from Istanbul Sabahattin Zaim University, who were previously trained on the testing protocol, assisted the researchers in data collection during the study.

The method of data collection was as follows: First, a data set table was created electronically (excel). Each test battery was placed in the test area according to the order on this table. Each child was given a sheet of paper with a subject number and information about the entire test protocol. When the children reached each test battery, they handed the paper to the attendant. The attendant wrote the test result in the relevant place on the paper and the child went to the

next test battery. At the end of the last test battery, the child handed the paper to a different staff member . The attendant immediately transferred the information on the paper to electronic media. In this way, the test results were stored both in written and electronic form.
Information about the Test Batteries is as follows;
Height and Body Weight Measurements: Participants' body weights were measured in kilograms using Tanita HD 358 body composition analyzer and their heights were measured using a stadiometer with a precision of 0.01 cm.
Body Mass Index (BMI): Body mass index scores of the participants were obtained by using the relevant formula after transferring the weight and height data of the participants to SPSS
Body Mass Index (BMI)=Weight / Height ² (kg/m2)
Sit-Reach test Although this test is called a flexibility test, it is specifically used to measure the flexibility of the lower extremities and Hamstring muscle groups. The participant is positioned in a sitting position in front of a coffee table with a tape measure with divisions of 0-100 cm in length with 1 cm intervals at zero center. The participant rests on the table with the feet shoulder-width apart without bending the knees. The participant's heels coincide with the 0 point of the tape measure. There is a 30 cm long protrusion on the coffee table towards the participant. Since it was thought that not everyone could reach their heels in this way, the values for those who passed their heels were recorded as plus (+), while the values for those who could not reach their heels as a result of stretching were recorded as minus (-(Kryeziu at al., 2025)
Zig-zag Running Test: Zig-zag test is used to determine the speed and agility values of the participants. The test track is set up by placing 4 funnels in rectangular corners and 1 funnel in the center of the funnels. With the help of a photocell with two doors (start-exit doors), the participants pass through the exit door by drawing 8 on the diagram after passing through the start photocell. The test is repeated 2 (two) times for each participant and the best time is recorded (Konar and Şanal, 2020) .
20m Sprint: With the help of 2 (two) photocells installed on a flat ground at 20 meter intervals, 20 m. speed measurement was taken. The test was applied 2 times and the best degree was recorded.
Standing Long Jump: For this test, a suitable non-slippery surface and a tape measure are needed. The measurement is made by measuring the distance between the toe of the athlete's feet placed at the starting place and the heel of the foot where the athlete jumps and falls. The best score of 3 attempts is recorded(De Oliveira vd., 2014a)
Flamingo Balance test: The flamingo balance test was applied to determine the participant's balance score. The participant was asked to balance with one foot on a beam whose dimensions were determined. Within 1 minute, each error in which the participant lost his/her balance and positioned both feet on the ground was recorded. The test was terminated for the subject who reached 15 errors before the end of the time. The test was applied 2 times and the best degree was recorded (Miguel-Etayo at. ., 2014)

2.1. Statistical Analysis

Data analysis was made using SPSS version 25.0 for Windows. Descriptive statistics are presented as average, standard deviations and percentages. All variables were checked in terms of normality before the analysis. The group differences between the averages were analyzed with independent T test. Spearman choleration analysis was used to find relationships between the measured parameters. The importance was determined as $p < 0.05$.
In the interpretation of the norm scores in the tables, the classification method accepted by AAHPERD and used by many researchers was used (JG, 1985; Ross et al., 1987) .
- Scores below 25% are "low",
- Values between 25-50% range are "normal" -

- Values between 50-75% range "high"
- Values above 75% are considered "very high".

3. RESULTS

The mean scores, standard deviation scores and percentage distributions of body weight, height, body mass index, flexibility, zig-zag running test, 20 m sprint test, standing long jump test, balance test results of the participants according to age and gender are given in the tables below.
Percentage distributions of 7 age group participants according to gender in terms of weight, height, BMI, sit-reach flexibility test are given in Table 2, and percentage distributions of Agility test, 20 m sprint test, standing long jump, flamingo balance test are given in Table 3.

Table 2. Weight, Height, BMI, Sit-Reach Test Percentage Distribution of 7 Age Group Participants by Gender

Parameters /Gender		**%**	***Weight (kg)***		**Height *(cm)***		**BMI (kg/m$^{2)}$**		**Sit-and-Reach (cm)**	
			Male (n=664)	***Female (n=364)***	***Male (n=664)***	***Female (n=364)***	***Male (n=664)***	***Female (n=364)***	***Male (n=664)***	***Female (n=364)***
7 years old Percentages by Gender	LOW	**1**	16,30	16,50	96,00	04,00	11,35	12,54	-6,0	-3,00
		5	19,80	18,50	114,5	110,0	14,00	13,79	4,0	6,4
		10	20,90	19,70	117,0	113,0	14,32	14,28	7,0	8,0
		25	23,10	22,30	121,0	119,0	15,26	15,28	12,5	16,0
	NORM	**50**	25,80	25,00	126,0	123,5	16,39	16,46	17,0	21,0
	HIGH	**75**	*29,67*	*29,10*	*129,8*	*128,0*	18,07	18,28	21,0	25,0
	VERY HIGH	**90**	34,40	32,70	133,5	132,0	20,47	20,20	24,0	28,0
		95	37,52	35,80	135,8	134,0	22,15	21,85	26,0	29,2
		100	43,50	41,80	142,0	139,5	25,23	25,51	34,0	35,0
Min-max difference			27,20	25,30	27,20	25,30	46	35,5	13,88	12,97
Average			26,78	25,90	26,78	25,90	125,4	123,1	16,93	17,00
Std. Deviation			5,08	4,88	5,08	4,88	6,40	7,34	2,44	2,48
Skewness			,808	,582	,808	,582	-,278	-,402	1,064	,980
Kurtosis			,433	-,028	,433	-,028	,397	,651	,976	1,422

When Table 2 is examined, it can be interpreted that the kurtosis and skewness values of the data of 7-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, it was found that the mean weight of 7-year-old boys was 26.78± 5.08 and the mean weight of Females was 25.90± 4.88. The mean height of 7-year-old boys was 125.41± 6.40; the mean height of Females was 123.13± 7.34. The mean BMI of 7-year-old boys was 16.93± 2.44; the mean BMI of Females was 17.00± 2.48. The mean of 7-year-old boys' and Females' Sit-and-Reach test results was 1.26± 6.66 and 4.57 ± 7.02, respectively.

Table 3. Percentage Distribution of Agility Test, 20 m Sprint Test, Standing Jump Test, Flamingo Balance Test Results of 7 Age Group Participants by Gender

Parameters /Gender	**%**	***Agility Test (sec)***		**20 m sprint (sec)**		**Standing Long Jump (cm)**		**Flamingo Balance Test (pcs/60sec)**	
		Male (n=664)	***Female (n=364)***	***Male (n=664)***	***Female (n=364)***	***Male (n=664)***	***Female (n=364)***	***Male (n=664)***	***Female (n=364)***

7 years old Percentages by Gender	LOW	**1**	7,15	7,55	3,18	4,01	52,0	52,0	1	1
		5	7,92	8,46	4,06	4,24	69,25	64,0	5	4,25
		10	8,20	8,77	4,18	4,38	77,5	69,5	7	6,5
		25	8,72	9,57	4,39	4,70	88,0	80,0	11	10
	NORM	**50**	9,57	10,10	4,67	5,09	100,0	91,0	15	15
	HIGH	**75**	*10,51*	*11,25*	*4,99*	*5,45*	114,0	103,7	15	15
	VERY HIGH	**90**	11,62	12,43	5,36	5,98	124,0	115,0	15	15
		95	12,28	12,89	5,58	6,24	130,0	120,0	15	15
		10	15,00	15,00	6,86	6,96	143,0	135,5	15	15
Min-max difference			7,85	6,52	3,43	2,95	91,00	83,50	14	14
Average			9,76	10,35	4,72	5,12	100,6	91,41	12,82	12,64
Std. Deviation			1,38	1,38	0,48	0,58	17,98	17,23	3,59	3,68
Skewness			,891	,627	,786	,516	-,090	,107	-1,463	-1,400
Kurtosis			,927	-,076	1,280	-,010	-,458	-,420	,943	,833

When Table 3 is examined, the kurtosis and skewness values of the data belonging to 7-year-old boys and Females are between +1.5 and -1.5, which can be interpreted as a distribution close to normal. As a result of the analysis of the data, it was determined that the mean of the agility test of 7-year-old boys was 9.76± 1.38; the mean of Females was 10.35± 1.38. The 20 m sprint test averages of 7-year-old boys were 4.72± 0.48 and 5.12± 0.58 for Females. 7-year-old boys' standing long jump test averages were 100.66± 17.98; Females' were 91.41± 17.23. The mean of 7-year-old boys' flamingo balance test was 12.82± 3.59; the mean of Females' flamingo balance test was 12.64 ± 3.68.

Table 4. . t Test Analysis Results of 8 Age Group Participants' Height, Weight, Sit-and-Reach, BMI, Agility test, 20 m Sprint Test, Standing Long Jump Test, Flamingo Balance Test Means by Gender

Scale	Gender	N	Average	Std.Deviation	t	p
Weight (kg)	Male	718	26,71	5,21	2,812	***,005***
	Female	395	25,81	5,06		
Height (cm)	Male	718	125,31	6,43	5,358	***,000***
	Female	395	123,04	7,38		
Sit-and-Reach (cm)	Male	718	1,39	6,59	7,428	***,000***
	Female	395	4,60	7,06		
Agility test (sec)	Male	718	9,78	1,41	-6,765	***,000***
	Female	395	10,39	1,43		
20 m Sprint (sec)	Male	718	4,74	0,48	11,165	***,000***
	Female	395	5,13	0,59		
Standing Long Jump (cm)	Male	718	100,17	18,80	8,162	***,000***
	Female	395	90,88	17,73		
Flamingo Balance Test (pcs/60sec)	Male	718	12,76	3,61	,219	,826
	Female	395	12,71	3,63		
BMI (kg/m$^{2)}$	Male	718	16,93	2,48	-,304	,761
	Female	395	16,98	2,47		

BMI: Body Mass Index

When the research data were analyzed, according to the t-test results (Table 4), there was no significant difference between the flamingo balance test and body mass index scores of the 7-year-old participants in terms of gender (p> 0.05). On the other hand, it was observed that Females performed better than boys only in sit-to-stand data, while boys performed better in body weight, height, agility, sprint and standing long jump.

Percentage distributions of 8 age group participants by gender in terms of weight, height, BMI, flexibility test are given in Table 5, and percentage distributions of Agility test, 20 m sprint test, standing long jump, flamingo balance test are given in Table 6.

Table 5. Weight, Height, BMI, Sit-and-Reach Test Percentage Distribution of 8 Age Group Participants by Gender

Parameters /Gender		%	*Weight (kg)*		Height *(cm)*		BMI (kg/m^2)		Sit-and-Reach (cm)	
			Male (n=906)	*Female (n=359)*	*Male (n=906)*	*Female (n=359)*	*Male (n=906)*	*Female (n=359)*	*Male (n=906)*	*Female (n=359)*
8 years old Percentages by Gender	LOW	**1**	20,0	18,8	113,5	116,0	12,07	10,46	-8,0	-4,0
		5	22,70	22,50	122.67	121,00	14,07	14,07	2,0	5,0
		10	23,70	23,30	124.00	123,50	14,73	14,64	5,0	8,0
		25	26,10	25,80	127.50	127,00	15,59	15,56	10,0	14,0
	NORMAL	**50**	29,60	29,70	132,00	131,00	17,05	17,05	16,0	19,0
	HIGH	**75**	*34,80*	*33,80*	*136,00*	*135,00*	19,45	19,54	20,0	23,0
	VERY HIGH	**90**	40,89	36,60	139,15	138,50	22,02	21,84	24,0	27,0
		95	44,50	43,90	142,00	141,00	24,05	23,81	26,0	29,0
		100	52,2	50,2	148,5	148,5	28,90	29,30	33,0	37,0
Min-max difference			32,2	31,4	35,0	32,5	16,83	18,84	41,0	41,0
Average			31,08	30,66	131,80	130,97	17,77	17,78	15,07	18,29
Std. Deviation			6,61	6,41	5,94	7,15	2,95	3,00	7,17	7,18
Skewness			,891	,876	,071	,091	,904	,893	-,400	-,441
Kurtosis			,286	,471	-,186	,162	,372	,697	-,229	,015

When Table 5 is examined, it can be interpreted that the kurtosis and skewness values of the data of 8-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, it was determined that the mean weight of 8-year-old boys was 31.08± 6.61 and the mean weight of Females was 30.66± 6.41. The mean height of 8-year-old boys was 131.80 ± 5.94; the mean height of Females was 130.97 ± 7.15. The mean BMI of 8-year-old boys was 17.77 ± 2.95; the mean BMI of 8-year-old Females was 17.78 ± 3.00. The mean of 8-year-old boys' and Females' Sit-and-Reach test results was 0.06 ± 7.15 and 3.40 ± 7.13, respectively.

Table 6. Percentage Distribution of Agility Test, 20 m Sprint Test, Standing Long Jump Test, Flamingo Balance Test Results of 8 Age Group Participants by Gender

Parameters /Gender			*Agility Test (sec)*		20 m sprint (sec)		Standing Long Jump (cm)		Flamingo Balance Test (pcs/60sec)	
			Male (n=906)	*Female (n=359)*	*Male (n=906)*	*Female (n=359)*	*Male (n=906)*	*Female (n=359)*	*Male (n=906)*	*Female (n=359)*
	LOW	**1**	7,37	7,33	3,54	3,79	89,0	59,0	1	1
		5	7,74	8,03	3,89	4,07	79,0	72,0	4	2
		10	7,91	8,36	4,00	4,23	85,0	78,0	6	4

8 years old Percentages by Gender		**25**	8,39	8,90	4,20	4,46	97,0	90,0	10	8
	NORM	**50**	9,15	9,66	4,45	4,70	111,0	102,0	15	15
	HIGH	**75**	*10,22*		*4,78*	*5,04*	125,0	117,0	15	15
		90	11,62	11,62	5,11	5,43	135,0	127,0	15	15
	VERY HIGH	**95**	11,96	12,30	5,31	5,56	140,6	135,0	15	15
		10	14,76	14,30	6,09	6,24	153,0	149,0	15	15
Min-max difference			7,39	6,97	2,55	2,45	89,0	90,0	14	14
Average			9,41	9,83	4,51	4,76	110,5	102,4	12,66	11,70
Std. Deviation			1,31	1,30	0,43	0,45	19,25	18,71	3,86	4,62
Skewness			,906	,129	,643	,564	-,084	-,037	-1,393	-1,030
Kurtosis			,588	,257	,307	,421	-,591	-,417	,544	-,463

When Table 6 is examined, it can be interpreted that the kurtosis and skewness values of the data of 8-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, it was determined that the mean agility test of 8-year-old boys 9.41± 1.31; the mean of Females was 09.83± 1.30. The 20 m sprint test averages of 8-year-old boys were 4.51 ± 0.43, while those of Females were 4.76 ± 0.45. 8-year-old boys' standing long jump test averages were 110.53 ± 19.25; Females' standing long jump test averages were 102.45 ± 18.71. 8-year-old boys' flamingo balance test averages were 12.66 ± 3.86; Females' averages were 11.70 ± 4.62.

Table 7. t Test Analysis Results of 8 Age Group Participants' Height, Weight, Sit-and-Reach, BMI, Agility test, 20 m Sprint Test, Standing Long Jump Test, Flamingo Balance Test Means by Gender

Scale	Gender	N	Average	Std.Deviation	t	p
Weight (cm)	Male	944	31,04	6,66	,853	,394
	Female	385	30,70	6,44		
Height (cm)	Male	944	0,07	7,17	7,412	***,000***
	Female	385	3,29	7,19		
Sit-and-Reach (cm)	Male	944	9,40	1,32	-4,986	***,000***
	Female	385	9,80	1,30		
Agility test (sec)	Male	944	4,51	0,44	-9,970	***,000***
	Female	385	4,78	0,46		
20 m Sprint (sec)	Male	944	110,60	19,31	7,146	***,000***
	Female	385	102,21	18,81		
Standing Long Jump (cm)	Male	944	12,65	3,89	3,368	***,000***
	Female	385	11,74	4,61		
Flamingo Balance Test (pcs/60sec)	Male	944	17,76	2,95	-,131	,896
	Female	385	11,74	4,61		
BMI ($kg/m^{2)}$	Male	944	16,93	2,48	-,304	,761
	Female	385	16,98	2,47		

BMI: Body Mass Index

When the research data were analyzed, according to the t-test results of anthropometric measurements and motoric performance scores (Table 7), there was no significant difference between the body weight and body mass index (BMI) scores of the 8-year-old participants in terms of gender (p> .0,05). On the other hand, it was observed that Females performed better than boys only in sit-and-reach and flamingo balance test data, while boys performed better in height, agility, sprint and standing long jump (p< 0,05).

Percentage distributions of weight, height, BMI, Sit-and-Reach test of the 9 age group participants according to gender are given in Table 8, and percentage distributions of Agility test, 20 m sprint test, standing long jump, flamingo balance test are given in Table 9.

Table 8. Percentage Distribution of Weight, Height, BMI, Sit-and-Reach Test of 9 Age Group Participants by Gender

Parameters /Gender			*Weight (kg)*		Height *(cm)*		BMI (kg/m$^{2)}$		Sit-and-Reach (cm)	
			Male (n=865)	*Female (n=376)*	*Male (n=865)*	*Female (n=376)*	*Male (n=865)*	*Female (n=376)*	*Male (n=865)*	*Female (n=376)*
9 years old Percentages by Gender	LOW	**1**	20,20	20,00	116,0	114,0	12,64	12,59	-2,0	-2,0
		5	24,80	24,70	126,0	126,0	14,64	14,23	3,0	6,0
		10	26,00	26,17	129,0	128,0	15,06	14,81	6,0	10,0
		25	28,70	29,10	133,0	132,0	15,92	16,02	10,0	15,0
	NORM	**50**	33,00	33,25	137,0	136,2	17,40	18,05	16,0	19,0
	HIGH	**75**	*38,70*	*39,50*	*141,0*	*141,0*	20,06	20,63	20,0	23,0
	VERY HIGH	**90**	44,50	46,20	144,0	145,0	22,72	23,25	24,0	26,0
		95	47,97	50,64	146,0	147,0	24,22	24,96	26,0	29,0
		10	59,0	60,00	158,0	157,0	30,98	31,48	38,0	32,5
Min-max difference			38,20	40,00	42,00	43,00	18,34	18,89	40,0	34,5
Average			34,26	34,92	136,2	136,5	18,24	18,59	15,20	18,28
Std. Deviation			7,26	7,78	6,03	6,56	3,06	3,29	6,92	6,52
Skewness			,818	,718	-,162	,017	,994	,797	-,494	,123
Kurtosis			,356	-,031	,132	-,045	,706	,401	,336	,246

When Table 8 is examined, it can be interpreted that the kurtosis and skewness values of the data of 9-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, it was found that the mean weight of 9-year-old boys was 34.26± 7.26 and the mean weight of Females was 34.92± 7.78. The mean height of 9-year-old boys was 136.20 ± 6.03; the mean height of Females was 136.59 ± 6.56. The mean BMI of 9-year-old boys was 18.24 ± 3.06; the mean BMI of 9-year-old Females was 18.59 ± 3.29. 9-year-old boys' and Females' mean Sit-and-reach test results were 0.32 ± 6.90 and 3.37 ± 6.52, respectively.

Table 9. Percentage Distribution of 9 Age Group Participants by Gender in Agility, 20 m Sprint, Standing Long Jump, Flamingo Test

Parameters /Gender			*Agility Test (sec)*		20 m sprint (sec)		Standing Long Jump (cm)		Flamingo Balance Test (pcs/60sec)	
			Male (n=865)	*Female (n=376)*	*Male (n=865)*	*Female (n=376)*	*Male (n=865)*	*Female (n=376)*	*Male (n=865)*	*Female (n=376)*
9 years old Percentages by Gender	LOW	**1**	7,20	7,26	3,42	3,41	50,0	62,0	1	1
		5	7,50	7,64	3,72	3,89	84,00	78,85	3	2
		10	7,70	8,07	3,87	4,04	92,00	84,00	4	3
		25	8,15	8,57	4,07	4,24	105,00	97,25	9	7
	NORMAL	**50**	8,83	9,28	4,33	4,51	118,00	108,50	15	15
	HIGH	**75**	*9,86*	*10,18*	*4,61*	*4,85*	131,00	120,75	15	15
	VERY HIGH	**90**	11,10	11,39	4,94	5,16	144,00	136,00	15	15
		95	11,82	11,77	5,15	5,33	152,00	143,10	15	15
		100	14,60	13,87	6,48	6,22	170,0	154,0	15	15

Min-max difference	7,40	6,61	3,06	2,81	12,0	92,0	14	14
Average	9,14	9,48	4,36	4,56	117,88	109,21	12,08	11,0
Std. Deviation	1,32	1,24	0,43	,43	20,05	18,41	4,45	4,86
Skewness	1,074	,687	,833	,454	-,093	,111	-1,157	-,693
Kurtosis	,998	,199	1,718	,267	-,067	-,285	-,241	-1,09

When Table 9 is examined, the kurtosis and skewness values of the data belonging to 9-year-old boys and Females are between +1.5 and -1.5, which can be interpreted as a distribution close to normal. As a result of the analysis of the data, it was determined that the mean agility test of 9-year-old boys was 9.14± 1.32, and the mean of Females was 09.48± 1.24. The 20 m sprint test averages of 9-year-old boys were 4.36 ± 0.43 and 4.56 ± 0.43 for Females. 9-year-old boys' standing jump test averages were 117.88 ± 20.05; Females' were 109.21 ± 18.41. 9-year-old boys' flamingo balance test averages were 12.08 ± 4.45 and 11.0 ± 4.86 for Females.

Table 10. t Test Analysis Results of 8 Age Group Participants' Height, Weight, Sit-and-Reach test, BMI, Agility test, 20 m Sprint Test, Standing Long Jump Test, Flamingo Balance Test Means by Gender

Scale	Gender	N	Average	Std.Deviation	t	p
Weight (kg)	Male	934	136,57	6,01	,024	,980
	Female	391	136,56	6,53		
Height (cm)	Male	934	34,16	7,25	-1,932	***,045***
	Female	391	35,06	7,91		
Sit-and-Reach (cm)	Male	934	0,20	6,92	7,694	***,000***
	Female	391	3,28	6,53		
Agility test (sec)	Male	934	9,14	1,35	-3,977	***,000***
	Female	391	9,46	1,24		
20 m Sprint (sec)	Male	934	4,37	0,44	-7,241	***,000***
	Female	391	4,56	0,45		
Standing Long Jump (cm)	Male	934	118,18	20,06	7,638	***,000***
	Female	391	109,39	18,44		
Flamingo Balance Test (pcs/60sec)	Male	934	12,16	4,42	3,937	***,000***
	Female	391	11,08	4,85		
BMI ($kg/m^{2)}$	Male	934	18,22	3,06	-2,380	***,017***
	Female	391	18,68	3,35		

BMI: Body Mass Index

According to the t-test results (Table 10), there was no significant difference between the height scores of the 9-year-old participants in terms of gender (p> 0.05). On the other hand, when body weight and BMI scores are analyzed, it is observed that Females are heavier than boys and perform better in sit-and-reach and flamingo balance test data, while boys are better in agility, sprint and standing long jump performances (p< 0,05).
Percentage distributions of 10 age group participants by gender in terms of weight, height, BMI, Sit-and-Reach test are given in Table 11, and percentage distributions of agility test, 20 m sprint test, standing forward jump, flamingo balance test are given in Table 12.

Table 11. Percentage Distribution of Weight, Height, BMI, Sit-and-Reach Test of 10 Age Group Participants by Gender

Parameters /Gender	***Weight (kg)***		**Height *(cm)***		**BMI ($kg/m^{2)}$**		**Sit-and-Reach (cm)**	
	Male (n=723)	***Female***	***Male (n=723)***	***Female***	***Male (n=723)***	***Female***	***Male (n=723)***	***Female***

				(n=223)		*(n=223)*		*(n=223)*		*(n=223)*
10 years old Percentages by Gender	LOW	**1**	23,00	23,10	121,00	122,50	11,49	12,05	-8,0	-3,0
		5	26,80	26,04	130,0	130,6	14,59	14,03	1,0	6,0
		10	27,94	27,48	132,0	133,0	14,96	14,70	4,0	9,0
		25	31,10	31,80	136,0	137,5	16,23	16,10	10,0	14,0
	NORMAL	**50**	35,90	36,40	141,0	142,5	18,01	18,03	16,0	19,0
	HIGH	**75**	*42,50*	*42,50*	*146,0*	*147,0*	20,70	20,40	20,0	22,0
	VERY HIGH	**90**	51,46	48,06	150,0	150,0	24,02	22,73	23,0	26,0
		95	55,76	54,02	153,4	152,0	25,87	25,55	25,0	28,0
		100	69,60	70,70	167,50	158,00	38,27	29,48	33,0	33,5
Min-max difference			46,60	47,60	46,50	35,50	26,78	17,43	41,0	36,5
Average			37,85	37,63	141,26	142,02	18,83	18,53	14,64	17,74
Std. Deviation			9,01	8,49	7,18	6,53	3,57	3,30	7,45	6,40
Skewness			,886	,964	,409	-,337	1,009	,874	-,487	-,357
Kurtosis			,321	1,384	,648	,066	1,228	,754	,144	-,011

When Table 11 is examined, it can be interpreted that the kurtosis and skewness values of the data of 10-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, it was determined that the mean weight of 10-year-old boys was 37.85± 9.01 and the mean weight of Females was 37.63 ± 8.49. The mean height of 10-year-old boys was 141.26 ± 7.18; the mean height of Females was 142.02 ± 6.53. The mean BMI of 10-year-old boys was 18.83 ± 3.57; the mean BMI of 10-year-old Females was 18.53 ± 3.30. The mean of 10-year-old boys' and Females' Sit-and-Reach test results were 0.43 ± 7.35 and 2.38 ± 6.38, respectively.

Table 12. Percentage Distribution of 10 Age Group Participants by Gender in Agility test, 20 m Sprint, Standing Long Jump, Flamingo Test

Parameters /Gender			***Agility Test (sec)***		**20 m sprint (sec)**		**Standing Long Jump (cm)**		**Flamingo Balance Test (pcs/60sec)**	
			Male (n=723)	***Female (n=223)***	***Male (n=723)***	***Female (n=223)***	***Male (n=723)***	***Female (n=223)***	***Male (n=723)***	***Female (n=223)***
10Age Percentages by Gender	LOW	**1**	7,01	7,11	3,31	3,47	35,0	64,0	1	1
		5	7,27	7,39	3,63	3,76	88,0	83,4	2	1
		10	7,42	7,69	3,75	3,88	96,0	92,0	3	2
		25	7,81	8,07	3,96	4,06	110,0	101,0	7	5
	NORM	**50**	8,42	8,68	4,19	4,33	123,0	115,0	15	14
	HIGH	**75**	*9,19*	*9,50*	*4,47*	*4,63*	137,0	131,0	15	15
	VERY HIGH	**90**	10,1	10,17	4,80	4,92	150,0	140,0	15	15
		95	10,7	10,64	5,02	5,15	155,8	146,8	15	15
		10	12,79	12,65	5,77	5,48	172,0	170,0	15	15
Min-max difference			5,78	5,54	2,46	2,01	137,0	106,0	14	14
Average			8,628	8,835	4,241	4,362	122,7	115,9	11,43	10,38
Std. Deviation			1,087	,994	,418	,410	20,50	19,50	4,873	5,255
Skewness			1,123	,696	,649	,362	-,268	,025	-,881	-,555
Kurtosis			1,411	,432	,380	-,282	,199	-,240	-,874	-1,323

When Table 12 is examined, it can be interpreted that the kurtosis and skewness values of the data of 10-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, it was determined that the agility test averages of 10-year-old boys were 8,628± 1,087; the average of Females was 8,835± 0,994. The 20 m sprint test averages of 10-year-old boys were 4,241± 0,418 and 4,362± ,410 for Females. 10-year-old boys' standing jump test averages were 122,701 ± 20,502; Females' were 115,926± 19,506. 10-year-old boys' flamingo balance test averages were 11,43± 4,873; Females' averages 10,381± 5,255.

Table 13. t Test Analysis 10 Age Group Participants' Height, Weight, Sit-and-Reach test, BMI, Agility Test, 20 m Sprint Test, Standing Long Jump Test, Flamingo Balance Test Means by Gender

Scale	Gender	N	Average	Std.Deviation	t	p
Weight (kg)	Male	825	38,13	9,14	,699	,485
	Female	239	37,69	8,38		
Height (cm)	Male	825	141,52	7,47	-,870	,349
	Female	239	141,99	6,52		
Sit-and-Reach (cm)	Male	825	-0,35	7,45	6,335	***,000***
	Female	239	2,74	6,40		
Agility test (sec)	Male	825	8,63	1,10	-2,169	***,022***
	Female	239	8,80	0,99		
20 m Sprint (sec)	Male	825	4,24	0,42	-4,003	***,000***
	Female	239	4,36	0,41		
Standing Long Jump (cm)	Male	825	122,76	20,74	4,375	***,000***
	Female	239	116,27	19,56		
Flamingo Balance Test (pcs/60sec)	Male	825	11,48	4,84	3,146	***,002***
	Female	239	10,34	5,29		
BMI (kg/m$^{2)}$	Male	825	18,95	3,70	1,373	,147
	Female	239	18,58	3,33		

BMI: Body Mass Index

According to the t-test results of anthropometric measurements and motoric performance scores (Table 13), there is no significant difference between the body weight, height and BMI scores of the 10-year-old participants in terms of gender (p> 0.05). On the other hand, it was observed that Females performed better than boys in sit-and-reach and flamingo balance test data, while boys performed better in agility, sprint and standing long jump (p< 0,05).
Percentage distributions of 11 age group participants according to gender in terms of weight, height, BMI, Sit-and-Reach test are given in Table 14, and percentage distributions of agility test, 20 m sprint test, standing long jump, flamingo balance test are given in Table 15.

Table 14. Weight, Height, BMI, Sit-and-Reach Test Percentage Distribution of 11 Age Group Participants by Gender

Parameters /Gender			***Weight (kg)***		**Height *(cm)***		**BMI (kg/m$^{2)}$**		**Sit-and-Reach (cm)**	
			Male (n=659)	***Female (n=213)***	***Male (n=659)***	***Female (n=213)***	***Male (n=659)***	***Female (n=213)***	***Male (n=659)***	***Female (n=213)***
11 years old Percentages by Gender	LOW	**1**	24,6	25,04	123,0	125,0	10,21	13,26	-7,0	-1,0
		5	29,1	30,31	135,0	136,0	14,80	14,84	-1,0	6,0
		10	30,60	32,50	137,0	138,0	15,33	15,56	2,0	8,0
		25	34,30	36,50	142,0	144,0	16,65	16,94	8,0	13,0
	NORMAL	**50**	40,40	42,40	147,0	148,0	18,69	19,04	14,5	19,0

	HIGH	**75**	*48,50*	*49,55*	*151,0*	*153,75*	21,89	22,07	19,0	24,0
	VERY HIGH	**90**	56,10	58,86	156,0	158,0	24,86	25,48	23,0	27,0
		95	63,30	62,29	157,5	160,0	26,82	26,95	26,1	30,0
		100	74,7	77,40	165,0	164,0	21,91	30,45	34,0	34,0
Min-max difference			50,10	52,36	42,0	39,0	21,70	17,19	41,0	35,0
Average			42,268	43,858	146,626	148,483	19,502	19,787	13,68	18,38
Std. Deviation			10,192	10,008	6,911	7,102	3,703	3,774	8,07	7,27
Skewness			,803	,685	-,193	-,279	,766	,709	-,231	,159
Kurtosis			,179	,055	,001	,017	,163	-,071	-,274	,316

When Table 14 is examined, it can be interpreted that the kurtosis and skewness values of the data of 11-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a 262esto f262f the analysis of the data, the mean weight of 11-year-old boys was 42.268± 10.192 and the mean weight of 11-year-old Females was 43.858±10.008. The mean height of 11-year-old boys was 146.626±6.911; the mean height of 11-year-old Females was 148.483±7.102. The mean BMI of 11-year-old boys was 19.502±3.703; the mean BMI of 11-year-old Females was 19.787±3.774. 11-year-old boys' and Females' mean Sit-and-Reach test results were -1,881±8,197 and 3,448±7,309, respectively.

Table 15. Percentage Distribution of 11 Age Group Participants by Gender in Agility, 20 m Sprint, Standing Long Jump, Flamingo Test

Parameters /Gender			***Agility Test (sec)***		**20 m sprint (sec)**		**Standing Long Jump (cm)**		**Flamingo Balance Test (pcs/60sec)**	
			Male (n=659)	***Female (n=213)***	***Male (n=659)***	***Female (n=213)***	***Male (n=659)***	***Female (n=213)***	***Male (n=659)***	***Female (n=211 3)***
11 years old Percentages by Gender	LOW	**1**	7,02	7,02	3,35	3,37	69,0	57,0	1	1
		5	7,21	7,32	3,65	3,64	96,0	84,0	2	1
		10	7,38	7,57	3,73	3,84	102,0	91,0	3	2
		25	7,68	8,03	3,90	4,02	112,0	102,0	6	6
	NORMAL	**50**	8,17	8,64	4,11	4,27	128,0	117,0	15	15
	HIGH	**75**	*8,87*	*9,30*	*4,41*	*4,59*	141,0	132,0	15	15
	VERY HIGH	**90**	9,79	9,90	4,77	4,98	152,0	144,3	15	15
		95	10,45	10,26	4,97	5,20	1590	152,0	15	1515
		100	12,11	11,94	5,79	5,77	176,0	176,0	15	15
Min-max difference			5,09	4,32	2,44	2,40	107,0	119,0	14	14
Average			8,397	8,710	4,189	4,337	127,153	117,239	11,305	10,877
Std. Deviation			,993	,914	,407	,442	19,577	21,076	4,849	5,117
Skewness			1,285	,607	,907	,591	-,093	,046	-,795	-,698
Kurtosis			1,690	,496	,955	,350	-,320	-,202	-1,011	-1,146

When Table 15 is examined, it can be interpreted that the kurtosis and skewness values of the data of 11-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a 263esto f263f the analysis of the data, it was determined that the mean agility 263esto f 11-year-old boys was 8,397± 0,993 and the mean of Females was 8,710±0,914. The mean of 11-year-old boys' 20 m sprint test was 4,189± 0,407; the mean of Females' 20 m sprint test was 4,337±0,442. 11-year-old boys' standing long jump test averages were 127,153± 19,577; Females' standing long jump test averages were 117,239± 21,076. 11-year-old boys' flamingo balance test averages were 11,305± 4,849; Females' averages were 10,877± 5,117.

Table 16. t Test Analysis 11 Age Group Participants' Height, Weight, Sit-and-Reach test, BMI, Agility Test, 20 m SprintTest, Standing Long Jump Test, Flamingo Balance Test Means by Gender

Scale	Gender	N	Average	Std.Deviation	t	p
Weight (kg)	Male	742	41,87	10,12	-2,426	***,015***
	Female	235	43,71	10,01		
Height (cm)	Male	742	146,61	6,84	-3,465	***,000***
	Female	235	148,45	7,15		
Sit-and-Reach (cm)	Male	742	-1,31	8,08	8,379	***,000***
	Female	235	3,38	7,28		
Agility test (sec)	Male	742	8,39	1,00	-3,973	***,000***
	Female	235	8,69	0,91		
20 m Sprint (sec)	Male	742	4,17	0,41	-4,719	***,000***
	Female	235	4,33	0,46		
Standing Long Jump (cm)	Male	742	127,16	20,33	5,720	***,000***
	Female	235	118,24	21,08		
Flamingo Balance Test (pcs/60sec)	Male	742	11,23	4,88	,917	,359
	Female	235	10,89	5,15		
BMI (kg/m$^{2)}$	Male	742	19,35	3,69	-1,321	,187
	Female	235	19,72	3,74		

BMI: Body Mass Index

According to the t-test results of anthropometric measurements and motoric performance scores (Table 16), there is no significant difference between the flamingo balance test and BMI scores of the 11-year-old participants in terms of gender (p> 0.05). On the other hand, it was observed that Females were heavier, taller and performed better in sit-to-stand and flamingo balance test data than boys, while boys were better in agility, sprint and standing long jump performances (p< 0,05).

Percentage distributions of 12 age group participants by weight, height, BMI, Sit-and-Reach test according to gender are given in Table 17, and percentage distributions of agility test, 20 m sprint test, standing long jump, flamingo balance test are given in Table 18.

Table 17. Weight, Height, BMI, Sit-and-Reach Test Percentage Distribution of 12 Age Group Participants by Gender

Parameters /Gender			***Weight (kg)***		**Height *(cm)***		**BMI (kg/m$^{2)}$**		**Sit-and-Reach (cm)**	
			Male (n=529)	***Female (n=142)***	***Male (n=529)***	***Female (n=142)***	***Male (n=529)***	***Female (n=142)***	***Male (n=529)***	***Female (n=142)***
12 years old	LOW	**1**	27,90	31,00	130,40	126,00	12,20	14,76	-9,0	-11,0
		5	32,00	34,50	139,00	142,00	14,98	15,71	,0	5,0

Percentages by Gender		**10**	34,00	36,40	141,50	144,30	15,80	16,47	3,0	8,0
		25	36,95	40,65	147,00	149,00	17,09	17,55	8,0	14,75
	NORMAL	**50**	44,00	47,60	152,00	154,00	19,23	20,05	16,0	20,0
	HIGH	**75**	*52,90*	*54,02*	*157,00*	*159,00*	22,56	23,16	20,0	25,0
	VERY HIGH	**90**	60,60	57,84	162,50	162,00	24,92	26,26	23,0	28,35
		95	64,90	59,52	164,75	164,42	27,11	28,29	26,0	30,92
		100	69,40	63,40	169,00	167,0	41,32	30,60	34,0	39,0
Min-max difference			41,50	32,40	38,60	41,0	29,12	15,85	43,0	50,0
Average			45,566	47,393	151,855	153,464	20,054	20,742	14,21	18,71
Std. Deviation			10,023	8,131	7,641	7,048	3,924	3,795	8,16	8,24
Skewness			,451	-,066	-,079	-,902	,994	,620	-,316	-,460
Kurtosis			-,750	-1,044	-,466	,902	1,717	-,393	-,289	,821

When Table 17 is examined, it can be interpreted that the kurtosis and skewness values of the data of 12-year-old boys and Females are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, the mean weight of 12-year-old boys was 45.566± 10.023 and the mean weight of Females was 47.939±8.131. The mean height of 12-year-old boys was 151,855±7,641; the mean height of 12-year-old Females was 153,464±7,048. The mean BMI of 12-year-old boys was 20.054±3.924; the mean BMI of 12-year-old Females was 20.742±3.795. The mean of 12-year-old boys' and Females' flexibility test results were -,787±8,189 and 3,957± 8,290, respectively.

Table 18. Percentage Distribution of 12 Age Group Participants by Gender in Agility, 20 m Sprint, Standing Long Jump, Flamingo Test

Parameters /Gender			***Agility Test (sec)***		**20 m sprint (sec)**		**Standing Long Jump (cm)**		**Flamingo Balance Test (pcs/60sec)**	
			Male (n=529)	***Female (n=142)***	***Male (n=529)***	***Female (n=142)***	***Male (n=529)***	***Female (n=142)***	***Male (n=529)***	***Female (n=142)***
12 years old Percentages by Gender	LOW	**1**	6,95	7,03	3,33	3,40	78,0	89,0	1	1
		5	7,12	7,49	3,53	3,61	97,50	94,00	2	2
		10	7,27	7,66	3,65	3,70	104,0	100,0	4	3
		25	7,69	8,07	3,81	3,90	117,0	110,7	8	6
	NORM	**50**	8,18	8,58	4,03	4,18	134,0	124,0	15	14
	HIGH	**75**	*8,81*	*9,30*	*4,33*	*4,41*	150,0	142,2	15	15
	VERY HIGH	**90**	9,68	9,74	4,69	4,66	163,0	155,0	15	15
		95	10,42	10,21	4,90	4,78	170,5	162,0	15	15
		10	11,81	11,84	5,99	5,45	192,0	178,0	15	15
Min-max difference			4,86	4,81	2,66	2,05	114,0	89,0	14	14
Average			8,365	8,671	4,108	4,173	133,6	126,8	11,63	10,53
Std. Deviation			,984	,846	,408	,370	22,41	20,41	4,715	4,993
Skewness			1,189	,577	,862	,557	-,022	,237	-1,016	-,497
Kurtosis			1,527	,393	,984	,636	-,574	-,678	-,506	-1,376

When Table 18 is examined, the kurtosis and skewness values of the data belonging to 12-year-old boys and Females are between +1.5 and -1.5, which can be interpreted as a distribution close to normal. As a result of the analysis of the data, it was determined that the mean agility test of 12-year-old boys was 8,365± 0,984 and the mean of Females was 8,671±0,846. The mean of 12-year-old boys' 20 m sprint test was 4,108±0,408; the mean of Females' 20 m sprint test was 4,173±0,970. 12-year-old boys' standing forward long jump test averages were 133,682± 22,417; Females' 126,845± 20,416. 12-year-old boys' flamingo balance test averages were 11,635± 4,175; Females' flamingo balance test averages were 10,535± 4,993.

Table 19. t Test Analysis 12 Age Group Participants' Height, Weight, Sit-and-Reach, BMI, Agility Test, 20 m Sprint Test, Standing Long Jump Test, Flamingo Balance Test Means by Gender

Scale	Gender	N	Average	Std.Deviation	t	p
Weight (kg)	Male	587	151,81	7,74	-2,341	***,015***
	Female	162	153,39	7,13		
Height (cm)	Male	587	45,41	10,03	-2,383	***,009***
	Female	162	47,47	8,49		
Sit-and-Reach (cm)	Male	587	-0,79	8,16	6,342	***,000***
	Female	162	3,82	8,24		
Agility test (sec)	Male	587	8,36	0,98	-3,334	***,000***
	Female	162	8,65	0,86		
20 m Sprint (sec)	Male	587	4,10	0,41	-2,013	***,035***
	Female	162	4,18	0,38		
Standing Long Jump (cm)	Male	587	133,80	22,58	3,583	***,000***
	Female	162	127,01	20,69		
Flamingo Balance Test (pcs/60sec)	Male	587	11,64	4,73	2,252	***,025***
	Female	162	10,69	4,99		
BMI (kg/m$^{2)}$	Male	587	20,07	3,95	-1,748	,081
	Female	162	20,69	3,79		

BMI: Body Mass Index

According to the t-test results (Table 19) of the anthropometric measurements and motoric performance scores of the 12-year-old participants in terms of gender, there is no significant difference between the BMI scores (p> 0.05).On the other hand, it is observed that Females are heavier, taller and perform better in sit-reach and flamingo balance test data than boys, while boys are better in agility, sprint and standing long jump performances (p< 0.05).
Table 20 shows the percentage distributions of weight, height, BMI, and flexibility test of 13-year-old participants by gender, and Table 21 shows the percentage distributions of zig-zag test, 20 m sprint test, standing long jump, and flamingo balance test.

Table 20. Weight, Height, BMI, Sit-and-Reach Test Percentage Distribution of 13 Age Group Participants by Gender

Parameters /Gender			***Weight (kg)***		**Height *(cm)***		**BMI (kg/m$^{2)}$**		**Sit-and-Reach (cm)**	
			Male (n=302)	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***
13 years old Percentages by Gender	LOW	**1**	32,20		124,00		12,11		-5,0	
		5	34,80		144,00		15,77		2,0	
		10	37,16		146,00		16,17		4,0	

		25	41,57	***n < 10***	151,87	***n < 10***	17,39	***n < 10***	9,0	***n < 10***
	NORMAL	**50**	47,60		158,0		18,93		16,0	
	HIGH	**75**	*55,82*		*164,50*		21,10		20,0	
	VERY HIGH	**90**	61,97		169,0		24,37		24,45	
		95	65,84		170,0		26,13		27,0	
		100	72,30		175,00		29,74		35,0	
Min-max difference			10,10		51,00		17,63		40,0	
Average			48,903		157,873		19,559		14,79	
Std. Deviation			9,383		8,463		3,094		7,81	
Skewness			,344		-,297		,957		-,122	
Kurtosis			-,631		-,222		,633		-,247	

n < 10 : It is stated by some authorities that the sample number required for norming studies should consist of a minimum of 100 people (Şahin, 2017) **.** *In this direction, due to the insufficiency of the sample number of 13-year-old Females in our study (n=7), only the data of 13-year-old boys were analyzed.*

When Table 20 is examined, it can be interpreted that the kurtosis and skewness values of the data of 13-year-old boys are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, the mean weight of 13-year-old boys was 48,903± 9,383; the mean height was 151,855±7,641; and the mean BMI and sit-and-reach test results were -,787±8,189.

Table 21. Percentage Distributions of 13 Age Group Participants by Gender in Agility, 20 m Sprint, Standing Long Jump, Flamingo Test

Parameters /Gender			***Agility Test (sec)***		**20 m sprint (sec)**		**Standing Long Jump (cm)**		**Flamingo Balance Test (pcs/60sec)**	
			Male (n=302)	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***
13 years old Percentages by Gender	LOW	**1**	7,07	***n < 10***	3,20	***n < 10***	80,0	***n < 10***	1	***n < 10***
		5	7,17		3,33		105,15		2	
		10	7,24		3,42		112,0		3	
		25	7,45		3,57		127,0		6	
	NORMAL	**50**	7,90		3,83		146,0		15	
	HIGH	**75**	*8,50*		*4,12*		160,25		15	
	VERY HIGH	**90**	9,49		4,36		172,0		15	
		95	9,96		4,54		180,0		15	
		100	10,89		5,55		201,0		15	
Min-max difference			3,82		2,35		121,0		14	
Average			8,118		3,875		143,385		10,990	

Std. Deviation	,859		,383		23,397		4,973973	
Skewness	1,135		,854		-,049		-,739	
Kurtosis	,605		1,340		-,333		-1,031	

n < 10 : It is stated by some authorities that the sample number required for norming studies should consist of a minimum of 100 people (Şahin, 2017) **.** *In this direction, due to the insufficiency of the sample number of 13-year-old Females in our study (n=7), only the data of 13-year-old boys were analyzed.*

When Table 21 is examined, it can be interpreted that the kurtosis and skewness values of the data of 13-year-old boys are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a 267nly267tion the analysis of the data, the mean zig-zag 267nly267ti 12-year-old boys was 8,365± 0,984; 20 m sprint test mean 4,108±0,408; standing forward long jump test mean 133,682±22,417; flamingo balance test mean 11,635±4,175.
Percentage distributions of 14 age group participants according to gender in terms of weight, height, BMI, flexibility test are given in Table 23, and 267nly267tion267267 distributions of Zig-zag test, 20 m sprint test, standing forward long jump, flamingo balance test are given in Table 21.

Table 23. Percentage Distribution of Weight, Height, BMI, Sit-and-Reach Test of 14 Age Group Participants by Gender

Parameters /Gender			***Weight (kg)***		**Height *(cm)***		**BMI (kg/m$^{2)}$**		**Sit-and-Reach (cm)**	
			Male (n=248)	***Female (n < 10)***	***Male (n=248)***	***Female (n < 10)***	***Male (n=248)***	***Female (n < 10)***	***Male (n=248)***	***Female (n < 10)***
14 years old Percentages by Gender	LOW	**1**	40,10	*n < 10*	135,0	*n < 10*	12,74	*n < 10*	-8,0	*n < 10*
		5	43,60		151,45		15,93		4,0	
		10	45,30		155,50		16,72		6,3	
		25	50,12		161,00		18,28		11,0	
	NORMAL	**50**	56,10		167,00		20,11		17,0	
	HIGH	**75**	*62,40*		*171,87*		23,38		22,0	
	VERY HIGH	**90**	69,00		174,10		26,55		26,0	
		95	73,26		177,10		28,12		30,0	
		100	77,30		180,0		19,37		40,50	
Min-max difference			37,20		45,0		19,37		48,50	
Average			56,813		165,706		20,846		16,72	
Std. Deviation			8,628		7,683		3,674		8,11	
Skewness			,386		-,639		,722		-,230	
Kurtosis			-,515		,530		,026		,354	

n < 10 : It is stated by some authorities that the sample number required for norming studies should consist of a minimum of 100 people (Şahin, 2017) **.** *In this direction, due to the insufficiency of the sample number of 14-year-old Females in our study (n=2), only the data of 14-year-old boys were analyzed.*

When Table 23 is examined, it can be interpreted that the kurtosis and skewness values of the 14-year-old boys' data are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, the mean weight of 14-year-old boys was 48,903± 9,383; the mean height was 151,855±7,641; and the mean BMI and flexibility test results were -,787±8,189.

Table 24. Percentage Distributions of 14 Age Group Participants by Gender in Agility, 20 m Sprint, Standing Long Jump, Flamingo Test

Parameters /Gender			***Agility Test (sec)***		**20 m sprint (sec)**		**Standing Long Jump (cm)**		**Flamingo Balance Test (pcs/60sec)**	
			Male (n=302)	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***	***Male (n=302)***	***Female (n < 10)***
14 years old Percentages by Gender	LOW	**1**	6,64	***n < 10***	2,95	***n < 10***	101,0	***n < 10***	1	***n < 10***
		5	6,92		3,21		119,45		2	
		10	7,12		3,31		127,95		4	
		25	7,49		3,48		142,0		8	
	NORMAL	**50**	7,92		3,78		158,0		15	
	HIGH	**75**	*8,72*		*3,11*		170,0		15	
	VERY HIGH	**90**	9,51		4,39		183,05		15	
		95	9,76		4,64		190,65		15	
		100	11,66		4,97		210,0		15	
Min-max difference			5,02		2,02		109,0		14	
Average			8,152		3,822		156,667		11,838	
Std. Deviation			,908		,422		21,396		4,601	
Skewness			,740		,459		-,138		-1,075	
Kurtosis			,329		-,271		-,169		-,389	

n < 10 : It is stated by some authorities that the sample number required for norming studies should 268nly268tion268 a minimum of 100 people *(Şahin, 2017)* **.** In this 268nly268tion, due to the insufficiency of the sample number of 14-year-old Females in our study (n=2), 268nly the data of 14-year-old boys were analyzed.

When Table 24 is examined, it can be interpreted that the kurtosis and skewness values of the 14-year-old boys' data are between +1.5 and -1.5, which means that the data exhibit a distribution close to normal. As a result of the analysis of the data, 14-year-old boys' agility test averages were 8,365± 0,984; 20 m sprint test averages were 4,108±0,408; standing long jump test averages were 133,682±22,417; flamingo balance test averages were 11,635±4,175.

4. DISCUSSION

The main aim of our study is to establish norm values according to age and gender from the anthropometric and motoric measurement data of Turkish children participating in sports schools between the ages of 7-14. Another aim of our study is to examine whether the obtained

data show a difference according to gender within age groups. Finally, it is aimed to compare the data obtained from our study with the findings of similar studies conducted both in Turkey and in different countries.

4.1. Comparison of Selected Motoric Performance Values of Participants According to Age and Gender with Similar Studies from the Literature

Tablo 26: Comparison Of P50 Values Of Sit-and-Reach Norm Values Of Our Current Study With Studies Conducted İn Türkiye And Different Countries

	Sit-and-Reach (cm)															
	BOYS (P50)								FEMALES (P50)							
Age	7	8	9	10	11	12	13	14	7	8	9	10	11	12	13	14
Present study (Turkey)	17	16	16	16	14,5	16	16	17	21	19	19	19	19	20		
Pekel,2007 (Turkey)				17	18	18						19	18	20		
Kryeziu vd., 2025 (Kosovo)			17	16	16						16	16	17			
De Oliveira vd., 2014 (Portugal)	17	17	18	19					19	20	21	23				
Dobosz vd., 2015 (Poland)	17	17	17	16	16	17	18	19	19	19	20	20	21	22	23	24
Berisha & Çilli, 2018 (Kosovo)					14	15	17	14					13	12	12	17
Vaccari vd., 2021 (Italy)	16	16	16	15	14	14			19	19	18	17	17	17		

Note: a score of 15 cm corresponds to the participant reaching their toes.; **P50:** Percentile 50

The values corresponding to the 50% (normal) part in the percentage distribution of the sit-stand flexibility test according to gender in all age groups in our study are given in Table 26. When the data are examined, it is seen that in a similar study conducted by Pekel in Turkey (Pekel, 2007)), the flexibility values of the 10, 11 and 12 age group male participants were better than the values of the male participants in our study, and similar results were found in Females in the same age group. On the other hand, when similar studies (Berisha & Çilli, 2018; De Oliveira et al., 2014a; Dobosz et al., 2015; Kryeziu et al., 2025; Vaccari et al., 2021) conducted in different countries are examined, it is seen that boys between the ages of 7-10 show similar results, while there are certain differences, albeit low, between the ages of 11-14. These values differ from the results of our study. Females aged 7-14 years show similar results despite small differences.

Table 27. Comparison Of P50 Values Of Agility Test Norm Values Of Our Current Study With Studies Conducted İn Türkiye And Different Countries

	Agility Test (sn)															
	BOYS (P50)								FEMALES (P50)							
Age	7	8	9	10	11	12	13	14	7	8	9	10	11	12	13	14
Present study (Turkey)	9,57	9,15	8,83	8,42	8,17	8,18	7,90	7,92	10,10	9,66	9,28	8,68	8,64	8,58		

P50: Percentile 50

Table 28. Comparison Of P50 Values Of 20 meter sprint Test Norm Values Of Our Current Study With Studies Conducted İn Türkiye And Different Countries

	20 Meter Sprint (sn)															
	BOYS (P50)								FEMALES (P50)							
Age	7	8	9	10	11	12	13	14	7	8	9	10	11	12	13	14
Present study (Turkey)	4,67	4,45	4,33	4,19	4,11	4,03	3,83	3,78	5,09	4,70	4,51	4,33	4,27	4,18		
Pekel,2007 (Turkey)				4,12	4,08	4,07						4,41	4,31	4,28		
Kryeziu vd., 2025 (Kosovo)			4,25	4,29	4,20						4,36	4,62	4,47			
Štefan vd., 2022 (Croatia)					4,00	3,91	3,66	3,55					4,17	4,09	4,01	4,01

P50: Percentile 50

When the scores corresponding to the 50% of the percentage distribution of the zig-zag agility test and 20m sprint test, which are among the findings of our study, are analyzed in Table 27 and Table 28, it is seen that the performances of boys are better than the performances of Females in all age groups. In addition, when the data are analyzed carefully, it seems that the test scores of Females aged 7-12 years follow the test scores of boys 1 year behind. In other words, Females in the same age group exhibit the performance scores of boys in the previous age group. On the other hand, boys show a low change every year until the age of 12, and a doubling of the change at the age of 13 (during the transition phase of adolescence). Among the factors affecting the change in boys' scores between the ages of 12 and 13, we think that both the increase in muscle ratio and the increase in height, which occur suddenly with puberty in boys, may have an effect . The increase in muscle ratio affects the realization of the action, and the length of the foot length affects the change in step length during the execution phase of the action. These two conditions may explain the sudden increase in scores during adolescence.

Table 29. Comparison Of P50 Values Of Standing Forward Long Jump Test Norm Values Of Our Current Study With Studies Conducted İn Türkiye And Different Countries

	Standing Long Jump (cm)															
	BOYS (P50)								FEMALES (P50)							
Age	7	8	9	10	11	12	13	14	7	8	9	10	11	12	13	14
Present study (Turkey)	100	111	118	123	128	134	146	158	91	102	108	115	117	124		
Bayraktar & Bayrakdar, 2020 (Turkey)							160	169								

Pekel,2007 (Turkey)				129	137	146					113	126	133				
European Normative Values*			134	142	152	161	170	188			124	132	141	147	150	152	
Vanhelst vd., 2020 (France)	114	124	132	137	139				104	113	120	125	127				
De Oliveira vd., 2014 (Portugal)	107	116	123	130					88	96	103	109	115				
Kryeziu vd., 2025 (Kosovo)			113	125	128						102	107	115				
Galvani vd., 2024 (Italy)		115	125	130	139				102	115	122	131					
Miguel-Etayo vd., 2014 (	115	125							106	115							
Joshi, 2011 (India)	100	109	115	124	132	138	140		90	95	100	106	113	114			
Berisha & Çilli, 2018 (Kosovo)					125	139	145	165					130	129	136	132	
Ramos-Sepúlveda vd., 2016 (Latin-American)				132	135	142	165	163				110	116	128	126	134	
Štefan vd., 2022 (Croatia)					158	165	178	190					150	156	160	162	

P50: Percentile 50

The scores corresponding to 50% of the reference values of the standing long jump in our study and the 50% reference values of similar studies conducted in Turkey and in different countries are given in Table 29. The data of our study are lower than the reference data obtained in a study conducted by Pekel (Pekel, 2007)) in Ankara with 4080 child participants. In addition, when compared with the European reference values obtained from 2,779,165 Eurofit performances from 30 countries in Europe by Tomkinson et al. (Tomkinson et al., 2018).

Tablo 30. Comparison Of P50 Values Of Flamingo Balance Test Norm Values Of Our Current Study With Studies Conducted İn Türkiye And Different Countries

	Flamingo Balance Test (n/60s)															
	BOYS (P50)								**FEMALES (P50)**							
Age	7	8	9	10	11	12	13	14	7	8	9	10	11	12	13	14
Present study (Turkey)	15	15	15	15	15	15	15	15	15	15	15	14	15	14		

European Normative Values*	12	12	12	12	12	11			11	11	11	11		
Berisha & Çilli, 2018 (Kosovo)			14	12	8	8					15	12	11	10

***:** (Tomkinson vd., 2018); Not: When the number of errors was greater than 15, the test was terminated and the score was written as 15**; P50:** Percentile50

When the participants' scores corresponding to the 50th percentile of the reference values are compared by gender, it is observed that Females perform slightly better than boys, albeit at a lower rate at the ages of 10 and 14. In addition, Flamingo balance test scores of both Females and boys in our study show low performance compared to European reference values (Tomkinson et al., 2018) .

Table 31.Pearson correlation coefficients of age with other variables

Test Item	**Correlation with**								
All Children	Age (Year)	BM (kg)	Height (cm)	BMI (kg/m$^{2)}$	S&R (cm)	Agility test (sn)	20m sprtint (sn)	SLJ (cm)	FBT (n/60)
Age (Year)	1								
BM (kg)	,683**	1							
Height (cm)	,842**	,813**	1						
BMI (kg/m$^{2)}$	,301**	,826**	,365**	1					
S&R (cm)	-,075**	-,085**	-,109**	-,050**	1				
Zig-zag test (sn)	-,434**	-,244**	-,380**	-,042**	,065**	1			
20m sprint (sn)	-,528**	-,267**	-,479**	,022**	,015**	,498**	1		
SLJ (cm)	,559**	,296**	,505**	-,010**	,070**	-,450**	-616**	1	
FBT (n/60	-,163**	,073**	-,060**	,166**	-,048**	,149**	,183**	-,208**	1

p<0.01; **BM:Body Mass Index; **S&R**: Sit and Reach; **SLJ:** Standing Long Jump**; FBT:** Flamingo Balance Test;

When the statistical data of our study were analyzed, correlation analysis was performed with both anthropometric and motoric performance data. As a result of the analysis, a high positive correlation was observed between increasing age and body weight, zig-zag test and height, a moderate positive correlation between BMI and Standing Long Jump Test, a moderate negative correlation between BMI and 20m Sprint Test, and a low negative correlation between BMI and Flamingo Balance Test and Sit-Run Test.

While a significant difference was observed in some variables in terms of mean scores according to gender within different age groups, no significant difference was observed in some variables. Previous published studies ((Bayraktar, 2010; Bayraktar & Bayrakdar, 2020; Berisha, 2021; De Oliveira et al., 2014b; Erikoğlu et al., 2009; Galvani et al., 2024; Kryeziu et al., 2025; Negra et al, 2024; PEKEL, 2007; Ramírez-Vélez et al., 2019; Ramos-Sepúlveda et al., 2016; Santos et al., 2014; Štefan et al., 2022; Şahin, 2017; Vanhelst et al., 2020). On the other hand, due to the insufficient sample size of Females in the 13 and 14 age groups in our study (n< 7), a gender comparison could not be made.

4.2. Comparison of Anthropometric Measurements and Motoric Performance Means According to Age Groups in Terms of Gender

When the data were analyzed, it was observed that body weight was parallel with the increase in age, but there was no difference between genders in the same age group. When the results of our study were analyzed in terms of gender according to age groups, it was observed that the body weight averages of boys were significantly different from the averages of Females in the 7 age group, and the body weight averages of Females were significantly different from the averages of boys in the 11 and 12 age groups ($p< 0,005$). Among other studies conducted in Turkey, there are publications (BİÇER & BOSİ, 2020) that support our analysis results, and there are publications (Dastan et al., 2014; PEKEL, 2007) that obtain different results. On the other hand, there are publications similar to our study in different countries. In a study conducted by Galvani et al. (2024) (Galvani et al., 2024) in Italy, it was reported that the mean scores of Females were significantly different from the mean scores of boys in the age group of 7 in a study conducted in Italy2 different studies conducted in Kosovo (Berisha & Çilli, 2018; Kryeziu et al., 2025) in the 11 and 12 age groups, and in a study conducted in Tunisia (Negra et al., 2024) in the 12 age group. These results support our study. On the other hand, in our study, no significant difference was observed in body weight averages in terms of gender in children aged 8,9,10 years ($p> 0.05$). There are also studies in the literature that obtained different results from the findings of our study (Berisha & Çilli, 2018; Galvani et al., 2024; Santos et al., 2014) .

When height measurements were evaluated from our research findings, a difference was found in terms of gender in the same age group participants. While no significant difference was observed in terms of gender in the 8, 9 and 10 age groups, the height averages of boys in the 7 age group differ significantly from the averages of Females, and the height averages of Females in the 11 and 12 age groups differ significantly from the averages of boys. In other studies conducted in Turkey, results parallel to our study were reported in the age group of 7 years (Dastan et al., 2014; Erikoğlu et al., 2009) , in the age group of 11 and 12 years (Biçer & Bosi, 2020; Pekel, 2007)). Unlike the findings of our study, there are also studies that observed different results in the 8,9,10 age group (Dastan et al., 2014; Erikoğlu et al., 2009) . On the other hand, there are publications that support our study and find different results from our study in studies conducted in different countries. In two different studies conducted in Kosovo (Berisha & Çilli, 2018; Kryeziu et al., 2025) similar results to our study were obtained in 9,10,11 and 12 age groups. Unlike our study, in a study (Negra et al., 2024) conducted in Tunisia, different results were obtained in 8,9,10,11 and 12 age groups.

When our findings are examined, although a moderate positive increase was observed between BMI and age, no significant difference was observed in terms of gender within the age group, except for the age group of 9 years. The data obtained in different studies conducted in Turkey (Dastan et al., 2014; Pekel, 2007) are in parallel with our study. In addition to the studies that obtained similar results to our data in the results of research conducted in different countries (Berisha & Çilli, 2018; Galvani et al., 2024; Kryeziu et al., 2025; Santos et al., 2014) , there are also studies that found different results (Negra et al., 2024; Ramos-Sepúlveda et al., 2016).

When the results of the sit-stand flexibility test of our study are examined, it is seen that the mean scores of Females are significantly different from the mean scores of boys in terms of gender in all age groups, and the mean flexibility scores decrease significantly with age. When the literature is examined, there are publications that support our findings (Berisha & Çilli, 2018; Kryeziu et al., 2025) .

When the results of the zig-zag quickness test are analyzed, it is observed that there is a significant increase with increasing age. On the other hand, it is observed that male children perform better than female children in all age groups.

The results of the 20 m sprint test analysis showed that boys performed better than Females in all age groups. In addition, according to the results, there is a moderate positive correlation

between age and 20 m sprint performance. In parallel with the increase in age, sprint performance improves.
When the results of the standing long jump analysis are analyzed, it is observed that there is a moderate increase with age. It is also observed that boys perform better than Females. In different studies conducted in Turkey, there are publications (Pekel, 2007) and (Dastan et al., 2014) that report results parallel to our research findings. On the other hand, studies conducted in different countries (Berisha & Çilli, 2018; Galvani et al., 2024; Kryeziu et al., 2025; Ramos-Sepúlveda et al., 2016; Štefan et al., 2022; Vanhelst et al., 2020) reported similar results.
When the results of the Flamingo Balance Test are analyzed, a slight improvement in balance performance is observed in parallel with the increase in age. On the other hand, while no significant difference was observed in terms of gender in the 7 and 9 age groups, it was observed that Females showed better balance performance than boys in the 8,10,11 and 12 age groups. There are publications in the literature that find parallel results with our study (Berisha & Çilli, 2018) .
The current study produced nationally representative normative-referenced percentile values for seven physical fitness tests. All these norms suggested that physical ftness and gender-based differences in older children outperformed younger children. A different approach is needed in terms of adjusting physical activity in the physical education classroom based on gender, age and level of ftness abilities.

5. CONCLUSION

The present study provides situation information for children aged 7-14 years who have not received any sports training before. According to our results, while no difference was observed in height and body weight between the ages of 7 and 11, considering that Females enter puberty before boys (Rogol et al., 2002) , it is seen that Females are ahead of boys in both height and body weight in the 11-12 age range. In all age groups, Females' sit-reach test and falmingo balance test scores were better than boys. In the meantime, the fact that the majority of Females in the gymnastics branch in the sample selected for our study, especially between the ages of 7-9, may have affected the sit-reach test scores. There was no significant gender difference in BMI values for all age groups. In the zig-zag agility test, 20m sprint test, standing forward jump test scores, it is seen that boys show more dominant results than Females in all age groups.
Finally, although the sample for the present data was drawn from one of the three metropolitan cities of Turkey (Istanbul), a stratified sample selection was not applied. Therefore, it is not possible to assume that the analyzed data are fully representative of the Turkish population of children aged 7-14 years.
In future studies, nationally representative reference values can be established by selecting a stratified sample from seven different regions and collecting samples from these cities.

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