



## AN EVALUATION OF THE RELATIONSHIP BETWEEN THE CHOSEN BASIC MOTORIC CHARACTERISTICS OF STUDENTS AGED FROM 6 TO 12 DOING REGULAR EXERCISES AND SOME VARIABLES

\*Kubilay Cimen

Istanbul Gelisim University, School of Physical Education and Sports

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### ABSTRACT

The aim of this study is to examine the relationship between the physical and chosen basic motoric characteristics of students aged from 6 to 12 doing regular exercises. The population of the study consists of Tuncay Artun Primary School, Kıraç Primary School, Ümraniye Birlik Primary School, Süleyman Çelebi Primary School and Ragıp Kutmangil Primary School which are all active in İstanbul, and the sample of the study consists of 379 students chosen from these schools. Tall Stature-Bodyweight, Flexibility, Claw Force, and Balance measurements of the volunteers who participated in the study are taken. SPSS 20 packaged software is used in the analysis of the data. "Kolmogorov-Smirnov" test is applied to determine that the data had normal distribution; "Anova Homogeneity of Variance" test is applied to determine their homogeneity. It is determined that the data had normal distribution and they were homogeneous. "Pearson Correlation" analysis is used in the analysis of the data. As a result of the study it is found out that there is a positive relationship between tall stature and vertical jump tests but there is a negative relationship between flexibility and reaction tests. It is determined that there is a negative relationship between bodyweight and vertical jump test, flexibility test and reaction test.

#### \*Corresponding author

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## INTRODUCTION

Exercise, which is beneficial and necessary for the children during the period of development as it has effects on physical parameters and it contributes to having a good personality and mental health, should come into the child's life at early ages because it will have a great role in the child's development, in the positive contribution to his life, in the development of his cognitive characteristics and in his socializing (İbiş s), (Murat S). Exercise is a strong dynamic that has millions of practitioners around the world, it attracts great attention in the international arena and it is done by people with interest. In developed countries and in our country exercise has become a part of life since it is transferred to schools and clubs.

Exercise has become the favourite interest among the youth with its sociological and pedagogical worthiness because it develops the togetherness of groups. It is a biological, pedagogical and social interest which develops the physical activities and motoric skills of the individual within certain regulations, develops his mental, spiritual and social behaviors and aims to soothe these features within certain rules. The fact that sports has reached great masses took it out from just being an activity and set it as an event which can reach material and spiritual success. Sports scientists and trainers consistently search for effective methods to develop and determine the characteristics that contribute to sports performance. Sports falls into two groups: mass sports and peak sports. Mass sports is defined as the one to which everyone of all ages can join and

peak sports is defined as the one from which the elite sportsmen supply their material and nonmaterial requirements by performing that branch of sports. Physical exercises or physical trainings are planned and structured movements that aim to increase or prosecute a certain physical capacity. The importance of sportive performance also increased in parallel with this development. Quite a lot of different scientific studies have been carried out for many years to lift the performance of the sportsmen to the highest level. Success in sports, a.k.a. performance, depends on aerobic and anaerobic energy consumption, especially basic motoric characteristics and neuromuscular functions such as speed and technique, tactics and psychological factors (İNAL A.N). Besides its physical and physiological benefits, exercise contributes to the development of the consciousness. Exercise activities which are done on a regular basis are important in the prevention of premature labours and many chronic diseases such as cardiovascular diseases, diabetes, cancer, hypertension, obesity, depression, and osteoporosis (Warburton D.E.).

## MATERIALS AND METHODS

### The Creation of Volunteer Groups

The population of the study consists of Tuncay Artun Primary School, Kıraç Primary School, Ümraniye Birlik Primary School, Süleyman Çelebi Primary School and Ragıp Kutmangil Primary School which are all active in İstanbul, and the sample of the study consists of 379 students chosen from these schools.

### DATA COLLECTION METHODS

#### Tall Stature and Bodyweight Measurements

Tall statures of the children who participated in the research are measured with a height scale which has 0.01cms of precision. The tall statures are measured in anatomic position, barefooted, soles united, breath hold, head on frontal plane, and after overhead platform positioned itself to touch the vertex point. Acquired data are recorded in terms of centimeters. An electronic scale with 0.1kgs of precision is used in bodyweight measurements. The subjects stepped on the scale barefooted with clothes that will not weigh them down and the test values are recorded in terms of kilograms (MACKENZIE).

#### Vertical Jump Measurement

The vertical jump measurements of the sportsmen were determined by marking the highest spots sportsmen could reach standing and by marking the highest spots sportsmen could reach jumping. After that the gap between those two spots were recorded in terms of centimeters. After the jumping test was applied to the sportsmen for five times, the best and the worst values were subtracted and average of the remaining three values were taken and those values were recorded in terms of centimeters (TAMER K).

#### Flexibility Masurement

It was carried out by sit and lie flexibility test. These measurements were taken in the training hours during which all the students did their own exercises and after 15 minutes of warming up session.

The sportsman sat down and leaned his sole straightly to the test trestle. He tried to reach as forward as possible with his hands in front of his body, not bending his knees and bending his body forward. The furthest distance that was reached on the ruler which was on the flexibility trestle was accepted as the flexibility value. The sportsmen repeated this 3 times and the highest value was recorded as the flexibility value (ARSLAN E).

#### Reaction Test

Nelson Reaction Time Scale (ruler) is used to measure the hand and foot reaction time. Hand is positioned on the bench 5 centimeters against the wall. The value on the upper spot of the ruler which was held between thumb and index finger was read for hand reaction, whereas the value which was above the toes in the ruler that was squeezed between the wall and the foot was read for foot reaction. Three measurements were taken from the dominant hand and foot of the subject and the best rate was recorded (KOÇ H).

## RESULTS

**Table 1: Descriptive Statistical Findings of Tall Stature, Bodyweight and Age**

	N	$\bar{x}$	$\pm$
Tall Stature	379	129,49	8,88
Bodyweight	379	30,61	8,49
Age	379	8,93	1,073

When Table 1 is analyzed it is determined that the tall stature of the sample group is ( $\bar{x}=129,49322\pm 8,887414$ ), their bodyweight is ( $\bar{x}=30,61272\pm 8,494361$ ) and their age is ( $\bar{x}=8,93\pm 1,073$ ).

**Table 2. Correlation Analysis**

		Tall stature	Bodyweight
Vertical Jump Test	Pearson Correlation	,349**	-,166**
	Sig. (2-tailed)	,000	,001
	N	379	379
Flexibility Test	Pearson Correlation	-,175**	-,107*
	Sig. (2-tailed)	,001	,037
	N	379	379
Reaction Test	Pearson Correlation	-,138**	-,125*
	Sig. (2-tailed)	,007	,015
	N	379	379

When Table 2 is analyzed; As a result of the correlation analysis a positive relationship is determined between tall stature and vertical jump test, and a negative relationship is determined between flexibility and reaction test. A negative relationship is determined between bodyweight and vertical jump, flexibility and reaction tests ( $p<0,001$ ,  $p<0,05$ ).

## DISCUSSION AND CONCLUSION

In line with the data that we acquired as a result of this study which was carried out for the purpose of investigating the relationship between physical and some motoric characteristics of children aged from 6 to 12 doing regular exercises, tall stature averages of the students were determined as  $129,49\pm 8,88$ cms and their bodyweight averages were determined as  $30,61\pm 8,49$ kgs which are among the anthropometric characteristics. In some other studies, Ayan in his study he carried out for the purpose of investigating Some Performance Features, Anthropometrics and Somatotypes of

the Girls aged from 8 to 10, he determined their tall stature averages as  $131,86 \pm 6,33$ cms and their bodyweight averages as  $29,54 \pm 6,48$ kgs. Dursun and Günay (2004) researched the Effect of Socio-Economic Level on Physical Fitness of Children and its Evaluation through Aahperd Physical Fitness Test Battery and as a result of their research they determined the bodyweight averages of 8-years-old children as  $29,5 \pm 6,0$ kgs and their they determined their tall stature averages as  $130,1 \pm 5,9$ cms. The values related to physical characteristics which we acquired in our study show parallelism with other studies that were conducted in this field. As a result of the correlation analysis a positive relationship is determined between tall stature and vertical jump test, and a negative relationship is determined between flexibility and reaction test. A negative relationship is determined between bodyweight and vertical jump, flexibility and reaction tests (Table 2) ( $p < 0,001$ ,  $p < 0,05$ ). When literature is reviewed it is seen that studies related to motoric features, tall stature and bodyweight measurements are available but there are not so many studies investigating the relationship between flexibility, vertical jump and reaction tests and tall stature and bodyweight.

In the study Aslan et al carried out for the purpose of determining the relationships between body composition, anaerobic performance and dorsa force in sub-elite sportsmen, they acquired significant correlation coefficients between tall stature and vertical jump when they looked at the values of 80 individuals. This study shows parallelism with our study. A negative relationship is determined between flexibility and reaction tests. When literature is reviewed studies investigating the relationship between flexibility which is among motoric features and reaction times are not encountered. Aslan et al confirmed a significant relationship between bodyweight and vertical jump in the study they carried out for the purpose of determining the relationships between body composition, anaerobic performance and dorsa force in sub-elite sportsmen. This study shows parallelism with our findings.

In the study Taş et al carried out for the purpose of associating body composition and determined profiles of physical fitness of female basketball players playing in the University Super Leagues, they found a significant relationship between reaction time and bodyweight. This study supports our study. In conclusion, we think that in the development of the chosen motoric characteristics of children aged from 8 to 12, and in the acquisition and development of their movement abilities the basic factor depends on the frequency of the exercise the child does regularly in a week and on the fact that they are made to do these exercises by qualified individuals.

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