

## THE LEVEL OF JUMPING PERFORMANCE BY GENDER AMONG PRIMARY-AGE CHILDREN IN TIRANA THROUGH THE KTK TEST

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### **Abstract**

The aim of this study where to compare the level of jumping performance by gender among primary-age children in Tirana through the KTK test. In total participated 510 elementary school children (253 boys and 257 girls). While divided by grade (boys- first =70, second= 66, third=51, fourth= 37 and fifth= 29, girls- first =58, second= 71, third=66, fourth= 33 and fifth= 29). Hopping Height (HH) from Körperkoordinations Test für Kinder (KTK) was used to assess jumping performance: jumping from one leg (right/ left) over an increasing pile of pillows (40 cm x 20 cm x 5 cm each) after a short run-up. Every trial was evaluated and the subject had three trials on every height. Three, two or one point(s) were/was awarded for successful performance on the first, second or third trials, respectively. Results from this study show that boys in elementary school has the score 6.67 of jumping performance (total= right+ left performance) while girls has the score 6.33. Independent sample test by gender for each grade show no statistical significance in every grade except grade 2 ( $F=5.99$ ,  $Sig= 0.016$ ) for hopping height in right foot and for hopping height in total ( $F=5.058$ ,  $Sig= 0.026$ ) where boys have better performance compare to girls. Also data show statistical significances in favor of boys for jumping performance in fifth grade.

*Keywords: jumping, KTK, grade, comparison*

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### **1. Introduction**

The term motor education does not mean simply physical occurrence or only features of movements. The term or concept of movement education has a much broader meaning and without knowing the overall meaning and its basic components, it is impossible to implement and realize the quality of the physical education program in all disciplines. The combination of movement education of physical occurrences is the most fundamental factor for the qualitative implementation of the physical education program in all school categories. It is precisely these reasons for which the realization of the physical education program with the students requires the increase of the motor baggage and together with their executive characteristics and features in the simplest essence that make up the meaning of movement education. The higher the quality level of motor education displayed in the teaching and educational process, the higher the level of mastery of teaching tasks and the higher the degree of predispositions for any sports discipline desired by the students according to (Armour, K. M. 2010).

The term motor education is often expressed and used by many specialists in different ways, which in some way have limited its full meaning. Different authors in the use of this term mean only the interpretation side of the movement. Someone else sees the culture of movements closely related to the correct execution of the rhythm of the movements, identifying them with each other and creating an analogy between the

rhythm and the culture of the movements, and many others like these according to (Kaçurri, A. 1997). The term movement education means the totality of skills, habits and individual knowledge about movement, as well as the opportunity to make them valuable in complex and different forms to express them maximally, constitute the most complete understanding of the concept of movement education in the process of physical education said by (Dashi, E., 2005). During the learning process of physical education in schools, children benefit from developing different movement skills through different sports according to the educational programs. The best way to prevent various diseases such as obesity, diabetes, heart diseases, etc. at the age of growth, it is important to engage in physical activity, to promote a healthy lifestyle in schools or sports centers according to (Hills, Dengel & Lubans, 2015).

We see positive effects in children when they play sports and various sports activities. According to studies, a good level of motor coordination, motor competence and physical activity is observed in those children who practice sports compared to children who do not, expressed by (Fransen et al., 2012; Lai et al., 2014; Nazario & Vieira, 2014; Queiroz et al., 2014; Vandorpe et al., 2012). According to (Batista et al., 2019). These authors say that there is a positive relationship between participation in sports in childhood and adolescence and physical activity in adulthood. We can say that in the last three decades we have a decline in the performance of physical activity among children and teenagers and even why benefits are known according to the authors (Catley & Tomkinson, 2013).

Motor coordination for (Lopes, et al 2012) is an extremely important skill in early childhood. According to them, the development of this ability is a fundamental point for the prevention of obesity and the promotion of physical activity. We can say that the main movement skills positively affect the increase in physical activity and the various health benefits according to (Lubans et al., 2010). And for this reason, it is important to discover and continuously monitor coordination skills in children. Where in a population these skills differ from one child to another.

According to the authors (Rudd et al., 2016) they say that in children's motor skills include basic motor skills and motor coordination (MC). But also according to (Barnett et al., 2016), (Cattuzzo et al., 2016) motor coordination (MC) or otherwise motor competence, is defined as the ability possessed by the individual to perform gross and fine motor movements. In other words, an adequate level of motor coordination in children is a key point for the development of movements in daily life as well as for organized and non-organized physical activity.

Physical activity improves overall blood circulation, increases blood flow to the brain and levels of noradrenaline and endorphins, which can reduce stress, improve mood, promote a calming effect after exercise and, as a result, improve performance. Also, health benefits include building strong bones, healthy joints, strong heart, good mental health and prevents the main concern that is obesity.

Physical activity it gives children's opportunities to have fun, be social and improve their skills to participate in more intense physical activities or sports. Also, it can improve social skills that can result in academic results: children learn to cooperate and respect rules and thus feel more connected to school and community. The level of physical activity increases with the development of motor competence in children that said by (Stodden et al., 2008) and this is one of the most used methods. Different studies show a

positive relationship between these two variables, where children with a high level of motor skills have a great commitment to physical activity according to (Wrotniak et al., 2006; Haga et al., 2008; Lubans et al., 2010).

According to the authors (Cattuzzo et al., 2016) motor competence is defined as movement in different forms that include coordination and control of the human body. And for this reason, the development of motor competence is important since childhood (Hoeboer et al., 2016). And for measuring the level of progress for the level of motor competence, continuous and coherent work on these skills is important (Fransen et al., 2014).

The aim of this study where to compare the level of jumping performance by gender among primary-age children in Tirana through the KTK test.

## **2. Body of Manuscript**

### **2.1 Methods**

In total participated 510 elementary school children (253 boys and 257 girls). While divided by grade (boys- first =70, second= 66, third=51, fourth= 37 and fifth= 29, girls- first =58, second= 71, third=66, fourth= 33 and fifth= 29). Hopping Height (HH) from Körperkoordinations Test für Kinder (KTK) was used to assess jumping performance: jumping from one leg (right/ left) over an increasing pile of pillows (40 cm x 20 cm x 5 cm each) after a short run-up. Every trial was evaluated and the subject had three trials on every height. Three, two or one point(s) were/was awarded for successful performance on the first, second or third trials, respectively.

The "KTK" test is used to test the level of motor coordination mostly in children aged 6 to 14 years, where through these four different tests mentioned above according to (Antunes et al., 2015) and is used to see the relationship between body fat indicators (BMI%) and motor coordination in children of both sexes around the age of 8 to 11 years according to (Herlitz et al., 2021). Jump height (HH) from the Körperkoordinations Test für Kinder "KTK" was used to assess jump performance: jumping from one leg (right/left) onto a stack of rising cushions (40 cm x 20 cm x 5 cm each) after a short run -up. Each trial was scored and the subject had three trials for each height. Three, two or one (a) points were awarded for successful performance on the first, second or third trial, respectively.

### **"KTK" Test Protocol**

We have studied one of the motor coordination components of the "KTK" Test; The student jumps with one foot on the mat (falls on the mat with the leg that jumps). If it jumps freely then the level of the mattresses is increased. The one-legged jump is performed after a short run. Three, two or one points are awarded for successful performance on the first (3 points), second (2 points) or third (1 point) trial respectively.

At the end of the high jump performance tests by means of the 'KTK' test in the Lower Cycle (primary) of 8 schools in Tirana, we obtained different results that we will present below. In separate tables that will be

reflected below, we will show the results obtained from the application of the high jump performance test to boys and girls from the First Grade to the Fifth Grade.

Table 2. Descriptive statistics of high jump in Total Boys & Girls.  
**Descriptive Statistics**

	N	Mean	Std. Deviation
Hooping_Height_Right	510	6.400	1.9894
Hooping_Height_Left	510	6.141	1.9782
Hooping_Height_Total	510	12.541	3.8012
Valid N (listwise)	510		

According to tab. 2. reflected are 510 children in total male and female, right leg jump mean is 6.4 and SD  $\pm 1.98$ , left leg jump mean is 6.1 and SD  $\pm 1.97$ , and high jump total mean is 12.5 and SD  $\pm 3.80$ .

Table 3. Descriptive statistics of high jump by Gender.

**Descriptive Statistics**

Gender		N	Mean	Std. Deviation
Boys	Hooping_Height_Right	253	6.672	2.0410
	Hooping_Height_Left	253	6.332	2.0179
	Hooping_Height_Total	253	13.004	3.8735
	Valid N (listwise)	253		
Girls	Hooping_Height_Right	257	6.132	1.9034
	Hooping_Height_Left	257	5.953	1.9238
	Hooping_Height_Total	257	12.086	3.6796
	Valid N (listwise)	257		

Table 3 shows the average jump height by gender, where 253 BOYS in total, the mean of the right foot jump is 6.6 and SD  $\pm 2.04$ , the mean of the left foot jump is 6.3 and SD  $\pm 2.01$ , while the total mean of the jump in height is 13 and SD  $\pm 3.87$ ; 257 GIRLS overall, the mean of the right leg jump is 6.1 and SD  $\pm 1.90$ , the mean of the left leg jump is 5.9 and SD  $\pm 1.92$ , while the overall mean of the high jump is 12 and SD  $\pm 3.67$

Table 4. Descriptive statistics of high jump by division in Boys & Girls Classes

Descriptive Statistics					
Gender	Grade		N	Mean	Std. Deviation
Boys	1	Hooping_Height_Right	70	5.129	1.4932
		Hooping_Height_Left	70	4.714	1.5241
		Hooping_Height_Total	70	9.843	2.7748
	2	Hooping_Height_Right	66	6.591	1.7714
		Hooping_Height_Left	66	6.500	1.6572
		Hooping_Height_Total	66	13.091	3.2757
	3	Hooping_Height_Right	51	6.784	1.8365
		Hooping_Height_Left	51	6.529	2.0528
		Hooping_Height_Total	51	13.314	3.6851
	4	Hooping_Height_Right	37	8.568	1.8339
		Hooping_Height_Left	37	7.622	1.6390
		Hooping_Height_Total	37	16.189	3.1784
	5	Hooping_Height_Right	29	7.966	1.3754
		Hooping_Height_Left	29	7.862	1.5053
		Hooping_Height_Total	29	15.828	2.6601
Girls	1	Hooping_Height_Right	58	4.759	1.6891
		Hooping_Height_Left	58	4.517	1.6248
		Hooping_Height_Total	58	9.276	3.2487
	2	Hooping_Height_Right	71	6.268	1.4924
		Hooping_Height_Left	71	5.915	1.4614
		Hooping_Height_Total	71	12.183	2.7114
	3	Hooping_Height_Right	66	6.106	1.8156
		Hooping_Height_Left	66	6.197	1.7473
		Hooping_Height_Total	66	12.303	3.4462
	4	Hooping_Height_Right	33	7.212	1.8500
		Hooping_Height_Left	33	6.848	2.1523
		Hooping_Height_Total	33	14.061	3.7328
	5	Hooping_Height_Right	29	7.379	1.8011
		Hooping_Height_Left	29	7.345	1.8376
		Hooping_Height_Total	29	14.724	3.4836

FIRST Grade GIRLS= 58 students presented in table 4,, mean HH Right is 4.75 and SD  $\pm$  1.68, mean HH Left is 4.51 and SD  $\pm$  1.62, mean HH Total is 9.27 and SD  $\pm$  3.24; SECOND class=71 students, average HH Right is 6.26 and SD  $\pm$  1.49, average HH Left is 5.91 and SD  $\pm$  1.46, average HH Total is 12.18 and SD  $\pm$  2.71; THIRD grade= 66 students, average HH Right is 6.01 and SD  $\pm$  1.81, average HH Left is 6.19

and SD  $\pm$  1.74, average HH Total is 12.30 and SD  $\pm$  3.44; FOURTH grade= 33 students, average HH Right is 7.21 and SD  $\pm$  1.85, average HH Left is 6.84 and SD  $\pm$  2.15, average HH Total is 14.06 and SD  $\pm$  3.73; FIFTH grade= 29 students, average HH Right is 7.37 and SD  $\pm$  1.80, average HH Left is 7.34 and SD  $\pm$  1.83, average HH Total is 14.72 and SD  $\pm$  3.48.

Table 4 also presents the data obtained from the "KTK" test according to classes for Boys and Girls. Whereas we see; BOYS FIRST grade= 70 students, average HH Right is 5.12 and SD  $\pm$  1.49, average HH Left is 4.71 and SD  $\pm$  1.52, average HH Total is 9.84 and SD  $\pm$  2.77; SECOND grade= 66 students, the average HH Right is 6.59 and SD  $\pm$  1.77, the average HH Left is 6.50 and SD  $\pm$  1.65, the average HH Total is 13.09 and SD  $\pm$  3.27; THIRD grade= 51 students, average HH Right is 6.78 and SD  $\pm$  1.83, average HH Left is 6.52 and SD  $\pm$  2.05, average HH Total is 13.31 and SD  $\pm$  3.68; FOURTH grade= 37 students, average HH Right is 8.56 and SD  $\pm$  1.83, average HH Left is 7.62 and SD  $\pm$  1.63, average HH Total is 16.18 and SD  $\pm$  3.17; FIFTH grade= 29 students, average HH Right is 7.96 and SD  $\pm$  1.37, average HH Left is 7.86 and SD  $\pm$  1.50, average HH Total is 15.82 and SD  $\pm$  2.66;

Table 5. Descriptive statistics of high jump divided into boys & girls groups

Group Statistics						
Grade		Gender	N	Mean	Std. Deviation	Std. Error Mean
1	Hooping_Height_Right	Boys	70	5.129	1.4932	.1785
		Girls	58	4.759	1.6891	.2218
	Hooping_Height_Left	Boys	70	4.714	1.5241	.1822
		Girls	58	4.517	1.6248	.2133
	Hooping_Height_Total	Boys	70	9.843	2.7748	.3317
		Girls	58	9.276	3.2487	.4266
2	Hooping_Height_Right	Boys	66	6.591	1.7714	.2180
		Girls	71	6.268	1.4924	.1771
	Hooping_Height_Left	Boys	66	6.500	1.6572	.2040
		Girls	71	5.915	1.4614	.1734
	Hooping_Height_Total	Boys	66	13.091	3.2757	.4032
		Girls	71	12.183	2.7114	.3218
3	Hooping_Height_Right	Boys	51	6.784	1.8365	.2572
		Girls	66	6.106	1.8156	.2235
	Hooping_Height_Left	Boys	51	6.529	2.0528	.2875
		Girls	66	6.197	1.7473	.2151
	Hooping_Height_Total	Boys	51	13.314	3.6851	.5160
		Girls	66	12.303	3.4462	.4242
4	Hooping_Height_Right	Boys	37	8.568	1.8339	.3015
		Girls	33	7.212	1.8500	.3220
	Hooping_Height_Left	Boys	37	7.622	1.6390	.2694
		Girls	33	6.848	2.1523	.3747

5	Hooping_Height_Total	Boys	37	16.189	3.1784	.5225
		Girls	33	14.061	3.7328	.6498
	Hooping_Height_Right	Boys	29	7.966	1.3754	.2554
		Girls	29	7.379	1.8011	.3344
	Hooping_Height_Left	Boys	29	7.862	1.5053	.2795
		Girls	29	7.345	1.8376	.3412
	Hooping_Height_Total	Boys	29	15.828	2.6601	.4940
		Girls	29	14.724	3.4836	.6469

Table 5 shows the data obtained from the "KTK" test where values are shown for First Class Boys=70, average HH Right 5.12 and SD  $\pm$  1.49; Girl=58, mean HH Right 4.75 and SD  $\pm$  1.68; Boys mean HH Left 4.71 and SD  $\pm$  1.52; Girls average HH Left 4.51 and SD  $\pm$  1.62, Boys average HH Total 9.84 and SD  $\pm$  2.77; Girls mean HH Total 9.27 and SD  $\pm$  3.24; SECOND grade Boys=66, mean HH Right 6.59 and SD  $\pm$  1.77; Girl=71, mean HH Right 6.26 and SD  $\pm$  1.49; Boys mean HH Left 6.50 and SD  $\pm$  1.65; Girls average HH Left 5.91 and SD  $\pm$  1.46, Boys average HH Total 13.09 and SD  $\pm$  3.27; Mean girl HH Total 12.18 and SD  $\pm$  2.71; THIRD grade Boys=51, mean HH Right 6.78 and SD  $\pm$  1.83; Girl=66, mean HH Right 6.10 and SD  $\pm$  1.81; Boys mean HH Left 6.52 and SD  $\pm$  2.05; Girls average HH Left 6.19 and SD  $\pm$  1.74, Boys average HH Total 13.31 and SD  $\pm$  3.68; Mean girl HH Total 12.30 and SD  $\pm$  3.44; Grade FOUR Boys=37, mean HH Right 8.56 and SD  $\pm$  1.83; Girl=33, mean HH Right 7.21 and SD  $\pm$  1.85; Boys mean HH Left 7.62 and SD  $\pm$  1.63; Girls average HH Left 6.84 and SD  $\pm$  2.15, Boys average HH Total 16.18 and SD  $\pm$  3.17; Mean girl HH Total 14.06 and SD  $\pm$  3.73; FIFTH grade Boys=29, mean HH Right 7.96 and SD  $\pm$  1.37; Girl=29, mean HH Right 7.37 and SD  $\pm$  1.80; Boys mean HH Left 7.86 and SD  $\pm$  1.50; Girls average HH Left 7.34 and SD  $\pm$  1.83, Boys average HH Total 15.82 and SD  $\pm$  2.66; Girls mean HH Total 14.72 and SD  $\pm$  3.48.

Table, 6. Results of statistical analysis of Independent Sample Test

Independent Samples Test								
Grade		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
1	Hooping_Height_Right	1.924	0.168	1.315	126	0.191	0.37	0.2814
	Hooping_Height_Left	0.781	0.379	0.707	126	0.481	0.197	0.2789
	Hooping_Height_Total	2.099	0.15	1.065	126	0.289	0.567	0.5324
2	Hooping_Height_Right	<b>5.99</b>	<b>0.016</b>	<b>1.158</b>	<b>135</b>	<b>0.249</b>	<b>0.3233</b>	<b>0.2792</b>
	Hooping_Height_Left	2.291	0.132	2.193	135	0.03	0.5845	0.2665
	Hooping_Height_Total	<b>5.058</b>	<b>0.026</b>	<b>1.772</b>	<b>135</b>	<b>0.079</b>	<b>0.9078</b>	<b>0.5123</b>
3	Hooping_Height_Right	0.039	0.844	1.994	115	0.049	0.6783	0.3402
	Hooping_Height_Left	1.636	0.203	0.945	115	0.346	0.3324	0.3517
	Hooping_Height_Total	0.367	0.546	1.526	115	0.13	1.0107	0.6622

4	Hooping_Height_Right	0.685	0.411	3.074	68	0.003	1.3554	0.4409
	Hooping_Height_Left	2.495	0.119	1.701	68	0.093	0.7731	0.4544
	Hooping_Height_Total	2.256	0.138	2.577	68	0.012	2.1286	0.8262
5	Hooping_Height_Right	<b>4.083</b>	<b>0.048</b>	<b>1.393</b>	<b>56</b>	<b>0.169</b>	<b>0.5862</b>	<b>0.4208</b>
	Hooping_Height_Left	<b>4.603</b>	<b>0.036</b>	<b>1.173</b>	<b>56</b>	<b>0.246</b>	<b>0.5172</b>	<b>0.4411</b>
	Hooping_Height_Total	<b>5.899</b>	<b>0.018</b>	<b>1.356</b>	<b>56</b>	<b>0.181</b>	<b>1.1034</b>	<b>0.8139</b>

Table 6 presents the statistical analysis of the Independent Sample Test. The comparison test by gender for each class shows no statistically significant differences in any class except the second class ( $F=5.99$ ,  $Sig=0.016$ ) for right leg jump height and for total jump height ( $F=5.058$ ,  $Sig=0.026$ ) where boys have better performance compared to girls. While in the fifth grade, significant changes are observed for the right leg ( $F=4.083$ ,  $Sig=0.048$ ) and for the height of the jump with the left leg ( $F=4.603$ ,  $Sig=0.036$ ) where boys have a better performance compared to girls.

### III. Discussions

In the 3rd chapter of the results of the dance performance by means of the 'KTK' test, the data according to the table 2 shown above are clearly shown, where there are 510 children in total, boys and girls, where the average of dancing with the right leg is 6.4 and  $SD \pm 1.98$ , the average of the left leg jump is 6.1 and  $SD \pm 1.97$ , and the total average of the high jump according to the "KTK" test. Table 3 shows the average height of the jump by gender, where 253 BOYS in total, the average of the jump with the right leg is 6.6 and  $SD \pm 2.04$ , the average of the jump with the left leg is 6.3 and  $SD \pm 2.01$ , while the average in total of high jump is 13 and  $SD \pm 3.87$ ; 257 GIRLS in total, the mean of the right leg jump is 6.1 and  $SD \pm 1.90$ , the mean of the left leg jump is 5.9 and  $SD \pm 1.92$ , while the overall mean of the high jump is 12 and  $SD \pm 3.67$  h 12.5 and  $SD \pm 3.80$ . Table 4 shows the data obtained from the "KTK" test according to classes for Boys and Girls. Where as we see; BOYS FIRST grade= 70 students, average HH Right is 5.12 and  $SD \pm 1.49$ , average HH Left is 4.71 and  $SD \pm 1.52$ , average HH Total is 9.84 and  $SD \pm 2.77$ ; SECOND grade= 66 students, the average HH Right is 6.59 and  $SD \pm 1.77$ , the average HH Left is 6.50 and  $SD \pm 1.65$ , the average HH Total is 13.09 and  $SD \pm 3.27$ ; THIRD grade= 51 students, average HH Right is 6.78 and  $SD \pm 1.83$ , average HH Left is 6.52 and  $SD \pm 2.05$ , average HH Total is 13.31 and  $SD \pm 3.68$ ; FOURTH grade= 37 students, average HH Right is 8.56 and  $SD \pm 1.83$ , average HH Left is 7.62 and  $SD \pm 1.63$ , average HH Total is 16.18 and  $SD \pm 3.17$ ; FIFTH grade= 29 students, average HH Right is 7.96 and  $SD \pm 1.37$ , average HH Left is 7.86 and  $SD \pm 1.50$ , average HH Total is 15.82 and  $SD \pm 2.66$ . Table 4 shows the results in GIRLS first grade= 58 students, the average HH Right is 4.75 and  $SD \pm 1.68$ , the average HH Left is 4.51 and  $SD \pm 1.62$ , the average HH Total is 9.27 and  $SD \pm 3.24$ ; SECOND class=71 students, average HH Right is 6.26 and  $SD \pm 1.49$ , average HH Left is 5.91 and  $SD \pm 1.46$ , average HH Total is 12.18 and  $SD \pm 2.71$ ; THIRD grade= 66 students, average HH Right is 6.01 and  $SD \pm 1.81$ , average HH Left is 6.19 and  $SD \pm 1.74$ , average HH Total is 12.30 and  $SD \pm 3.44$ ; FOURTH grade= 33 students, average HH Right is 7.21 and  $SD \pm 1.85$ , average HH Left is 6.84 and  $SD \pm 2.15$ , average HH Total is 14.06 and  $SD \pm 3.73$ ; FIFTH grade= 29 students, average HH Right is 7.37 and  $SD \pm 1.80$ , average HH Left is 7.34 and  $SD \pm 1.83$ , average HH Total is 14.72 and  $SD \pm 3.48$ .



Table 5 shows the data obtained from the "KTK" test where the values for the FIRST Class Boys=70, average HH Right 5.12 and SD  $\pm$  1.49 are shown; Girl=58, mean HH Right 4.75 and SD  $\pm$  1.68; Boys mean HH Left 4.71 and SD  $\pm$  1.52; Girls average HH Left 4.51 and SD  $\pm$  1.62, Boys average HH Total 9.84 and SD  $\pm$  2.77; Girls mean HH Total 9.27 and SD  $\pm$  3.24; SECOND grade Boys=66, mean HH Right 6.59 and SD  $\pm$  1.77; Girl=71, mean HH Right 6.26 and SD  $\pm$  1.49; Boys mean HH Left 6.50 and SD  $\pm$  1.65; Girls average HH Left 5.91 and SD  $\pm$  1.46, Boys average HH Total 13.09 and SD  $\pm$  3.27; Mean girl HH Total 12.18 and SD  $\pm$  2.71; THIRD grade Boys=51, mean HH Right 6.78 and SD  $\pm$  1.83; Girl=66, mean HH Right 6.10 and SD  $\pm$  1.81; Boys mean HH Left 6.52 and SD  $\pm$  2.05; Girls average HH Left 6.19 and SD  $\pm$  1.74, Boys average HH Total 13.31 and SD  $\pm$  3.68; Mean girl HH Total 12.30 and SD  $\pm$  3.44; Grade FOUR Boys=37, mean HH Right 8.56 and SD  $\pm$  1.83; Girl=33, mean HH Right 7.21 and SD  $\pm$  1.85; Boys mean HH Left 7.62 and SD  $\pm$  1.63; Girls average HH Left 6.84 and SD  $\pm$  2.15, Boys average HH Total 16.18 and SD  $\pm$  3.17; Mean girl HH Total 14.06 and SD  $\pm$  3.73; FIFTH grade Boys=29, mean HH Right 7.96 and SD  $\pm$  1.37; Girl=29, mean HH Right 7.37 and SD  $\pm$  1.80; Boys mean HH Left 7.86 and SD  $\pm$  1.50; Girls average HH Left 7.34 and SD  $\pm$  1.83, Boys average HH Total 15.82 and SD  $\pm$  2.66; Girls mean HH Total 14.72 and SD  $\pm$  3.48.

The results from this study show that boys in primary school have better dance performance score (total = right+left performance) compared to girls. The comparison test by gender for each class shows no statistically significant differences in any class except the second class (F=5.99, Sig= 0.016) for right leg jump height and for total jump height (F=5.058, Sig = 0.026) where boys have better performance compared to girls. While in the fifth grade, significant changes are observed for the right leg (F=4.083, Sig= 0.048) and for the height of the jump with the left leg (F=4.603, Sig= 0.036) where boys have a better performance compared to girls . Also, statistical analysis shows significant changes in favor of boys in terms of jumping in total for both legs (F=5.899, Sig= 0.018)

#### IV. Conclusion

At the end of this study we came to the conclusion that:

From the obtained data, statistically significant changes are shown in favor of Boys for the high jump performance by means of the "KTK" test in the Fifth Grade both for the right leg and for the left leg and in total.

According to a study (Laukkanen et al 2017) boys outperformed girls in the jumping subtest (t = 3.29, p <0.01), in the age group between 5 and 7 years although there were no gender differences in total motor performance.

Also in a study of (Vandorpe et al., 2011) it is shown that in the high jump test, boys outperformed girls in every age group.

However, post hoc results clarified those differences as significant at ages 7 years (P = 0.017), 8 vjec (P = 0.027), 9 vjec (P=0.001) and 10 vjec (P=0.001), but not at age 6 and 11 years old.

According to the author (Malina 1984), she reported that girls and boys have more or less similar physical characteristics before puberty and that these differences become more pronounced after puberty. In accordance with the results of (Malina 1984) and the results in the fitness study (Beunen et al., 1991), we

can predict that the comparison by gender will show the differences found for the jumping test according to the “KTK” test, which required strength and endurance, which will develop with increasing age.

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