



**THE COMPARISON OF SOME MOTORIC AND TECHNIC  
CHARACTERISTICS BETWEEN 12 DEV ADAM AND TOFAS  
BASKETBALL SCHOOLS (VAN SAMPLE)<sup>i</sup>**

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**Abstract:**

In this research, it was aimed to compare some motoric and technical characteristics between athletes of 12 Dev Adam Basketball School (12 DABO) and TOFAŞ Basketball School (TOFAŞ BO) athletes in Van province in 2004. The study included basketball education in these schools; with a total of 30 athletes aged between 10-12. In the study, body weight, height measurement, vertical jump, sit lengthening, 30 m speed, shooting, turnstile and ball riding tests were applied. During the 7-month training period, tests were carried out in the third week of study and two weeks before the end of the study. There was a significant difference between the groups in the pre-test vertical jump parameters ( $p < 0.05$ ). There was a significant difference between the pre and post test groups in all parameters except TOFAŞ BO athletes' vertical jump and throwing parameters ( $p < 0.05$ ). Significant changes observed in the final test near all of the measured technical and motoric characteristics of the athletes of both schools indicate that schools are successful in their work and that statistical differences between schools may be due to the similarity of schools' training programs. On the other hand, in the vertical jump pre-test, the values favoring TOFAŞ BO were not statistically significant but they were closed by 12 DABO in the last test and reached close values. This can be attributed to the strength and speed exercises made by body weights in the standard movements section of 12 DABO athletes practice during training.

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## 1. Introduction

In line with the purpose of raising a healthy generation which is one of the basic policies of the countries, many studies are being done on children today. Great importance is given to the recognition of successful athletes of your future at a young age (1). The advanced countries in the field of sport have been successful because they apply the developments in sport science to the selection and training of talented athletes. One of the scientific foundations of being able to raise successful athletes around the world is possible by choosing talented young people in this sport (2).

Especially in order to achieve success on the international level, it is necessary to enter the science of science of sport (3). Under the successes of countries that have proven themselves at international level in sports branches, there is a large scale sports infrastructure and programs tailored to the results of scientific tests (4). For this purpose, sports schools have been established in various sports branches around the world and new skills have been added to the national sport. Basketball plays an important role in these sports. Various countries around the world have brought basketball players who have grown up in these schools with clubs, some of them up to national teams and trying to represent their countries in the best possible way.

Nowadays, basketball game requires basketball players to have versatile play skills (technical) and physical ability to apply them (motoric features). In recent years, the ability of technical skills has also spontaneously evolved, with motoric features at the forefront (5). The basic motoric characteristics of a person are the ones that determine the physical strength and ability of a person and the degree of motoric power of a complex nature. These features are the basis and the primary condition of every motor sport movement made in the training process. Classification of modern training practice; "Technical skills (mobility skills)" and "basic motor skills". The development of basic motor skills in all sports branches is an indispensable part of the training to be applied (3,6). Motor development; parallel to the development of the central nervous system and the physical growth of the organism is voluntary mobility (7). Motor development follows a regular order. It develops from head to foot and from the center outward (8).

Ten-year-old girls and boys live in the golden age of childhood due to motor learning. This rapid motor development continues until a sudden increase in height extension and changes in body proportions. Along with motor development, head turn

tendency begins between ages 11 and 13 (9). Therefore, the measurement data of this cycle should be carefully examined.

In this study, it was aimed to compare some motor and technical characteristics between 12 DABO athletes operating in Van and TOFAS BO athletes.

## 2. Materials and methods

A total of 30 athletes, 15 males, participated in the survey as volunteers in the 10-12 age group playing in 12 DABO and TOFAŞ BO's. The groups trained for 2 days a week and 2 hours a day for 7 months. Technical and tactical training with similar contents was applied to both groups, but for the 12 DABO groups 10x1 push-ups, 10x1 reverse shuttle, 10x2 squat, 10x2 calf work and 70-second rope skipping work were done under the standard movement of 10 minutes after the warm-up section of each training program. Tests of height, weight, flexibility, vertical jump, 30-meter running, throwing, shooting and tourniquet tests have been applied in motoric and technical performance measurement tests (10,11,12,13,14). During the third week of training and two weeks after the end of the training, measurements were taken. The recorded data were evaluated both within the group and between the groups using the SAS 6.12 package program. Both schools used the "paired student-t test" to evaluate the data obtained in the pre-test and post-test.

## 3. Results

**Table 1:** Information of pre-test parameters between TOFAŞ BO and 12 DABO athletes

Pre-test parameters	TOFAŞ BO(n=15)		12 DABO (n=15)		T	P
	X	SS	X	SS		
Age	11,133	0,834	11,200	0,941	-0,21	0,839
Height	143,60	4,33	143,73	6,99	-0,06	0,980
Weight	41,97	4,74	41,30	7,15	0,30	0,766
Vertical Jump	36,27	5,97	31,07	4,23	2,75	0,011*
Flexibility	17,73	3,83	15,77	5,32	1,16	0,26
30 m Sprint	6,333	0,450	6,647	0,639	-1,55	0,13
Dribbling	21,82	2,40	21,42	2,85	0,41	0,687
Shot	24,47	4,49	23,73	6,95	0,27	0,735
Tourniquet	24,8	25,1	20,7	21,9	0,48	0,64

\*(P<0.05)

As seen in Table 1, no significant difference was found between TOFAŞ BO athletes and 12 DABO athletes except pre-test vertical jump parameters ( $p > 0.05$ ).

**Table 2:** Information about TOFAŞ BO and 12 DABO athletes'  
 post test parameters between groups

Post-test parameters	TOFAŞ BO(n=15)		12 DABO (n=15)		T	P
	X	SS	X	SS		
Age	11,333	0,834	11,200	0,941	-0,21	0,839
Height	146,00	4,91	145,77	7,20	0,10	0,918
Weight	44,23	4,68	43,73	7,4	0,22	0,827
Vertical Jump	37,47	6,38	35,33	4,84	1,03	0,31
Flexibility	19,70	4,17	18,33	4,45	0,87	0,39
30 m Sprint	6,199	0,405	6,467	0,587	-1,45	0,16
Dribbling	21,45	2,37	20,47	2,47	1,38	0,277
Shot	33,53	6,08	29,27	7,99	0,27	0,081
Tourniquet	45,0	22,7	36,2	22,0	1,08	0,29

\*(P<0.05)

As seen in Table 2, no significant difference was found between TOFAŞ BO athletes and 12 DABO athletes compared to the post test parameters ( $p > 0.05$ ).

**Table 3:** In-group pre-test and post-test parameters of TOFAŞ BO and 12 DABO athletes

	Group		N	mean	T	P
Height	TOFAŞ BO	Pre Test	15	143,60 ± 4,33	-8,41	0,000*
		Post Test	15	146,00 ± 4,91		
	12 DABO	Pre Test	15	143,73 ± 6,99	-9,21	0,000*
		Post Test	15	145,77 ± 7,20		
Kg.	TOFAŞ BO	Pre Test	15	41,97 ± 7,74	-16,56	0,000*
		Post Test	15	44,23 ± 4,68		
	12 DABO	Pre Test	15	41,30 ± 7,15	-13,39	0,000*
		Post Test	15	43,73 ± 7,40		
Vertical Jump	TOFAŞ BO	Pre Test	15	36,27 ± 5,97	-1,94	0,073
		Post Test	15	37,47 ± 6,38		
	12 DABO	Pre Test	15	31,07 ± 4,23	-4,49	0,000*
		Post Test	15	35,33 ± 4,84		
Flexibility	TOFAŞ BO	Pre Test	15	17,73 ± 3,83	-2,85	0,013*
		Post Test	15	19,70 ± 4,17		
	12 DABO	Pre Test	15	15,77 ± 5,32	-6,28	0,002*
		Post Test	15	18,33 ± 4,45		
30 m Sprint	TOFAŞ BO	Pre Test	15	6,333 ± 0,450	2,89	0,012*
		Post Test	15	6,199 ± 0,405		
	12 DABO	Pre Test	15	6,647 ± 0,639	4,73	0,000*
		Post Test	15	6,467 ± 0,587		
Tourniquet	TOFAŞ BO	Pre Test	15	24,79 ± 25,08	-4,50	0,000*
		Post Test	15	45,02 ± 22,67		

	12 DABO	Pre Test	15	20,67 ± 21,94	-4,49	0,001*
		Post Test	15	36,22 ± 22,03		
Shot	TOFAŞ BO	Pre Test	15	24,47 ± 4,49	-14,98	0,000*
		Post Test	15	33,53 ± 6,08		
	12 DABO	Pre Test	15	23,73 ± 6,95	-4,94	0,000*
		Post Test	15	29,27 ± 7,99		
Dribbling	TOFAŞ BO	Pre Test	15	21,816 ± 2,403	1,70	0,112
		Post Test	15	21,446 ± 2,366		
	12 DABO	Pre Test	15	21,423 ± 2,850	4,96	0,000*
		Post Test	15	20,466 ± 2,472		

\*(P<0.05)

As shown in Table 3, there was a significant difference ( $p < 0.05$ ) between the pre-test and post-test values of all groups except TOFAŞ BO vertical jump and ball riding tests.

#### 4. Discussion and Conclusion

In the study, it was thought that the difference between the pre-test and the post-test was significant ( $p < 0.05$ ), because the children were physically active during their growth and development period and physically active. It has been stated in the literature that the increase in height and weight of children is a process that continues from birth to maturity and that spore participation promotes motor properties and physical development (15,16,18,19, 20).

The pre-test of the athletes of TOFAŞ BO was determined as  $37.47 \pm 6.38$  cm in the  $36.27 \pm 5.97$  cm vertical jump evaluation post test and this increase was statistically insignificant ( $p > 0.05$ ), the pre-test vertical jump values of 12 DABO athletes were determined as  $31.07 \pm 4.23$  cm and post test values were found to be  $35.33 \pm 4.84$  cm. The increase was statistically significant ( $p < 0.05$ ).

When the values of the two groups were compared, when there was a significant difference in the pre-test between the vertical jump values of the groups there was no significant difference in the final test ( $p > 0.05$ ). In the study performed by Bavli (2009) on adolescent basketball players, it was determined that there was a statistically significant difference between the 12-week pliometric exercises when the pre-test and post-test values of the vertical jump performance of the athletes were compared ( $p < 0.05$ ) (19).

Hoffman et al., (1995) reported that children aged 12-14 years who received motion training found significant differences in vertical jump parameters ( $p < 0.05$ ) (21). Uluçay G. (2009) found significant differences in the study of the effect of the pliometric

training on the vertical jump power applied to 12-14 age group basketball players ( $p < 0.05$ ) (22).

The development of the literature findings in the vertical jump parameter is explained by the exercise training with pliometric studies. In our study, improvement in the vertical jump parameters of both groups was observed, but this development was found statistically significant in 12 DABO athletes. When the training programs of the groups are examined, this difference is based on the strength and the quickness of the work done with the body weight included in the 12 DABO training program. This supports the literature.

Resilience values of TOFAŞ BO athletes who participated in the study were  $17,73 \pm 3,83$  cm in pre-test and  $19,70 \pm 4,17$  cm, the pre-test of 12 DABO athletes was  $15,77 \pm 5,32$  cm, while the final test was  $18,33 \pm 4,45$  cm. These developments are statistically significant ( $p < 0.05$ ). In the study of Şen (1998), the elasticity of the experimental group was increased by 1.02 cm, while the elasticity of the control group was increased by 0.14 cm (23).

Canlı U. (2017) suggests that physical activity increases flexibility when studying the effect of Thera-Band applied strength training on motor skills and shooting performance (17).

In the study of Yazarer (2000) on sportsmen who took two months of basketball education; the first measurement value of the test group was  $9,076 \pm 5,301$  cm while the second measurement value was  $9,584 \pm 5,255$  cm and the first test of the control group was  $8,904 \pm 4,145$  cm and the post test value was  $8,528 \pm 4,3$  cm. it does not make any difference ( $p > 0.05$ ) (24). Because of the increase in the flexibility values of TOFAŞ BO and 12 DABO athletes, some of the above literature can be supported by the basketball-specific stretching movements of both groups in the training program.

In the study, the difference between pre-test and post-test was significant in 30-meter run test values of TOFAŞ BO and 12 DABO athletes, but the difference between pre-test and post-test between each other was meaningless ( $p > 0.05$ ). The work of Büyükyazı (1995), "The Impact of Rapid Strength Training on the Physical Capacities of 13-14 Age Group Male Basketball Players" 14 experimental groups, 28 male basketball players in the 13-14 age group were given 8 weeks of fast-strength training; the running values of 30 meters are  $5,38 \pm 0,14$  sec before training and  $5,09 \pm 0,16$  sec after training. This difference was statistically significant ( $p < 0.05$ ) (23). This situation is parallel to the findings of our study.

TOFAŞ BO and 12 DABO athletes were statistically significant in terms of pretest and post test values but there was no significant difference between two groups in terms of pre-test and post-test turnstile values ( $p > 0.05$ ).

It is believed that the development of both groups in the turnstile was caused by the offensive exercises implemented during the training sessions. It is stated that the tourniquet can be improved with short-term work (25).

In terms of shot scores, TOFAŞ BO and 12 DABO athletes had a significant relationship between pre-test and post-test Shot test scores, but there was no significant difference between each other in terms of pre-test and post-test values ( $p > 0.05$ ). Büyükyazı (1995) explains that the difference between pre-training and post-training is not important in the shooting value of his work, explaining that much longer work is required for a real improvement in the shooting action (23). Canlı U., (2017) also observed an increase in the performance of shooting with a 9-week Thera-Band application (17). The reason why we have shown a meaningful improvement in the smile values in both groups of our work it is thought that they are caused by leaving time for shooting in close to each other during training. 12 DABO athletes were found to have a significant difference in pre-test and post-test ball scores ( $p < 0.05$ ), no significant difference was found in the values of TOFAŞ BO athletes ( $p > 0.05$ ).

There was no significant difference between pre-test and post-test parameters of both groups ( $p > 0.05$ ). Although there was no statistically significant difference, the reason for the development of both groups was that there was a benefit of -0.587 sec in favor of 12 DABO can be explained by the fact that the ball riding activities within the training periods are higher than the TOFAŞ BO.

In conclusion, while the significant changes observed in the final test within the group near the totality of the measured technical and motoric characteristics of the athletes of both schools showed that the schools were successful in their work, and the lack of statistical awareness among schools suggests that schools may be due to the similarity of training programs. Although not statistically significant from the other side, the values favoring TOFAŞ BO in the vertical jump pre-test between groups can be attributed to the strength and speed exercises carried out by body weight, which are included in the standard movements applied by 12 DABO's training sessions. Coaches can also increase the performance of their athletes by preparing a training program to improve the strength and capacity of the athletes.

For this reason, it is considered that the results of our research and further long-term and comprehensive measurements to be made in the future will contribute to the researchers and coaches involved.

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