





individual performance preconditions of the male player TB and the female player PK in detail. Therefore, we limit ourselves only to a graphical representation of the overall point scores of the male player TB and the female player PK. Their results achieved in the monitored period are presented in Table 1. However, on the basis of the results analysis and their comparison with the population of male or female tennis players, it is possible to say that in the monitored period, the male player TB and the female player PK were above average in bodily height and weight, they achieved mostly above-average results in the tests of playing arm strength, their running speed was around the average in both players, their endurance was below average (in a controlled interview, both players said that they do not consider this type of endurance important for tennis). Both of them were achieving significantly above-average results in the tests of arm reaction and particularly leg reaction, the level of torso flexibility was above average in the player TB and mostly below average in the player PK.

**Table 1:** The results of the male player TB and the female player PK

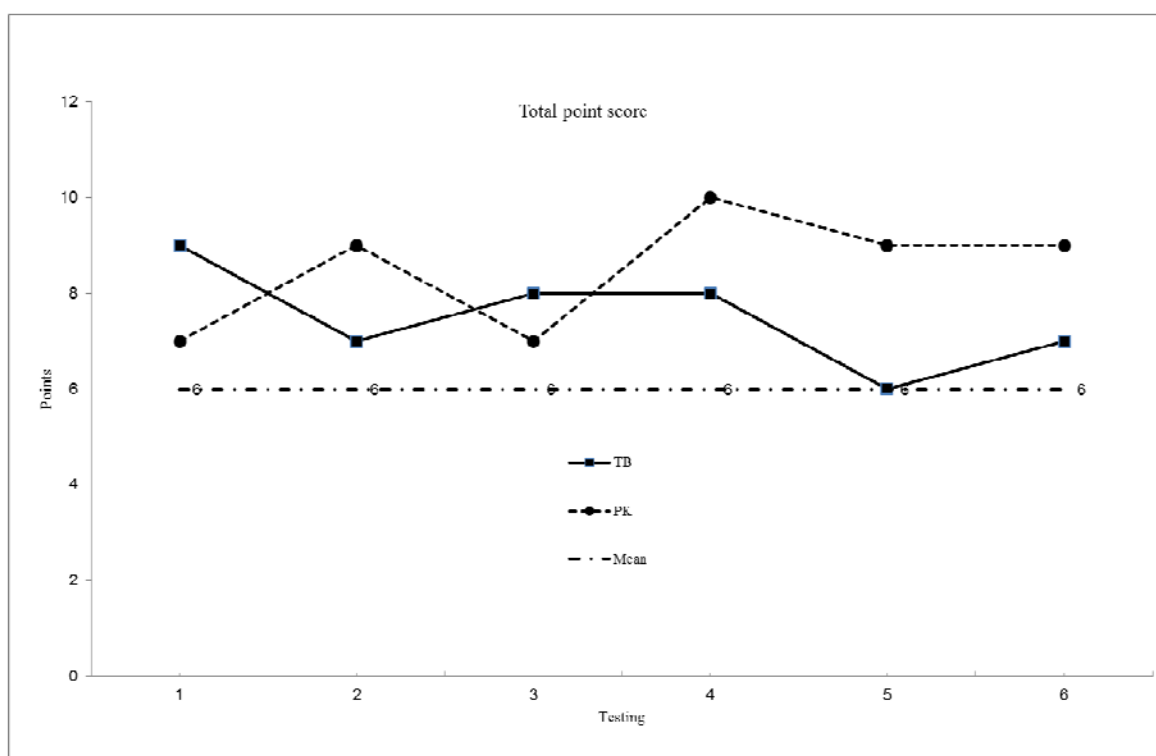
The male player TB												
T	Age	Height	W	BMI	ISF	PAS	RS	E	SAR	SLR	TF	Points
1	15,6	193	84,0	22,6	2,8	48,1	12,4	140,1	0,40	0,37	42	9
2	16,0	193	87,2	23,4	2,6	53,4	12,8	142,5	0,44	0,37	45	7
3	16,6	195	90,0	23,7	2,4	53,0	12,2	148,3	0,40	0,35	44	8

4	17,7	194	92,0	24,4	2,8	61,5	13,4	146,2	0,42	0,30	44	8
5	18,5	195	92,8	24,4	2,6	51,5	13,5	144,1	0,41	0,32	42	6
6	19,2	196	90,8	23,5	2,9	51,1	12,9	146,6	0,42	0,32	44	7
The female player PK												
1	15,7	178	58,2	18,4	2,0	28,9	14,5	151,4	0,44	0,37	43	7
2	17,1	179	69,4	21,7	2,6	38,6	14,0	152,2	0,45	0,32	39	9
3	17,6	181	71,0	21,7	2,6	35,4	14,0	155,7	0,47	0,33	38	7
4	18,8	181	71,8	22,2	2,2	37,2	14,2	151,4	0,45	0,35	42	10
5	19,2	181	74,8	22,8	2,6	41,7	14,0	154,7	0,43	0,30	36	9
6	19,8	182	70,0	21,1	2,3	49,1	13,9	159,5	0,41	0,33	42	9

Notes:

T... testing sequence	W... weight
ISF... index of shoulder joints flexibility	BMI... body mass index
PAS... playing arm strength	SAR... speed of arms reaction
RS... running speed	SLR... speed of legs reaction
E... endurance	TF... torso flexibility

Figure 1 shows the level of the overall point scores of the male player TB and the female player PK in the monitored period in comparison with the average level of the population of male and female tennis players (6 points); the development trends in both athletes are presented by means of time series.



**Figure 1:** Development trends in the overall point scores of the male player TB and the female player PK in the test battery TENDIAG1

The player TB attended a total of six testing sessions in the age of 15.6 – 19.2, where the overall level of his motor performance preconditions was medium to high (6 to 10 points); he achieved his best point score (10 points) in the age of 15.6 years. In the monitored period, the median value of his results was at the level of 8 points ( $\bar{x} = 8$ , median = 8). The player PK attended a total of six testing sessions in

the age of 15.7 – 19.8, where the overall level of her motor performance preconditions was medium to high (7 to 10 points); she achieved her best point score (10 points) in the age of 18.8 years (it should be noted that she started her systematic conditioning preparation only around her 16<sup>th</sup> year of age). In the monitored period, the median value of her results was at the level of 9 points ( $\bar{x} = 9$ , median = 9).

Intersexual differences between the results of the male player TB and the female player PK in the last testing session (the age of 19.2 and 19.8 respectively) are shown in Table 2. The assessment of the significance of differences was made by the so-called critical difference calculated for individual tests from the values of coefficients of reliability and standard deviation (Měkota & Blahuš, 1983; Zháněl, 2005). The results show that in somatic parameters of the female tennis player PK, a significantly lower level of height (92.9%), weight (77.1%), and BMI (89.8%) was found as expected, which is in agreement with general knowledge. A surprisingly small and insignificant difference was found in the test of the playing arm strength (96.1%) in spite of the fact that the level of strength in the player TB is above average. This fact testifies to a high level of strength preparedness of the player PK, which shows in the force of her strokes. The differences in the tests of speed (92.8%) and endurance (91.9%) correspond to the published data and they are significant. The player PK proved a considerably higher level in the test of shoulder joint flexibility, which again confirms a known fact of women's higher flexibility. The differences in the tests of torso flexibility (2), the speed of arms and legs (0.1 sec.) are not significant.

**Table 2:** Intersexual differences in the results of the players TB and PK

Item/player	TB	PK	Difference	%	Critical difference
Height	196	182	-14	92,9	1,8*
Weight	90,8	70,0	-20,8	77,1	2,5*
BMI	23,5	21,1	-2,4	89,8	0,6*
ISF	2,9	2,3	+0,6	126,0	0,4*
PAS	51,1	49,1	-2,0	96,1	2,3
RS	12,9	13,9	-1,0	92,8	0,3*
E	146,6	159,5	-12,9	91,9	6,4*
SAR	0,42	0,41	+0,01	102,4	0,04
SLR	0,32	0,33	-0,01	97,0	0,04
TF	44	42	-2	95,5	3,8

Notes: see Table 1

\* ..... a significant intersexual difference

## 5. Conclusions

In the monitored period (15.6 – 19.2 years), the player TB showed a medium to high level of motor performance preconditions (6 to 10 points) in comparison with the population of male tennis players; he achieved the best result (10 points) in the age of 15.6 years. The player PK showed a medium to high level of motor performance preconditions (7 to 10 points) in comparison with the population of female tennis players in the monitored period (15.7 – 19.8 years); she achieved the best result (10 points) in the age of 18.8 years. It is possible to say that the male tennis player TB as well as the female tennis player PK proved an above-average level of motor performance preconditions in the whole monitored period, in the junior as well as adult ages. The development trends showed a stabilized state of the motor preconditions level. The found intersexual differences are significant in favor of the player TB with the exception of the tests of torso flexibility and speed of arms and legs reaction. The female player PK proved a higher level in the test of shoulder joints flexibility.

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