

SELECTION MODEL FOR 9 METERS HANDBALL PLAYERS - JUNIOR 2

Adrian Chiruț

Sports Club University of Suceava

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Abstract

Backcourt players and center players cover larger distances and spend less time standing and walking. In the handball game, the optimal period for performance is 16-18 years, therefore, training for specialized positions starts at a young age. The aim of this research was to determinate the somatic and technical characteristics of young handball players that belong to University Sport Club Of Suceava (*backcourts and centers players*). *Backcourt* and centers players have a very important role in the team and their selection and preparation had to be done carefully. The results obtained from the measurement of players on the positions of *backcourts* and centers have shown that there are players in the junior team II with special somatic, motor and technical possibilities and suitable to obtain multiple performances in the future.

Introductions

Handball is part of the sphere of classic games, which enjoys a great popularity. The rapid spread of this sports game is due to the spectacular realization of the technical-tactical elements. The handball activity in Romania is remarkable and appreciated in terms of the fact that we have great achievements in the field of performance in all categories of juniors and seniors.

Handball brings many benefits to its players, in the sense that it helps the harmonious development of the body and motor qualities, increases the motor baggage by strengthening motor skills, perfects the activities of the vegetative organs, strengthens the body and increases resistance to diseases and more [1]. So this is a good means of health. But this paper refers to handball performance so we will turn our attention to this direction.

In other words, when we talk about sports performance, we are actually referring to the physical and technical-tactical improvement of players. The physical capacity of an handball player is divided into three elements: general, selective and specific physical capacity [2]. Physical

training in handball helps athletes to perform efficiently and easily all the actions specific to the game, while also leading to faster adaptation of the body to efforts of any kind [3]. Additionally, proper endurance training is crucial, since players have to maintain the same pace throughout the duration of the match [4].

So, handball matches are characterised by periods of relatively stable pace interspersed with frequent bursts of intensive physical activity associated with changes in the speed and direction of movement. Recent research has shown that this particular aspect of the game may be the key to achieving high success rates [5]

In the handball game, the optimal period for the initial training is the age of 10-13 years, for the beginning of the specialization age of 12-17 years, and for the sports improvement, age of 16-18 years [6, 7]. In addition to those presented, the increase in handball performance is also influenced by the selection made and the development of training according to strict principles [8, 9].

Recent years have seen a rising interest in creating a reference physical fitness profile for each playing position. In elite teams, the players' body composition and morphological features are closely monitored in order to draw comparisons between different playing positions [10]. With all of this, the German national talent selection program considers that, in the early stage, the less developed players must have the opportunity of being selected as players and therefore to achieve the same level of the most developed players [11].

Our research aims to evaluate the positions of the handball players from the 9 meter line (left and right *backcourt* and center), more precisely their degree of somatic and technical development. These positions are of great importance and can condition the performance. Results obtained during gameplay have shown that backcourt players and center players cover larger distances and spend less time standing and walking, and, together with pivots, have higher in-game heart rates and spend longer durations at higher intensities [12]. So we are interested in finding out what the somatic and technical model of the national junior team – juniors II is.

Material and method

The aim of this research is to determine the somatic and technical characteristics of young handball players that belong to National Handball Team of Romania, at the level – junior II.

In order to fulfill the purpose we chose the representative subjects. The subjects are handball players that belong to University

Sport Club Of Suceava. In the same time, they are part of National Handball Team of Romania, at the level junior II and members of the National Olympic Training Center for Juniors in Handball Suceava. In table 1 are presented the positions of the players and their ages.

Table 1. Subjects of research – junior players

Name and surname	Age	Positions
<i>H.A</i>	17	<i>Left backcourt</i>
<i>R.A</i>	17	<i>Left backcourt</i>
<i>R.C</i>	16	<i>Right backcourt</i>
<i>H.E</i>	17	<i>Center</i>
<i>S.D</i>	17	<i>Center</i>
<i>N.B</i>	16	<i>Center</i>

For the somatic data we used: *Height (H)*, *Sitting height (SH)* *Weight (W)* *Body Mass Index (BMI)* *Muscle mass (MM)* *Fat mass (FM)* *Arm span (AS)*, *Hand span (HS)* and *Leg length (LL)*. For technical data we used: Squat Vertical Jump, Standing broad jump, Sit-ups in 30 second; Mouvement in a triangle 3 courses (test proposed by Romanian Handball Federation); Throwing the handball ball with three step momentum (test proposed by Romanian Handball Federation); Dribbling the ball through cones 30 meters (test proposed by Romanian Handball Federation); Speed 5x30 meters with breaks of 30 seconds between repetitions (test proposed by Romanian Handball Federation).

The research methods we used were: study of specialized literature, method of analysis, measurement method, test method, graphical method, tabel method, statistical method.

Results

In this research were evaluated 3 backcourt and 3 centers handball players. Their characteristics are presented in the following tables.

Table 2. Anthropometric data – junior players

No.	H	SH	W	BMI	MM	FM	AS	HS	LL
	(cm)	(cm)	(kg)	(kg/m ²)	(%)	(%)	(cm)	(cm)	(cm)

<i>H.A</i>	191	94	79.9	21.9	43.6	9.8	190	21	97
<i>R.A</i>	190	87	87.5	24.2	42.5	11.3	194	20	103
<i>R.C</i>	190	88	73.7	20.4	44.6	5.9	192	20	102
<i>H.E</i>	180	81	64.2	19.8	43.2	12.2	177	19	99
<i>S.D</i>	193	88	91.4	24.5	39.9	17.4	194	21	105
<i>N.B</i>	191	91	74	20.3	43.5	9.2	187	21	100
X	189.16	88.16	78.45	21.85	42.88	10.96	189	20.33	101
SD	4.62	4.35	9.97	2.06	1.61	3.82	6.44	0.81	2.89
CV	2.44	4.93	12.71	9.43	3.75	34.88	3.41	4.01	2.86
Min	180	81	64.2	19.8	39.9	5.9	177	19	97
Max	193	94	91.4	24.5	44.6	17.4	194	21	105
A	13	13	27.2	4.7	4.7	11.5	17	2	8

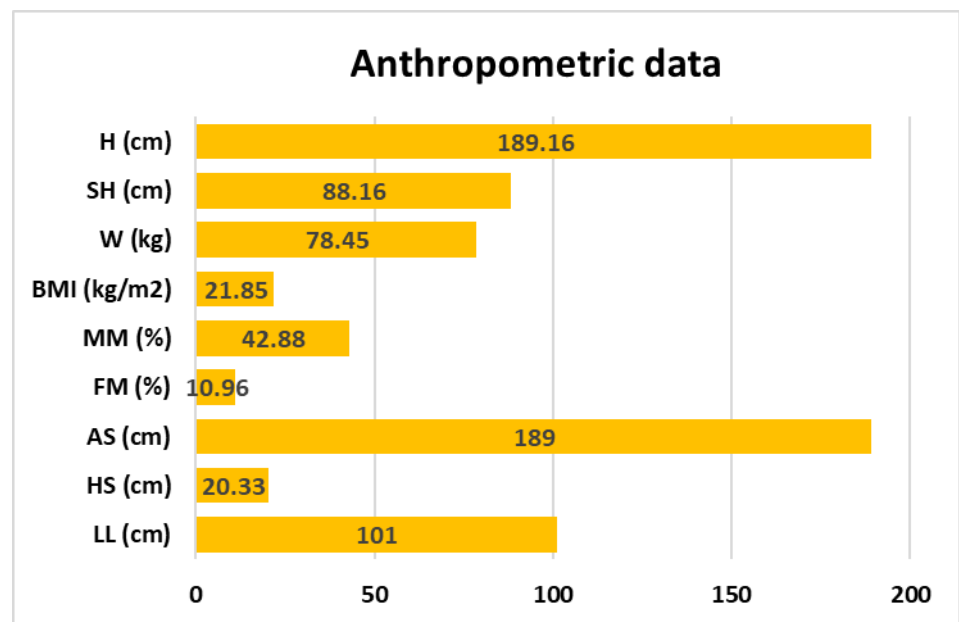


Figure 1. Anthropometric data – junior players

As we see in table 2 and in the adjacent graph 1, the anthropometric profile of the players is one that exceeds the model proposed by the Romanian handball federation. The arithmetic mean of the height is 189.16 cm, and the armspan of the players is 189 cm, the difference between them being very small. Compared to other groups of junior II players in Romania, the values of our players are much better.

Table 3. Technical evaluation data – junior players

<i>No.</i>	<i>Squat Jumps (cm)</i>	<i>Standing broad jump (cm)</i>	<i>Sit-ups (reps)</i>	<i>Mouvement in a triangle (s)</i>	<i>Throwing the ball (m)</i>	<i>Dribbling through cones (s)</i>	<i>Speed 5x30 (s)</i>
<i>H.A</i>	51	249	27	15.32	44	5.68	4.23
<i>R.A</i>	50	250	30	16.05	46	6.05	4.41
<i>R.C</i>	51	241	34	14.26	43	6.20	4.16
<i>H.E</i>	49	256	30	15.15	47	5.87	4.11
<i>S.D</i>	42	253	30	14.85	45	6.01	4.52
<i>N.B</i>	43	239	28	15.03	43	6.23	4.27
X	47.66	248	29.83	15.11	44.66	6.00	4.28
SD	4.08	6.69	2.40	0.58	1.63	0.20	0.15
CV	8.56	2.69	8.04	3.88	3.65	3.44	3.62
Min	42	239	27	14.26	43	5.68	4.11
Max	51	256	34	16.05	47	6.23	4.52
A	9	17	7	1.79	4	0.55	0.41

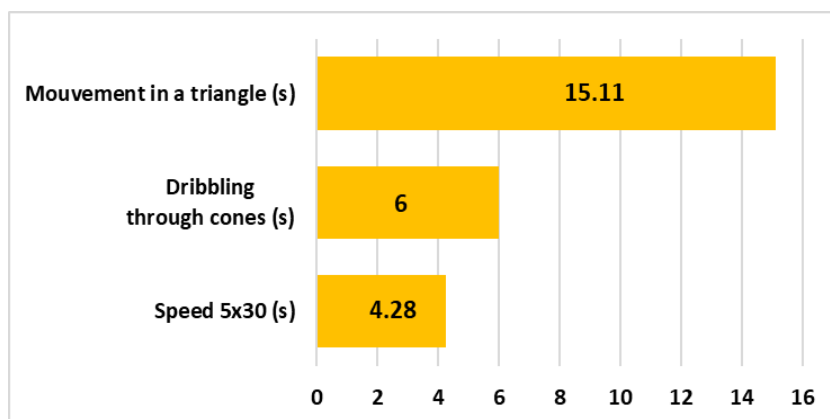


Figure 2. Technical evaluation data (1) – junior players

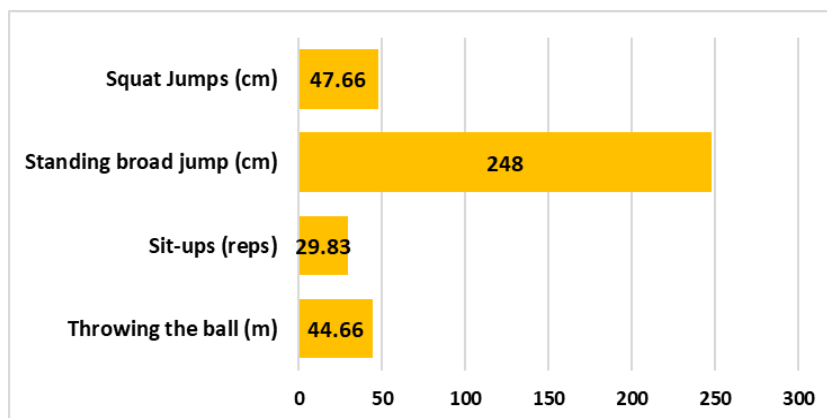


Figure 3. Technical evaluation data (2) – junior players

As we see in table 3 and in the adjacent graphs 2 and 3, in all the tests that followed the evaluation of the technical training, the results are very good. Compared to the results of other athletes in the country at junior level 2, they are superior in terms of training.

Conclusions

According to the literature, the handball selection system is a complex one and requires new approaches from specialists, based on the current requirements of this game, which has become very fast, and the technical elements and procedures of the game must be performed with maximum efficiency, as short a time as possible.

Backcourt and centers players have a very important role in the team and their selection and preparation had to be done carefully. The results obtained from the measurement of players on the positions of *backcourts* and centers have shown that there are players in the junior team II with special somatic, motor and technical possibilities and suitable to obtain multiple performances. All the evaluated players are promising, and their future is anticipated to be one in which they will become high value players.

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