

## CONCLUSIONS

There is a continuing obligation, at least moral to motivate students to practice physical exercises regardless of their type. Most students are amateur athletes and their main problem is the lack of motivation due to the inaccessibility of winning any sports title. In order to maintain their keen interest and to be able to offer satisfactions on personal level, the sports officials in schools should see beyond the "schoolyard". In order to involve an increasingly number of students in sporting life they should take advantage of what the society can offer concerning sports, and to turn these occasions into sporting opportunities to improve those whose character still undergoes changes as well as their personal identity. Equally important, sporting organizations beside MECS, FSSU and ASSR should develop original sporting programmes to improve the relationships with potential financial backers, aspect required by the chronic underfunding of this sector. This new approach of university sports from the action-event perspective provides the possibility of inducing students a pro-sport behaviour, offering at the same time enough space for displaying their creative and competitive spirit. Organizing a competitive event in the above-mentioned manner draws on additional funds for staging original and attractive sports projects, promoting less-known sporting disciplines and achieving some organizing objectives regarding the sport system.

## REFERENCES

1. Dragnea A., coordonator, Teoria educației fizice și sportului.(ediția I), Ed. Cartea Scolii, Bucuresti, 2000.
2. Gratton, C., Taylor, P., Economics of Sport and Recreation, E & FN Spon, London, 2000.
3. Mastermann G., Strategic Sports Event Management, ButterWorth - Heinemann, Great Britain, 2001.
4. Mihăilescu N., Management, marketing, legislație în activitatea sportivă. Editura Universității, Pitești, 2006.
5. Moise, Z., Marketingul prin intermediul târgurilor și expozițiilor, Editura All Educațional, București, 1997.
6. Schäfer-Mehdi St., Organizarea evenimentelor, Editura All, București, 2008.
7. Vlăsceanu M., Organizațiile și cultura organizării, Editura Trei, București, 1999
8. Dumitru I., De la competiție școlară la eveniment sportiv Universitatea „Al.I.Cuza” Iași, <http://www.scribd.com/doc/77391115/De-la-competi%C5%A3ie-%C5%9Fcolar%C4%83-la-eveniment-sportiv>
9. Dr. Ifeanyichukwu C. Elendu, Mr. Michael Ogujiofor, Sport volunteerism as a tool for effective sports administration and development in Nigeria, Academic Research International, ISSN-L: 2223-9553, ISSN: 2223-9944, Vol. 2, No. 2, March 2012, [www.savap.org.pk](http://www.savap.org.pk), p393-399
10. <http://studentsport.ro/>

## CONTRIBUTION REGARDING HANDBALL SELECTION USING GRAPHICAL ANALYSIS METHOD

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### Abstract

*This paper highlights the evolution of sports performance that identifies through increasing motor activities that are performed in new conditions and through athletes anticipation and reaction speed according to game situations. In this study, we brought several important contributions in male handball athletes' selection process, applying graphical analysis for several test results assessing general and specific physical development.*

**Keywords:** graphical analysis method, handball, selection process, junior III

### INTRODUCTION

Sport is considered one of the most dynamic social activities that has as its major objective the improvement of the human being. Regarding this aspect, different researchers conducted permanent analysis and prognosis to highlight its evolution trends (Dragnea, A., Teodorescu, S., M., 2002). Nowadays the orientation and the initial selection process are very important. A differential importance is given to

proper selection which is achieved according to formative and performance models demands (Colibaba, E., D., Bota, I., 1998).

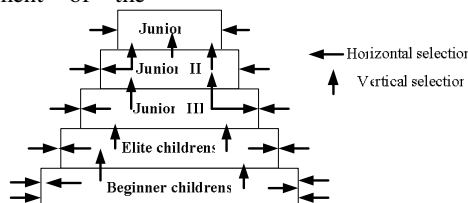
As Balint mentioned in his paper, selection is a systematic organized process that detects children's or juniors' innate readiness, using a complex system of criteria for practice and for children's further specialization in a sportive discipline (Balint, E., 2006).

Children's and juniors handball selection process represents an important factor in obtaining high level of performance. Combined with other important factors such as practical application of science sports training, scientifically leadership for the training process, existence of a competitive timetable and also with a proper equipment base, the selection process contribute to the increasing of the national and international handball performance (Balint, E., 2006).

Selection process is a continuous, dynamic, active and evolutionary process related to somatic and functional development of the

subject's mental and motor skills which is directed by coaches' competence, objectivity and judgment (Orănescu, C., 2002).

The active and continuous character of the selection process is given by two different directions: on the horizontal and on the vertical. Vertical selection represents the evolution and promotion from a batch to another, up to the top, this process can be done in exigent and objectives conditions. Horizontal selection aims to find children with skills and qualities for a particular sport.



**Fig. 1** Horizontal and vertical subject's selection system (Balint, E., 2006)

Regarding the handball juniors III athletes selection process, this is still horizontally performed aimed primarily to continuous improvement (quantitatively and qualitatively) of the group composition. Juniors III vertical selection is based on the selections principles and rules, the process is carried out more rigorous, control samples and promotion criteria being developed by RHF (Romanian Handball Federation) and by coaches. The inclusion of a player in this group is made only if the player fulfills all requirements.

The aim of this study is to bring important contribution regarding the optimization of selection process for handball players using several tests that are elaborated by the RHF. Those tests were applied to a group of junior III male handball players, the results being analyzed using the graphical analysis method.

Graphic analysis method has two status indicators: the group position comparing to the group average and to the RHF data.

Based on some experimental results, this study aims to determine the junior III handball players motor development stage, taking into consideration the parameters developed by RHF regarding the application of several control tests. Furthermore, applying graphical analysis of players' performance in the initial testing we want to optimize the handball players' selection process.

We assume that through graphical method of results analysis we will solve some aspects of handball players' selection process and will bring important contributions to its optimization.

This study involved 30 players, aged between 12 and 14 years old, students of Sports

High School from Suceava, Romania. For the subjects initial testing were applied a series of tests developed by the RHF: speed running 30 meters, fixed bar pull-ups, standing long jump, sit-ups in 30 seconds, the Cooper test, 5x30 flat, dribbling through cones – 30 meters, shifting triangle, handball throwing distance and tenfold jump.

These tests assess subjects' general and specific physical training.

## MATERIAL AND METHOD

The methods included in this study are: study literature, teaching observation, testing method, statistical and mathematical method, graphical representation method and graphical method of analysis. The latter one includes two status indicators of players' performance: the group position towards the group average and to RHF standard data, indicators that divide the obtained graph into four sections:

- In the upper left quadrant will be represented children results situated above group average, but not enough for RHF standards;
- Upper right quadrant represent children results situated above group average and also equal to RHF standards;
- In the lower left quadrant will be represented children results situated immediately below the group average who failed to obtain the RHF standards;
- Lower right quadrant will represent children results who failed to achieve the group average any optimal outcome in any RHF given test.

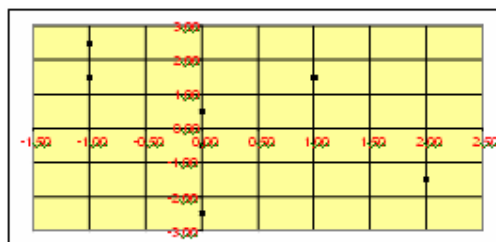


Figure 2. Graphical analysis model (Rață, E., 2007)

## RESULTS AND DISCUSSION

The table below represents players' results for the 10 samples mentioned above.

Table 1. Results obtained after the tests were performed

Nr.	Name Surname	30m (sec)	Pull - ups (nr.)	SLJ (cm)	UPS 30"	Cooper Test	5X30m (sec)	CD (sec)	ST (sec)	HTD (m)	TJ (m)
1	P.G.	4"65	8	200	18	1953	4"82	7"15	21"82	32,30	19,63
2	C.R.	4"59	9	210	18	2175	4"73	6"88	21"00	33,00	20,29
3	M.A.	4"69	7	195	17	1995	4"84	7"15	21"48	31,13	19,50
4	T.S.	4"79	7	198	16	1956	4"88	7"19	21"83	32,15	18,56
5	G.A.	4"84	6	193	16	1965	4"80	7"10	21"39	32,50	19,68
6	B.I.	4"58	9	210	18	2150	4"76	6"93	21"40	33,03	20,25
7	T.O.	4"77	7	194	17	1970	4"87	7"21	21"38	30,25	19,45
8	A.M.	5"00	4	168	15	1830	4,86	7"38	21"35	32,30	18,69
9	J.I.	4"95	6	187	16	1991	5"12	7"25	21"60	30,80	18,71
10	T.E.	4"60	9	210	18	2165	4"75	6"89	21"00	33,02	20,33
11	C.C.	4"92	5	185	15	1903	4"93	7"18	21"84	31,55	19,20
12	I.A.	4"62	8	193	18	1990	4"81	7"35	22"10	32,60	18,64
13	P.A.	4"58	9	210	18	2180	4"78	6"95	21"70	33,03	20,12
14	A.I.	4"65	8	195	15	1988	4"81	7"32	21"84	31,20	20,10
15	U.C.	4"78	7	193	16	1960	4"99	7"20	21"71	32,40	19,56
16	T.S.	4"60	8	210	18	2010	4"79	6"90	20"99	33,07	20,15
17	R.O.	4"59	9	210	17	2075	4"84	6"95	21"00	33,05	20,20
18	M.A.	4"86	7	180	16	1953	4"91	7"19	22"00	32,20	19,27
19	S.A.	4"94	7	184	16	1910	5"10	7"34	21"40	32,60	19,49
20	A.R.	4"88	6	179	17	1998	4"93	7"55	21"49	32,50	19,56
21	M.M.	4"60	9	210	18	2110	4"72	6"87	20"98	33,00	20,37
22	G.R.	4"97	5	176	16	1895	5"03	7"33	21"88	32,53	19,56
23	P.O.	4"66	7	183	15	1989	4"89	7"50	21"30	31,50	19,67
24	M.E.	4"58	9	210	18	2090	4"74	6"91	21"01	33,01	20,30
25	O.I.	5"02	4	170	14	1800	5"22	7"55	21"91	30,80	18,52
26	T.A.	4"99	8	198	16	1875	5"09	7"40	21"39	33,01	19,56
27	R.C.	5"02	4	167	15	1802	5"17	7"58	22"01	30,95	18,54
28	B.A.	4"59	9	210	17	2135	4"76	6"89	20"99	33,02	20,03
29	C.D.	4"60	9	210	18	1950	4"73	6"92	21"28	33,06	21,10
30	S.I.	5"11	4	166	14	1810	5"19	7"50	22"02	31,30	18,57
AVERAGE		4,77	7,13	193	16,53	1985,77	4,90	7,19	21,54	32,23	19,55
STDEV		0,17	1,74	15,01	1,31	110,21	0,15	0,24	0,40	0,86	0,63
RHF standards		4,60	9	210	18	2000-2200	4,7-4,8	6,90	21	33	20 - 22

Note: \* 30m = Speed running 30 meters; Pull – ups = fixed bar pull-ups; SLJ = standing long jump; UPS = sit-ups in 30 seconds; 5X30m = 5x30meters flat; CD = dribbling through cones - 30meters; ST = shifting triangle; HTD = handball throwing distance; TJ = tenfold jump.

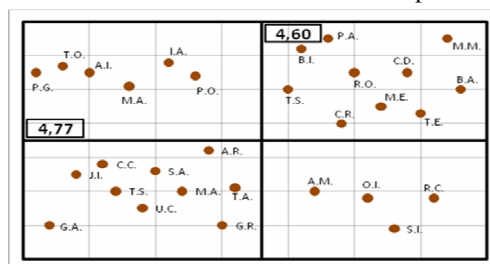
Given graphics representation we can make an analysis of results obtained from initial subjects' tests, in order to classify future athletes as it follows:

- Athletes who have achieved results above group average and equal to RHF recommended standards are placed in the upper right quadrant. Those children are recommended for sport performance.

- Upper left quadrant represent the athletes that obtained results above group average but failed to obtain the results given by RHF. Those athletes will be tested in a further evaluation after a training period to see if the sports performance is increased.

- The lower left quadrant represent athletes who obtain lower results than the group average value. We will follow their evolution during their training period.

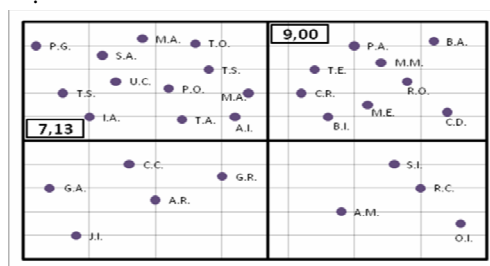
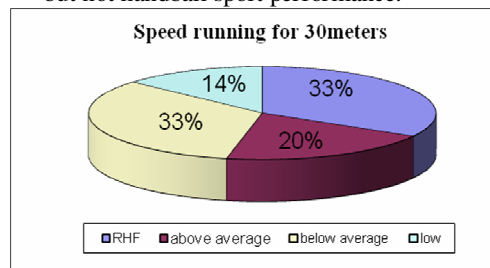
- In the lower right quadrant are represented athletes who failed to achieve results for sports



**Figure 3.** Graphical representation of Speed running for 30 meters test

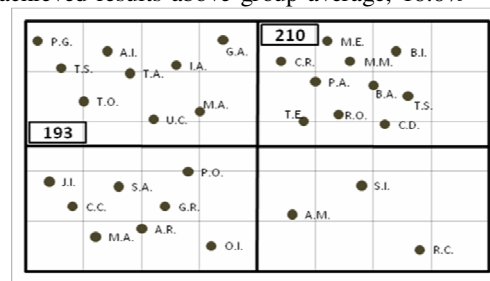
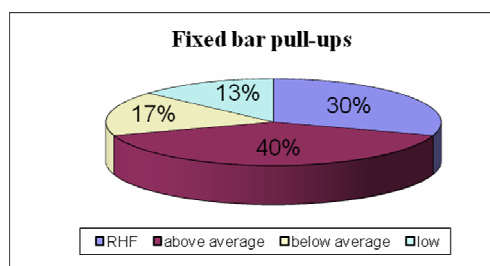
For the first test which is speed running for 30 meters, 33.3% of participants achieved the recommended values by FRH, 20% have achieved

access. For these children we recommend the sport, but not handball sport performance.



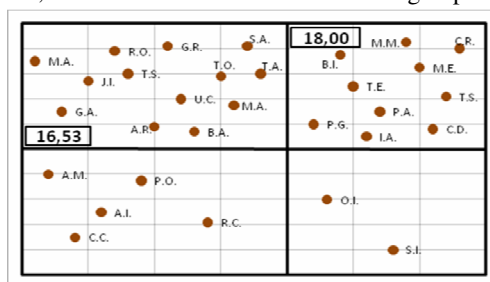
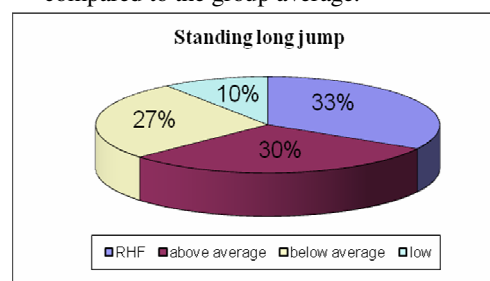
**Figure 4.** Graphical representation of Fixed bar pull-ups test

For the second test, 30% of subjects achieved the RHF recommended standards, 40% have achieved results above group average, 16.6%



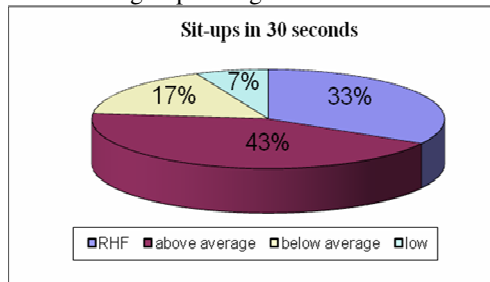
**Figure 5.** Graphical representation of Standing long jump test

33.3% of tested subjects achieved the recommended values by RHF for the standing long jump test, 30% have achieved results above group



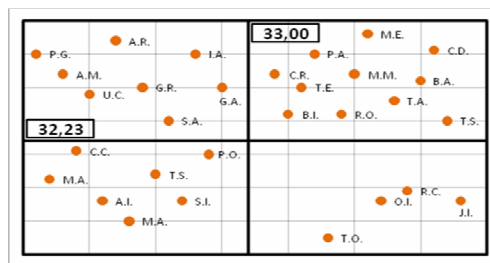
**Figure 6.** Graphical representation for Sit-ups in 30 seconds test

For sit-ups in 30 seconds test, 33.3% of athletes have achieved the recommended values by FRH, 43.4% achieved results above group average,



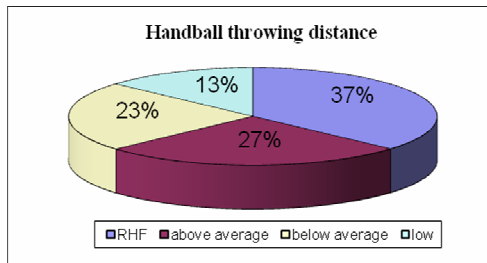
16.6% got close to the group average, and 6.7% obtained very low results compared to group average.



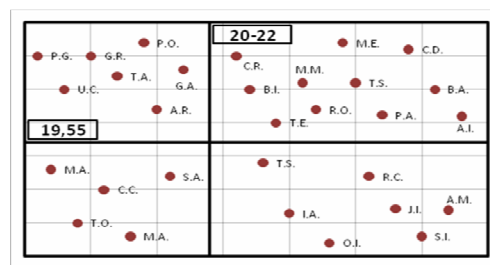


**Figure 11.** Graphical representation for Handball throwing distance test

For test no.9, 36.6% of the participants obtained RHF specified values, 26.7% achieved results above group average, 23.3% below the

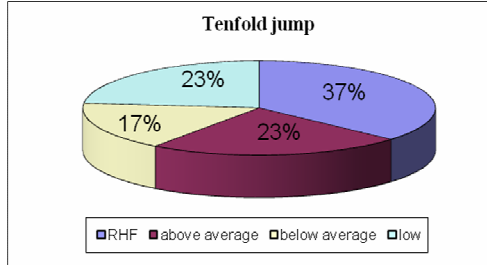


group average and very low values were obtained for a percentage of 13.4 of subjects.



**Figure 12.** Graphical representation for Tenfold jump test

For the last applied test 36.6% of the tested athletes obtained results indicated by FRH, 23.4% achieved values higher than the group average, 16.6% were located immediately below the group average and a rate of 23, 4 have achieved very low values.



performed the vertical selection. Also, this method can be used to highlight the handball players progress in order to select elite athletes, but also to rank the subjects according to their performance on a given sports test.

## CONCLUSIONS

The above graphics highlights the results achieved by each athlete for the proposed tests, according to the RHF standards, which reveal the general and specific physical training level for male handball players for the junior III category in order to achieve sports performance.

Through the graphical method of analysis we identified athletes who fall into the RHF standards, those who are close to them, but also those who must turn to other sports and work harder to achieve performance.

This method can be repeated after a training period in order to highlight each athlete progress and to give them the opportunity to enter into the performance groups, in this way being

## REFERENCES

1. Balint, E., (2006) – Bazele teoretico-metodice ale antrenamentului în jocul de handbal, Editura Universității Transilvania din Brașov;
2. Balint, E., (2006) – Instruirea copiilor și juniorilor în conținutul jocului de handbal, Editura Universității Transilvania din Brașov;
3. Colibaba, E., D., Bota, I., (1998) – Jocurile sportive – teorie și metodică, Editura Aladin, București;
4. Dragnea, A., Teodorescu, S., M., (2002), Teoria sportului, Editura FEST, București;
5. Orțănescu, C., (2002) – Handbalul la copii, Editura Universitaria Craiova;
6. Rață, E., (2007), Prognozarea pregătirii psihomotrice a sportivelor de 14 -16 ani specializate în proba de 50m craul prin aplicarea modelării matematice, Teză de doctorat, Chișinău.