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# **Preliminary research on testing physical general training and specific of the naval pentathlon team from the Naval Academy "Mircea cel Batran" – seamanship sample**

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**Abstract:** As an expression of the degree of development of every driving skill, in this study I applied for objective assessment on physical general training, seven parameters in the disciplines: athletics and swimming, disciplines practiced by military athletes prior to the selection of the national pentathlon team. Tests were applied during experimental stage 1 twice, and the results obtained by the subjects of the two groups were statistically processed. Testing specific physical training included: A. Testing general psychomotor capacity; B. Testing of sensory skills; C. Testing of intellectual skills - concentrated attention, figures – ACC.

## **1. Introduction**

Today, the naval pentathlon is one of 26 sports disciplines in which regional, continental and world competitions are held under the patronage of CISM (International Military Sports Council).

It comprises 5 samples:

- Obstacle course- specific marine test;
- Life saving;
- Utility swimming;
- Seamanship;
- Amphibious cross country;

The title of individual champion is determined by the sum of the results of the 5 samples.

The winning team is designated by summing up the individual results of its components.

## **2. Testing general physical training in the Marine Skills Test**

As an expression of the degree of development of each motricity, in this study we applied for the objective assessment of general physical training, seven parameters in the disciplines: athletics and swimming, disciplines practiced by military athletes prior to their selection at the national pentathlon team. Tests were applied in Experimental Stage 1 twice, and the results obtained by the subjects of the two groups were statistically processed.

From the analysis of the data recorded at the initial testing (table 1), we note that the performance averages obtained by the subjects of the two samples are equal or approximately equal. Also in this

test, calculating the significance of the difference between the averages of the obtained results presents insignificant values to the degree of freedom n-1 and the threshold of significance 0,05.

Table 1.

**Comparative analysis of group media that characterize general physical training of the military athletes originally tested in preliminary research**

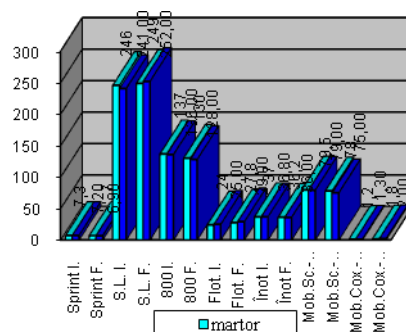
Nr. Crt.	Parametres compare	$\bar{X} \pm m$		Criteria	
		Group witness	Group experiment	"t"	"p"
1	Sprint 50 m (sec)	7,30 ± 0,04	7,20 ± 0,08	2,00	>0.05
2	Jump in L on the spot (cm)	246,00 ± 0,77	241,00 ± 0,61	0,98	>0.05
3	Running 800 m (sec)	137,00 ± 0,69	136,00 ± 0,01	0,69	>0.05
4	Pushups (nr)	24,00 ± 0,53	25,00 ± 0,61	1,56	>0.05
5	Swimming 50m free (sec)	37,00 ± 0,03	36,80 ± 0,07	0,83	>0.05
6	Mobility scapulo-hum. (cm)	79,50 ± 0,84	79,00 ± 0,13	0,46	>0.05
7	Coxo-femoral mobility in the previous plan (cm)	1,20 ± 0,04	1,30 ± 0,10	2,00	>0.05

Table 2.

**Comparative analysis of group media that characterize general physical training of the military athletes final tested in preliminary research**

Nr. Crt.	Parametres compare	$\bar{X} \pm m$		Criteria	
		Group witness	Group experiment	"t"	"p"
1	Sprint 50 m (sec)	7,00 ± 0,04	6,90 ± 0,04	2,00	>0.05
2	Jump in L on the spot (cm)	249,60 ± 1,15	252,00 ± 0,84	1,69	>0.05
3	Running 800 m (sec)	130,00 ± 0,46	128,00 ± 0,46	2,10	>0.05
4	Pushups (nr)	27,80 ± 0,53	29,00 ± 0,69	0,69	>0.05
5	Swimming 50m free (sec)	36,20 ± 0,07	36,00 ± 0,07	<b>2,22</b>	<0.05
6	Mobility scapulo-hum. (cm)	78,00 ± 0,84	75,00 ± 0,77	<b>2,65</b>	<0.05
7	Coxo-femoral mobility in the previous plan (cm)	1,80 ± 0,06	2,00 ± 0,05	<b>2,85</b>	<0.05

At the end of the preliminary investigation, the application of the tests generated changes in the performance averages obtained in most parameters (table 2). From the analysis of the results dynamics described graphically (chart 1), representative are performance averages obtained to final testing at the samples: swimming 50m free; scapular-humeral mobility; coxo-femoral mobility in the previous plan. Meaning of differences between environments to final testing between the two samples is represented by significant values at p=0, 01 the degree of freedom n-1, in favor of the experimental group (for the above mentioned samples t has values 2, 22; 2, 65; 2, 85 > 2, 13 at n-1).



**Graph 1. The dynamics of general physical tests results in an aptitude test seamanship from preliminary research**

### 3. Specific physical testing

#### A. Testing General psychomotor training capacity

Recorded performances of the subjects of the lot and witness the experimental batch have been processed and interpreted.

**Table 3.**

**Comparative analysis of the media group that characterizes the overall preparation of establishing military athletes tested initially in the experimental research**

Nr. Crt.	Parametres compare	Statistics indexes			
		Group witness	Group experiment	Criteria	
		$\bar{X} \pm m$	$\bar{X} \pm m$	„t”	„P”
I	<b>Test neuropsihomotorii skills (space coordination)</b>				
1	Test A.N. Matorin (degrees)	278,47 ± 0,77	279,33 ± 0,61	0,69	> 0,05
II	<b>Sensory skills</b>				
1	Yoke 1 (points)	94,47 ± 0,92	93,67 ± 1,07	1,05	> 0,05
	Calificativ (note)	9,27 ± 0,25	9,07 ± 0,28	0,14	> 0,05
2	Yoke 2 (points)	88,00 ± 0,15	88,20 ± 0,23	0,74	> 0,05
	Calificativ (note)	7,60 ± 0,21	7,60 ± 0,23	0,00	> 0,05
III	<b>Intellectual skills – Concentrated Attention Figures -</b>				
1	Attention (no. signs); (qualifier)	43,73 ± 0,23 weak-minimum	44,27 ± 0,23 weak-minimum	1,68	> 0,05

Data recorded in table 3 and 4 test the A.N. Matorin, adapted to the specific requirements of the sample track with obstacles allow us to note in Figure 2 that the initial testing of both the Group and the experimental group control group recorded an average performance relatively close. Starting from these values the performance of the two samples have improved the final testing, meaning the difference between the environments in this test is expressed in  $t = 2.13 < 1.84$  value at 0.05 significance threshold.

**Table 4.**

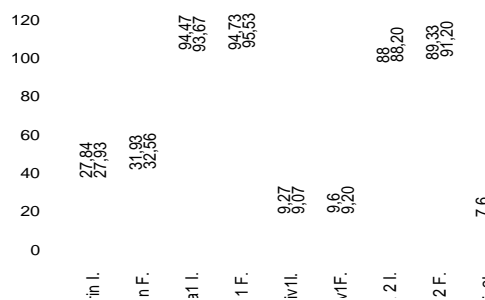
**Comparative analysis of the media group that characterizes the overall preparation of establishing military athletes tested final in the experimental research**

Nr. Crt.	Parametres compare		Statistics indexes					
			Group witness		Grupa experiment		Criterii	
			$\bar{X} \pm m$		$\bar{X} \pm m$		„t”	„p”
I	<b>Test neuropsihomotorii skills (space coordination)</b>							
1	Test A.N. Matorin (degrees)		319,33 ± 2,69	325,67 ± 2,15	1,84	> 0,05		
II	<b>Sensory skills</b>							
1	Yoke 1 (points)		94,73 ± 0,38	95,53 ± 0,30	1,66	> 0,05		
	Calificativ (note)		9,20 ± 0,28	9,60 ± 0,25	0,35	> 0,05		
2	Yoke 2 (points)		89,33 ± 0,53	91,20 ± 0,53	1,17	> 0,05		
	Calificativ (note)		7,93 ± 0,21	8,33 ± 0,27	0,44	> 0,05		
III	<b>Intellectual skills – Concentrated Attention Figures -</b>							
1	Attention (no. signs); (qualifier)		93,33 ± 1,54 weak-upper limit	98,43 ± 1,23 medium- upper limit	<b>2,58</b>	< 0,05		

The results obtained from this assay have been processed in accordance with the scale of assessment in the ratings. Percentage increase from initial testing final testing is in favor of the experimental group. If the initial testing performance obtained by subjects of both groups were employed in the scale of assessment at grade of good, in terms of media results in final testing, it has remained in the good word for subjects the two samples, the sample experiment part close to the upper limit of the word well.

**B. Sensory skills testing**

Recording performance (table 3-4), plotted (Figure 2) allows the statement of fact that the average scores in the initial testing, converted into notes in accordance with the scale of assessment developed demonstrates that in this round of notes environments at initial testing were close as values (9.27 for the control group and experimental group 9.07).



**Graph 2. Dynamic test results in preparation for preliminary research general psychomotor training**

The award notes the final testing is expressed as an average results equal to 9.20 for the group witness for experimental group and 9.60. In the first leg in testing the significance of the difference between the average of the final the two samples is expressed in t with value  $1.66 < 2.13$  value  $p=0.05$ , the difference being insignificant. In the second game, the subjects were executed from the same position screw machine products introduction as in game 1, after a break of 30 seconds-during which time they maintained the sighting line hoodwinked-media performances at initial testing was 88.00 points for sample witness and 88.20 for group experiment. Making the latter note means-according to the scale of assessment, the average of 7.60.

Even if the average scores and notes the increases granted to light presents final testing in favor of experimental sample, meaning the difference between the average values from this test between the two groups of subjects is not significant (t is expressed as the amount of  $1.17 < 2.13$  to  $p=0.05$ ). The difference between the scores obtained from the turbulent final testing for every sample progress materialised in ranking groups in obtaining fine grid (for group control group: the difference between the two scoring runs was 4.8 points, and for the experiment group, the difference was 4.33 points). Considerăm semnificativă trecerea în grila acestui calificativ a eşantionului experiment (the difference compared to the initial testing scores of runs was reduced by 1.34 points).

#### **C. Intellectual skills-testing attention concentrated, figures – A.C.C.**

In tables 3-4 we see that the subjects of the Group witness have achieved initial testing media 43.73 marks, while the experimental group subjects have obtained media 44.27 signs. The scores awarded depending on the number of correct signs, which were processed in accordance with the scale of assessment have been employed in the category of the word weak appreciation-minimum-alphabetic solid quotient of concentrated attention being 0.21. The final values of the results obtained from both samples have been improved. If the subjects of the group witness obtained her signs, 73.33 media fits with this score in assessing our weak grid-limit-coefficient of concentrated attention being alphabetic solid 0.42, the experimental group subjects have obtained media 112.07 marks. They were framed within the maximum word of appreciation environment-the value of the coefficient of concentrated attention being alphabetic solid at this limit 0.63. The significance of the difference of the average of the Group witness testing and experimental group (table 4) is represented by the t with value  $2.18 > 2.13$  to  $p=0.05$ , the difference being significant.

**D. Testing capacity checks in the sample conditions** slalom 90m Pioneer boat rowing on the column, at equal distances, among them 5 beacons. Subjects they would sample the sound signal from block-start and there will be time at last passed balise. Key recovery time of coming together on the last buoy will be recorded. The next time the registration time of resurgence in slalom to the first buoy. Follow the recording time up to the time of recovering the keys of coming together at buoy level 3. From this moment the timer records the time it takes to tag 3 to finishul sample (bypassing buoy 5 and overrun the first buoys with the craft).

**Table 5.**

**Comparative analysis of the media group that characterizes the capacity of testing autocontrol to test athletes and military research firstly preliminary**

Nr. Crt.	The evaluated moments	Group witness		Criteria		Grupa experiment		Criteria	
		Initial testing	Final testing	„t”	„p”	Initial testing	Final testing	„t”	„p”
1	Start-the first buoy (30m)	22 sec.	21 sec.	<b>1,19</b>	<b>&gt; 0,05</b>	20 sec.	16 sec.	2,18	< 0,05
2	Salom first buoy -last buoy (60m)	55 sec.	52 sec.	0,69	>0,05	51 sec.	44 sec.	2,58	< 0,05
3	Salom last buoy - first buoy (60m)	50 sec.	47 sec.	<b>1,35</b>	<b>&gt;0,05</b>	45 sec.	39 sec.	2,22	< 0,05
4	Traveling in a straight line at last passed buoy (60m)	42 sec.	40 sec.	1,05	> 0,05	40 sec.	35 sec.	2,65	< 0,05
5	Remove the key from the emergence	16 sec.	14 sec.	0,14	> 0,05	14 sec.	7 sec.	2,85	< 0,05
6	Traveling in a straight line from the first buoy (60m)	40 sec.	37 sec.	0,74	> 0,05	38 sec.	31 sec.	2,59	< 0,05

Results recorded and statistically processed (table 5), at the end of preliminary research, the experimental group level are statistically significant at the 0.05 significance threshold for all six of the evaluated sample moments of skill seamanship. This demonstrates the effectiveness of the training program developed and applied during a training macrocycle, at the level of representative sample of experimental naval pentathlon team.

Title

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