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**COMPARATIVE ANALYSIS OF PHYSICAL FITNESS OF STUDENTS –
APPLICANTS FOR ENTRY OF CIVIL SERVICE IN THE MINISTRY
OF THE INTERIOR**

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***Abstract:** The prosperity of any society and the stability of each country go through strengthening the legal, democratic and social character of the country in order to protect its security and public order. The role of law enforcement agencies and institutions in the field of security is to endeavor to establish open, productive and profitable partnership with society and perform their duties for ensuring public order and security in transparency and accountability and respect for human rights and dignity of people. In these government structures in the field of security apply and take up work as employees in the public service only the most prepared and qualified in the profession men and women after holding a number of psychophysical and moral volitional qualities which ensure the successful execution of their professional duties. This is a comparative analysis of students studying in the professional field of "National Security" in Varna Free University /Free University/ during their application for entry into public office in the Ministry of the Interior for category "E" - policeman which is carried out under the terms and conditions of Ordinance No.8121 h-344 / 25.07.2014 on the appointment of civil service in the Ministry of the Interior.*

***Keywords:** comparative analysis, self defense, dynamics, students, candidates, training.*

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INTRODUCTION

The prosperity of any society and the stability of each country go through strengthening the legal, democratic and social character of the country to protect its security and public order. The role of law enforcement agencies and institutions in the field of security is to endeavour to establish open, productive and profitable partnership with society and perform their duties for ensuring public order and security in transparency and accountability and respect for human rights and dignity of people.

Increasing public confidence and public support for the law enforcement authorities and security forces is a key element for establishing partnership between the employees and society. The requirements to the organization and activities of the Ministry of the Interior in a democratic state are formulated in a number of international instruments which have been adopted as the basis for the development of the modern Bulgarian police. Some of them are: the European Convention on Human Rights, Code of Conduct for Officials of Law Enforcement and the Declaration on the Police of the Council of Europe of 1979, which reflect the intention to create unified goals, principles of organization and activity of police systems.

In these state structures in the field of security apply and take up work as employees in the public service, the most prepared and devoted to the profession men and women holding a number of psychophysical and moral volitional qualities which ensure the successful execution of their professional duties. Entry into public office in the Ministry of the Interior and the professional development of employees is based on the following principles stipulated in Article 141 of the Law on the Ministry of the Interior [1, 2]:

- Transparency - applying clear and precise evaluation criteria and procedural rules for employment;
- Publicity - announcement of the procedures and mechanisms for selection and career development;

- Competitions - ensuring objectivity through reporting on professional qualities; prohibition of discrimination; equal opportunities for each employee's career development;

- Implementation of motivational mechanisms for professional development; centralized planning and management selection and career.

The Ministry of the Interior (MI) officers are civil servants. The status of civil servants in the Ministry of the Interior, working under an employment relationship is governed by a special law, under the terms and provisions of the Labour Code. The civil servants in the Ministry of the Interior according to their functions and qualification perform public service in the Ministry of the Interior in the following categories: Category "A" - senior management personnel; Category "B" - management personnel; Category "B" - expert staff with managerial functions and expert staff with control functions; Category "D" - expert personnel; Category "D" - executive staff with control functions; Category "E" - executive staff. [2]

Civil servants in the Ministry of the Interior can be capable individuals who have only Bulgarian citizenship; who have not been convicted of any crimes, regardless of rehabilitation or who have not been declared exempt from criminal liability for intentionally committed indictable offense by imposing an administrative punishment; who have not been charged or accused of a crime of general nature; who meet the requirements for age, education, psycho-physical fitness and professional training for the position.

Upon employment for civil service in the Ministry of the Interior for category "E" – policeman, demands are made on the physical condition of the candidates - to be legally capable healthy individuals, not suffering from mental illness and are able bodied as per the medical indicators for state service. Application for entry into public office in the Ministry of the Interior is carried out under the terms and conditions of Ordinance No.8121 h-344 / 25.07.2014 on the Employment for Civil Service in the Ministry. In the course of the competition stages, their physical fitness is evaluated, according to the standards for physical fitness under Appendix 2 to art. 3, para. 1, Section 3 of Ordinance No.8121 h-344/25.07.2014 on the employment of civil servants at the Ministry. [9]

SUMMARY

The professional field "National Security" of Varna Free University trains students in the specialties of "Protection of National Security", "Fighting Crime and Public Order" and "Protection from Accidents and Disasters." (fig.1) Some of the students apply for entry into public office in the Ministry of the Interior while still at university. These and other considerations direct us to conduct comparative analysis of the physical fitness of two groups of students from the professional division of "National security" who applied in 2010 and 2015.

Based on the studies, the literature review and the accumulated experience from the empirical research, we identified the purpose of the present study for comparative analysis of the physical fitness of applicants/students who apply for public office in the Ministry of the Interior.

In order to achieve our goal, we completed the following tasks:

- Stating the need to possess the necessary physical fitness of the applicants for civil servants in the police;
- Determining the level of physical fitness of students over a five year period;
- Analysis of the results.



Fig.1 Practical training in self-defense with students

Methodology

The research was conducted with 22 students in 2010 (13 men and 9 women) and 23 students in 2015 (15 men and 8 women), aged 19-30.

A complex methodology for solving tasks and achieving the goal was used, including the following methods:

- Research and analysis of scientific and methodological literature on physical training;
- Findings diagnostic tests to determine the level of physical fitness through physical fitness test battery;
- Statistical processing of results through variation and benchmarking.

RESULTS ANALYSIS

Under Article 18 (1) of Regulation No.8121 h-344 / 07.25.2014, the competition for appointment for public office in the Ministry of the Interior is carried out in three stages: 1. Examination of physical fitness; 2. Psychological evaluation; and 3. Final interview. The stages of the competition have eliminatory character and are carried out applying specialized methods. Not accidentally, the first step is the study of physical fitness and in the event of inability to comply with the norms the candidate is eliminated from further competition.

The leading aspect of physical training is laid in the statutory powers of the officer designated by Ordinance No.8121 h-1130 of 2015 of the Minister of the Interior on "The order of use of physical force and auxiliary means", as per Art. 85. (1). In the performance of their duties, the police officers may use physical force and auxiliary means only when absolutely necessary. [6]

In the course of study of the students, we performed two fact-finding diagnostic measurements for determining the degree of physical fitness, in 2010 and 2015 respectively. We tested the students as per the norms of the requirements for admission as civil servants, category "E", as follows: standing long jump with arm swing (cm) - male/female; a run cycle on eights - 4 cycles (sec) - male/female; 800-meter run (min) - male/female; push-ups (number) - men; sit-ups (number) - female (Table 1). Before the start of any event, the respondents were instructed on how to measure the results and the requirements for performing the exercises.

The students in the vocational field of "National Security" study the compulsory discipline of "Sport - Self Defence" by standards similar to those for civil servants in the Ministry. According

to the norms of the specialized methodology for studying the physical fitness of candidates for entry into public office in the Ministry of the Interior, we made the students of "National Security" Division undergo evaluation of their basic motor skills: strength, speed, endurance, coordination, flexibility and agility.

The explosive force of the lower limbs is evaluated through the "standing long jump with arm swing" test (cm). Table 2 and Table 3 show that both groups of studied students from 2010 and 2015 respectively, do not show significant differences in measurement values, and respectively for the explosive power of the lower limbs we have the following results X average = 214 cm for men from 2010, at variation coefficient $v = 18.06\%$ and X average = 213 cm for men from 2015 at variation coefficient $v = 17,12\%$, and for women from 2010 X average = 174 cm at variation coefficient $v = 17,22\%$ and women by 2015 X average = 172 cm at variation coefficient $v = 26,43\%$.

Table 1. Scoring system for evaluation of physical fitness

CIVIL SERVANTS Category "E"										
Point scoring	Test battery									
	Standing Long Jump (cm)		Run on Eights 4 cycles (s)		800-meter run (min)		Push-ups (number)		Sit-ups (number)	
	men	women	men	women	men	women	Men	women	men	Women
8	≥240	≥210	-	-	$t \leq 3.10$	$t \leq 3.20$	-	-	-	-
7	235	205	$t \leq 16.2$	$t \leq 16.6$	3.11-3.15	3.21-3.25	≥55	-	-	≥55
6	230	200	$16.3 \leq t$	$16.7 \leq t$	3.16-3.20	3.26-3.30	50	-	-	50
5	225	190	$16.4 \leq t$	$16.8 \leq t$	3.21-3.25	3.31-3.35	45	-	-	45
4	220	185	$16.5 \leq t$	$16.9 \leq t$	3.26-3.30	3.36-3.40	40	-	-	40
3	215	180	$16.6 \leq t$	$17.0 \leq t$	3.31-3.35	3.41-3.45	36	-	-	36
2	210	175	$16.7 \leq t$	$17.1 \leq t$	3.36-3.40	3.46-3.50	32	-	-	32
1	205	170	$16.8 \leq t$	$17.2 \leq t$	3.41-3.45	3.51-3.55	30	-	-	30

With the 2015 women, in view of the increased percentage of variability, we consider the achievements of the explosive force of lower limbs from one point as an unreliable sign for analysis. In the 2015 men study group, we notice a slight decrease of the explosive force of lower limbs, with a score of two points as compared to those of 2010.

Table 2. Physical abilities of students in 2010

No.	Norm	n	X average	Standard deviation	Variation Coefficient	Student's t-distribution	P _t %
				S	V%	t	
1	Standing long jump (cm)	13	214	0,83	18,06	1,32	>96%
		9	174	0,97	17,22	2,02	≤95%
2	Push-ups (number)	13	35	2,37	15,61	2,98	>97%
3	Sit-ups (number)	9	32	2,39	17,21	3,92	≤90%
4	Run on eights 4 cycles	13	16,7	2,44	12,53	2,35	>97%
		9	17,2	2,68	9,81	2,65	>97%
5	800-meter run (min)	13	3,37	1,97	12,82	2,44	=96%
		9	3,45	1,81	13,71	2,85	>97%

The values for the speed of students as measured by the test "Run on eights - 4 cycles (sec)-male/female" in Tables 2 and 3 show that with the results registered in 2015, both groups receive zero points, respectively men X average = 16.9 sec at variation coefficient of $v = 13,15\%$, and women with values of X average = 17.3 sec at variation coefficient of $v = 10,72\%$. It is noteworthy that the percentage of respondents in 2010 who showed a significantly higher than average performance is lower compared to other tests - 23%, while for 2015 it is 26%.

The measured values of the tests "Push-ups" (number) and "Sit-ups" (number) gave us information on the new values in the durability of the upper limbs in men and the trunk in women. The values in Table 2 and Table 3 indicate a trend towards lower strength endurance of upper limbs and trunk in as a whole in the 2015 group of students, resulting in a difference of $d = -4$ for men, at a lower variation coefficient of $V = 11.71\%$, indicating a homogenization of the weaker performance of this group of students as compared to their peers in 2010, who registered two points. For the women, in consideration of the low percentage of veracity of $P \leq 90\%$ for 2010 and $P \leq 91\%$ for 2015, we consider the achievements of the strength of the trunk with a difference of $d = -6$ (number) for an unreliable sign for analysis of the zero points score.

The endurance quality is the basis for the development of vital motor skills and is essential for police service, as employees need to be able to perform a certain activity for quite a long time, without reducing efficiency. The manifestation of this quality requires maximum mobilization of the psycho-physical qualities, with the implementation of voluntary effort for acting under extreme conditions. [1]

Table 3. Physical abilities of students in 2015

No.	Norm	n	X average	Standard deviation	Variation Coefficient	Student's t-distribution	P _t %
				S	V%	t	
1	Standing long jump (cm)	15	213	0,86	17,12	1,84	>96%
		8	172	0,94	26,43	2,13	≤94%
2	Push-ups (number)	15	31	2,15	11,71	2,67	>96%
3	Sit-ups (number)	8	26	2,41	16,48	3,17	≤91%
4	Run on eights 4 cycles	15	16,9	2,32	13,15	2,52	>97%
		8	17,3	2,54	10,72	2,57	>96%
5	800-meter run (min)	15	3,41	2,01	15,21	2,18	=96%
		8	3,52	1,98	15,23	2,36	>96%

From the values for endurance, as measured by the test "800-meter run (min)" in Table 2 and Table 3 show that students from both groups surveyed in 2010 and 2015 have shown unsatisfactory performance. Fact-finding diagnostic tests reported results X average = 3.41 minutes for men and X average = 3.52 min for women, at variation coefficient for both sexes of $V = 15,20\%$. We think this fact is due to immobility and lack of running exercises stimulating aerobic and anaerobic running modes for influencing the development of the quality of durability.

CONCLUSION

To sum up, it should be noted that the implementation of professional and practical skills from the officers of the MoI requires the use of physical force and auxiliary means, which comply with the specific situation, the nature of the breach of public order and the personality of the offender. The employment of the civil service applicants with excellent physical training would

facilitate the achievement of the above mentioned goals and improve the adaptation of newcomers into the police departments.

Based on the analysis of the results, we can formulate the following conclusions and recommendations:

- When reviewing the need to possess the necessary physical fitness of applicants for civil servants in the police, the findings showed results in the lower sector of the scoring system for assessing physical fitness;
- The results of the fact-finding diagnostic tests give reasons to conclude that further work is needed to improve the physical fitness of candidates for entry into public office in the Ministry of the Interior;
- In the exercise of the statutory powers of the officers of the MI for the prevention, detection and investigation of criminal offences, predominantly a high level of psychophysical training is required.

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