

Assessment of the Impact of the Educational Process on Motor Activity and Health Level of Cadets of Educational Institutions of the Ministry of Internal Affairs of Russia

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Abstract

It is necessary to point out that physical training in educational institutions of the Ministry of Internal Affairs of Russia is one of the leading areas of preparing future specialists. Physical training of cadets is closely related to the processes occurring in the social and socio-economic life of a city, district, region, state. Important changes in the basic functions of modern society, an increase in the volume and complexity of the tasks carried out by the internal affairs agencies, and the qualitative transformation of the characteristics of crime determine the need for high and diverse readiness of employees to effective law enforcement activities. The important components of the physical training of internal affairs officers, as well as other specialists, are the level of physical activity and quality health indicators. These components will determine the physical fitness of law enforcement specialists, not to mention the effectiveness of their duties. Graduates of general educational institution entering the educational organizations of the Ministry of Internal Affairs of Russia make the first step towards the development of the identity of a law enforcement officer. Therefore, the level of future professional knowledge, skills, and abilities, as well as competencies during their study at a higher education institution will determine the ability of a police officer to cope with his/her official duties. During a study in educational institutions of the Ministry of Internal Affairs of Russia, due attention should be paid both to the correct distribution of the cadets' motor activity throughout the day should be monitored and to the preservation and improvement of the health of cadets.

Keywords: Physical Training, Cadets, Physical Activity, Health Level, Educational Process.

Introduction

The analysis of statistical data shows that about 4 million young people aged 10 to 20 years live in Russia. It is also noted that most of them have deviations in their state of health. The cadets show low physical activity, as well as the absence of the need for physical training and sports [1]. The motor activity does not act as a daily habit but is a prerequisite for creating a favorable daily regimen with proper organization of life, work and rest, and attitude towards bad habits [2].

Many scientists point out that insufficient physical activity among cadets and students can be manifested in fatigue and unwillingness to perform the training load for a long time, also in the inability to quickly switch attention and manifest their volitional qualities [2-6, 12].

A decrease in motor activity and muscular effort depends on many factors and is most often determined by the sedentary lifestyle of a modern person in highly developed countries [7, 8]. According to literary sources, the prevalence of hypodynamia in a growing person is currently associated with the destruction of motor space, enthusiasm for the digital or virtual

environment, change of interests, emergence of various forms of leisure, excluding physical activity, strengthening of the focus of the educational process in educational institutions to develop intellectual potential [2, 3, 4, 9, 13].

Thus, an increasing number of young people develop hypodynamic conditions, despite the widespread propaganda of physical culture and sports. According to recent studies, the biological need for movement of a growing person in the modern educational space is satisfied by less than 60%. Similar trends are observed in other countries [5, 6, 10, 11].

The problem of physical inactivity acquires a social character, and only the combined efforts of the state, educational and public institutions, teachers and the people themselves can help achieve a successful solution.

Methods and Organization of Research

To assess the level of motor activity of cadets, a one-school-day study was conducted. The training schedule was analyzed and the physical activity during the school day was calculated with the help of Omron pedometers.

The study involved cadets of I.D. Putilin Belgorod Law Institute of the Ministry of Internal Affairs of Russia during the month in the first academic semester.

Three third-year platoons were selected. The total number of cadets was 59; 40 of them were boys and 19 - girls. The third-year cadets were chosen intentionally. According to literary sources [7, 8, 10], by the 3rd year, students finally adapt to the conditions of the educational organization. Their educational activities are well established.

In addition, the cadets of these same platoons were chosen by the level of health, using the rapid assessment of the level of health by G.L. Apanasenko's method [2]. The method involves measurements of indicators of physical development and the calculation of indices. Evaluation of the results takes the form of points and is summarized.

The health factor according to the modified formula by R.M. Baevsky [2] was used to estimate the adaptive potential of the circulatory system. The method allows quickly and without great expense identifying individuals who require recreational activities or a change in environmental conditions.

Results and Discussion

A group schedule is given in Table 1.

Table-1: The training schedule of cadets of the educational institution of the Ministry of Internal Affairs of Russia

	Time/class	Platoon 1	Platoon 2	Platoon 3
Academic day	08.30-10.00 Class 1	Police activity administration (practice)	Civil procedural law (seminar)	Physical training (practice)
	10.15-11.45 Class 2	Physical training (practice)	Forensics (seminar)	Police activity administration (practice)
	12.00-13.30 Class 3	Forensics (seminar)	Physical training (practice)	Psychology (practice)

The above schedule shows that during the school day, each platoon has a practical class in physical culture, which causes a high physical activity in this lesson. The remaining classes are theoretical, which indicates a low physical activity during the classes. One cannot exclude additional activity during classes and when moving from one to another classroom.

Analysis of the week training schedule showed that these groups had no more than 3 classes daily. During the week, the students had 3 classes in

physical training, which should positively affect their physical fitness. Although the weekly cycle is insufficient for a broad analysis of the student's training load.

Based on analysis of the cadets' motor activity during the selected school day, we can say that a physical training session requires good fitness. This class is of high density and includes multiple various special exercises that allow implementing more than half of the daily norm of the motor activity. The data are shown in Table 2.

Table-2: The motor activity of cadets of the educational institution of the Ministry of Internal Affairs of Russia during the academic day

	Time/class	Platoon 1		Platoon 2		Platoon 3	
		Girls	Boys	Girls	Boys	Girls	Boys
Academic day	08.30 - 10.00 Class 1	424±79	531±61	301±48	422±62	4980±148	5440±296
	10.15 - 11.45 Class 2	5330±342	6860±658	534±82	651±91	404±59	546±41
	12.00 - 13.30 Class 3	631±62	703±59	4260±251	6460±364	384±99	501±81
	Total motor activity	6385±284	8094±375	5095±319	7533±401	5768±289	6487±254

According to leading scientists who deal with the problems of physical activity of students, the volume of physical activity in these young people during the day should be 10-12 thousand locomotion [1, 2]. This provision has formed the basis of our study.

The table shows that the main motor activity is unevenly distributed during the school day. A physical class of 4,000–5,000 steps for girls and 5,000–6,000 for boys assumes the basic motor activity. This corresponds to more than half the daily norm. During the rest of the classes, cadets, which is about 3 hours of study time, are passive. The volume of their physical activity does not exceed 1000 steps during two classes.

It should be noted that the greatest activity of the cadets during physical training was observed at the 2nd training class. As Table 2 shows, boys who were engaged in physical training during the first class had low physical activity during 3 physical training classes. A high volume of motor activity was noted in a platoon whose physical training class was held at the second training hour. Apparently, this is due to the fact that at the beginning of the school day the cadets feel difficult to get involved in physical activity, although the general formation was held before classes. By the end of the school day, the cadets experience fatigue, so the increase in physical activity by the third class in physical training was not observed. This is well manifested in the results of the motor activity of girls of platoon 2. Their level of physical activity is the lowest among all physical training classes.

Motor activity of cadets is unevenly distributed throughout the academic day. They feel difficult to get

Table-3: Assessment of the health level of cadets of the educational institution of the Ministry of Internal Affairs of Russia

		Quetelet index	Points	Power index	Points	Vital index	Points	Robinson's index	Points	Recovery time after 20 squats	Points	Total score	Health level	KZ Baevskii	Status
Boys	m	23.82	0.27	63.17	0.13	53.31	0.70	86.78	2.02	1.00	5.00	8.09	mean	2.21	stressed
	M	0.73	0.25	1.00	0.33	4.88	0.45	3.72	1.33	0.01	0.12	1.28		0.06	
Girls	m	20.29	-0.08	51.41	1.12	44.06	0.44	80.21	1.01	1.31	3.44	5.82	Below average	1.83	satisfactory
	M	0.20	0.14	3.45	0.63	3.80	0.40	10.14	1.08	0.02	0.77	2.12		0.25	

The assessment of the level of somatic health involved 59 third-year cadets (19 girls and 40 boys). They also took part in the analysis of motor activity.

The table shows the average values of the results for the entire sample of cadets.

The study of the level of somatic health of the cadets determined that, according to this method, the boys had a total score of 8.09 ± 1.28 , which corresponds to the average level. The total score is made up of several indicators. As the above table shows, the boys scored more points in Robinson's index, which determines the capabilities of the cardio-respiration system, and in the "Recovery time after 20 squats" test. This indicates that young cadets can recover quite well after exercise. Their cardio-

involved in the educational process by the first class. By the last training class, girls and boys experience fatigue and exhaustion. In general, for the whole academic day, students perform more than half the daily norm of motor activity. We can assume that during the course of the day cadets exceed the daily norm in motor activity, which should have a positive effect on their health.

The level of health was assessed using the method by G.L. Apanasenko [2]. It allows finding out easily the level of health of the subjects. The method is comprehensible and can be used with a different population and in different conditions. It establishes a clear relationship between the level of somatic health and the state of health. The lower the level of an individual's somatic health is, the more likely a chronic somatic illness develops.

The obtained results are given in Table 3.

respiratory system copes well with the difficulties of the educational process. The remaining indices reflect a low level of power fitness and low capabilities of the respiratory system (more precisely, low lung capacity).

Girls had a lower overall score than boys. The overall score of the level of their somatic health was 5.82 ± 2.12 , which corresponds to a level below the average. The summation of the scores of the indices shows that the main points were scored in the power index, which indicates good power fitness of girls, in Robinson's index, which indicates good cardio-respiratory system capabilities, and in the "Recovery time after 20 squats" test - most girls recover quickly after exercise.

Additional research aimed at assessing the adaptive capacity of the circulatory system of cadets using Baevsky Health Ratio showed that girls have no problems with adaptive capabilities. While boys, otherwise, had some difficulties in the adaptation system of their organism. This case requires wellness and recreational activities to restore the potential of the adaptive capabilities of the organism of young cadets.

Conclusion

Summarizing the study, we should say that high physical activity has a positive effect on the level of health of students, but its distribution during the school day should or strive to be even. The educational process includes various negative aspects, which should be leveled by the experience of using various means of physical culture. Students during the school day may experience problems with sharp fluctuations in motor activity, which requires great effort from their body. Abrupt changes in motor activity can promote worsening of various diseases.

The assessment of the level of somatic health of cadets of the educational institution of the Ministry of Internal Affairs of Russia proved a need for physical and recreational activities that would restore the adaptive capacity of the body of girls and boys.

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