

# Indicators of motor activity and physical fitness of university teachers

UDC 796.011.3



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## Abstract

**Objective of the study** was to identify the level of physical fitness of university teachers based on the analysis of their physical activity.

**Methods and structure of the study.** The pedagogical experiment was carried out on the basis of the Belgorod State National Research University, which was attended by teachers of the humanities (general profile) and physical education. The sample consisted of participants aged 30 to 35 years. To assess motor activity, OMRON pedometers were used. To assess physical fitness, control exercises for men and women were proposed.

**Results and conclusions.** It has been established that teachers of humanitarian disciplines are characterized by low motor activity, which is associated with the peculiarities of their professional activities. This indicates a weak functional activity of the body systems and a violation in the activity of regulatory mechanisms. The authors proposed ways to increase motor activity and increase efficiency.

**Keywords:** motor activity, physical readiness, educational activity, physical culture, teacher, higher educational institution.

**Introduction.** At present, numerous studies have established that the professional activity of a teacher is accompanied by emotional, physical and mental overload. Factors that negatively affect the health of a teacher include workload, the use of information technology in the educational process, the maintenance of methodological and reporting documentation, and much more. In this regard, the organization and regulation of physical activity of teachers during the day is a topical area of research by scientists and practitioners.

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**Methods and structure of the study.** The pedagogical experiment was carried out on the basis of the Belgorod State National Research University, in which teachers of the humanities (general profile) and physical education took part. The sample consisted of participants aged 30 to 35 years. Each group consisted of 10 men and 5 women.

To assess motor activity, OMRON pedometers were used. Motor activity was measured during the week. To assess physical fitness, control exercises for men and women were proposed. Thus, women performed a 60-meter run, a tilt from a standing position, tilts from a prone position for 1 minute and a shuttle run of 10 × 10 m. Men performed 60 m run, tilt from standing position, flexion-extension of arms from prone position and shuttle run 4 × 20 m.

**Results of the study and their discussion.** The data obtained testify to the low physical activity of general teachers. On weekdays, the activity of both women and men does not exceed the conditional daily norm of 10,000 steps. And on weekends, the result of shagometry is halved (Table 1). Physical education teachers on weekdays take twice as many steps as in the group of general teachers. This trend is observed in both women and men. On weekends, physical activity exceeds the conditional daily norm of 10,000 steps. Comparison of the results is marked by a significant difference (ac-

**Table 1.** Average indicators of pedometer for teachers during the week

Days	General profile		Physical education profile	
	Women	Men	Women	Men
Weekdays	7358±467	8796±641	12175±658	14191±739
Weekend	4322±351	4178±512	10586±433	10893±541

**Table 2.** Results of control testing of teachers

Testing	General profile		Physical education profile	
	Women	Men	Women	Men
Run 60 m, s	13,2±0,8	12,4±0,7	10,5±0,6	8,7±0,4
Tilt, cm	9,5±0,6	-3,5±0,4	14,3±0,9	9,2±0,8
Shuttle run, s	34,1±2,7	18,2±1,5	31,2±2,1	16,5±1,7
Slopes for 1 min, times	21±1,7		35±2,4	
Push-ups, times		22±2,3		37±3,9

according to Student's t-test). Comparative assessment of the level of physical fitness in the control exercises of teachers demonstrates differences in indicators. Physical education teachers are faster in running 60 meters, they perform better the shuttle run test, as well as tests to determine strength abilities, than representatives of the humanitarian direction. The result of the tilt test from a standing position by male teachers of general disciplines was  $-3.5 \pm 0.4$  cm. The negative sign indicates the position of the fingertips above the floor. Comparison of the results is marked by a significant difference (according to Student's t-test).

**Conclusions.** As a result of the study, it was found that teachers of the discipline of the humanitarian profile are characterized by low motor activity, which is associated with the peculiarities of their professional activities. The only possible form of activity during the working day is moderate movement in a limited space, gestural movements and activity at the board or screen. While the activity of physical education teachers is full of various movements during practical classes.

In turn, low indicators of motor activity and physical fitness may indicate a weak functional activity of body systems and a violation in the activity of regulatory mechanisms. All this affects the efficiency and stability of teachers to professional and everyday workloads.

As part of the regulation of physical activity, general teachers are recommended to perform physical training minutes or mobile exercises during training sessions on weekdays. Daytime walks or light workouts are possible to switch activities. After a working day, get home on foot, and not by public transport. It is important to spend the weekend actively or to actively spend part of the day off. It is also important for teachers to be involved in the recreational and physical education activities of higher educational institutions. Take part in the preparation and delivery of the

All-Russian physical culture and sports complex GTO.

The proposed ways of motor activity regulation will allow not only to increase motor activity, but also to increase working capacity.

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