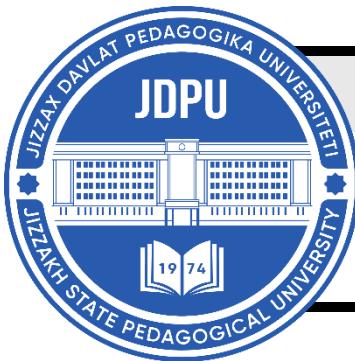


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THE EFFECTIVENESS OF INCREASING MOTOR ACTIVITY IN PROFESSORS AND TEACHERS THROUGH THE MECHANISM OF APPLYING STATODYNAMIC AND PSYCHOLOGICAL METHODS

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ABOUT ARTICLE

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Abstract: This article presents a mathematical and statistical analysis of indicators obtained from a study on increasing the motor activity of faculty members in higher education institutions, through the application of statodynamic and psychological tools.

Introduction. In modern higher education institutions, the working conditions, increased teaching workloads, and growing psychological pressures experienced by professors and teachers have a negative impact on their physical activity levels.

Research aim. The aim of the study is to examine the effectiveness of applying statodynamic and psychological mechanisms designed to enhance the motor activity of higher education institution teachers.

Research Objectives:

- To develop a mechanism for applying statodynamic and psychological methods aimed at increasing the physical activity of professors and teachers engaged in theoretical instruction;

- To determine the effectiveness of the proposed program based on mathematical and statistical analysis of the obtained results.

Methodology. Based on the research aim and the objectives set, both practical and theoretical instructors from higher education institutions were involved in the study. Prior to the intervention, participants were divided into experimental and control groups, each consisting of 36 individuals. Subsequently, the initial indicators of their motor activity were measured at the beginning of the study (Table 1).

Table 1

Comparison of the Main Statistical Characteristics of the Anthropometric Indicators of the Control (n=36) and Experimental (n=36) Groups Recorded at the Beginning of the Pedagogical Experiment

B/S	Control Group		V, %	Experimental Group		V, %	AF	NF	T	P
	X	Σ		X	Σ					
t-test										
Body Weight (kg)	93,07	8,03	8,63	94,83	8,51	8,97	1,76	1,89	0,90	>0,3
Body Mass Index (BMI, kg/m ²)	28,79	3,05	10,60	29,15	3,20	10,98	0,36	1,25	0,49	>0,6
Waist Circumference (cm)	127,61	14,83	11,62	126,51	15,13	11,96	1,10	0,86	0,31	>0,7
Thigh Circumference (cm)	80,25	8,51	10,60	81,42	8,94	10,98	1,17	1,45	0,57	>0,6
Triceps Skinfold Thickness (mm)	32,94	4,15	12,61	33,64	4,37	12,99	0,69	2,11	0,69	>0,4
Generalization of total average growth							1,02	1,51		

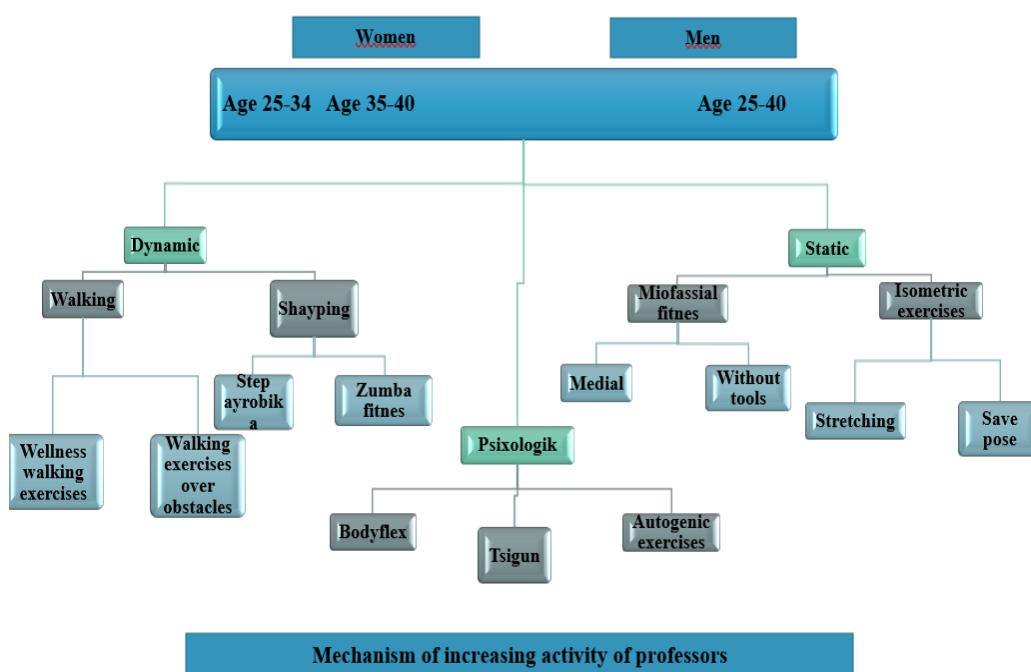
In our developed exercise complex, the selected methods were categorized into three groups dynamic, static, and psychological based on the daily activities of professors and teachers. The purpose of this classification was to account for differences in their professional routines: some teachers spend most of the day sitting and engaging in minimal physical movement, while others have more active roles throughout the day. Considering that both categories may experience various levels of psychological strain resulting from their professional duties, specific exercise combinations were designed for each group.

Each teacher, depending on their professional activity and daily workload, could select the most suitable approach either to increase or to stabilize their physical activity level in order

to improve and maintain their health. Through the regular implementation of these exercise complexes, static exercises were recommended for professors and teachers engaged in practical sessions, whereas dynamic exercises were advised for those conducting theoretical classes. Additionally, psychological techniques were recommended for all professors and teachers to support their mental well-being. Teachers were encouraged to apply the motor activity enhancement mechanism at convenient times during the day to achieve optimal results (see Image 1 and Tables 2, 3, and 4).

Results and discussions

Image 1. Professor is used as a mechanism for increasing teachers' physical activity.



• Walking				
Block I (organizational methodological complex for walking exercises)				
Exercise name	Effect of application	Duration of repetitions	Acceptable products	Acceptable liquids
1. Wellness walking exercises 2. Walking over fences	1. Daily wellness walking, strengthens the cardiovascular system, breaks down calories and improves mood. 2. Strengthens muscles improves balance and increases overall endurance.	1.20-25 minutes during the day 2.8-10 minutes at the appointed time of the day	Protein products Carbohydrates Fats	1. Water 2. Mineral water without gas 3. Herbal tea 4. Kefir or ayran 5. Milk 6. Fruit smoothie
Shaping				
Block II (organizational methodological complex for training in shaping)				
1. Step aerobika 2. Zumba fitness	1. Exercise to move the thigh muscles, buttocks and waist, strengthen, improve blood circulation after long sitting, and increase body flexibility.	1. 10-12 times 2. 20-25 minutes	Protein products Carbohydrates Fats	1. Water 2. Mineral water without gas 3. Herbal tea

Table 2. A complex of Correctional dynamic exercises for teaching professors

The table above systematically presents a set of dynamic exercises aimed at increasing the physical activity of university professors and instructors. It has been specially designed for educators who lead a sedentary lifestyle and spend most of their working day sitting. Dynamic exercises, particularly walking and shaping workouts, are highly effective in expanding the functional capacity of the body, accelerating metabolic processes, restoring muscle activity, and strengthening psycho-emotional stability. Walking is the most natural and safest form of physical activity for humans and can be performed by professors and instructors of any age without additional equipment. Block I of the table covers various types of walking, their physiological effects, repetition duration, and the nutrition and hydration regimen necessary for quality recovery. Walking exercises reduce the negative effects of a hypodynamic lifestyle by activating the cardiovascular system, restoring muscle tone, improving blood circulation in the joints, elevating mood, and reducing stress. Fluids consumed after exercise also play an important role. Non-carbonated mineral water, probiotic drinks (such as ayran and kefir), as well as herbal beverages like chamomile, mint, and green tea help restore electrolyte balance, thin the blood, and accelerate the elimination of fatigue by-products from muscles. Since teaching involves significant mental strain, maintaining proper hydration has a strong impact on concentration, work efficiency, and overall mood.

Shaping is presented in Block II and consists of a set of exercises aimed at shaping the body's aesthetic appearance, harmoniously developing muscle groups, and reducing fat tissue. Step aerobics strengthens the muscles of the thighs, gluteal region, and lower back, restoring blood circulation that becomes sluggish as a result of prolonged sitting. Zumba fitness is a highly dynamic set of movements that activates the shoulder, arm, and abdominal muscles and is particularly effective in relieving tension that accumulates in the neck and shoulder area. Common issues among professors and instructors, such as stress, muscle tightness, and excessive fatigue, can be effectively reduced through Zumba and step aerobics exercises. Post-shaping nutrition should be rich in proteins and carbohydrates. As for fluids, non-carbonated mineral water and herbal teas stimulate metabolism and accelerate the body's recovery processes. The two blocks presented in the table walking and shaping exercises provide a comprehensive approach to improving the physical activity of professors and instructors. The rules for performing the exercises, their duration, effectiveness, and the types of food and fluids required for recovery are clearly defined. Regular application of these exercises helps reduce excess body fat, increase muscle strength and tone, activate blood circulation and the cardiovascular system, reduce stress, enhance work efficiency, restore water balance to ensure

stable energy levels, eliminate hypodynamic conditions, and prevent problems such as metabolic syndrome, overweight, and lower back pain.

Table 3

The content of static exercises

Isometric exercises		
Exercise content	Effectiveness	Duration of repetition
Statodynamic exercises for strengthening muscles through pressure and promoting muscle hypertrophy. These exercises involve muscle tension without contraction.	Isometric exercises can be very effective for strengthening muscles and increasing their strength, as they activate a large number of muscle fibers. They also help improve endurance, which can be beneficial for athletes and individuals engaged in physical labor.	Isometric exercises are exercises in which the muscles are tensed without changing their length, and they can be performed anytime you want. These exercises do not require any special equipment, so they can be done not only in the gym but also at home or even in the office.

Table 4

A set of psychological exercises

Autogenic exercises		
Exercise content	Effectiveness	Duration of repetition
Autogenic training is a method of positive self-influence or self-suggestion.	Autogenic training has been effective in reducing general anxiety, nervousness, and fatigue symptoms. It can also be beneficial for increasing stress resistance and reducing sleep problems. During stressful periods, it can help you feel more relaxed and improve your ability to concentrate effectively.	An important aspect is that mastering autogenic training requires time and regular practice. It is recommended to start with short sessions of 5-10 minutes and gradually increase their duration to 20-30 minutes. Consistent practice is essential to

		achieve stable and lasting results.
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After applying the exercise program we developed and recommended, as well as the mechanisms of statodynamic and psychological exercises, to the members of the experimental group for six months, the following results were obtained from the members of both the control and experimental groups (Figure 1 and Table 5).

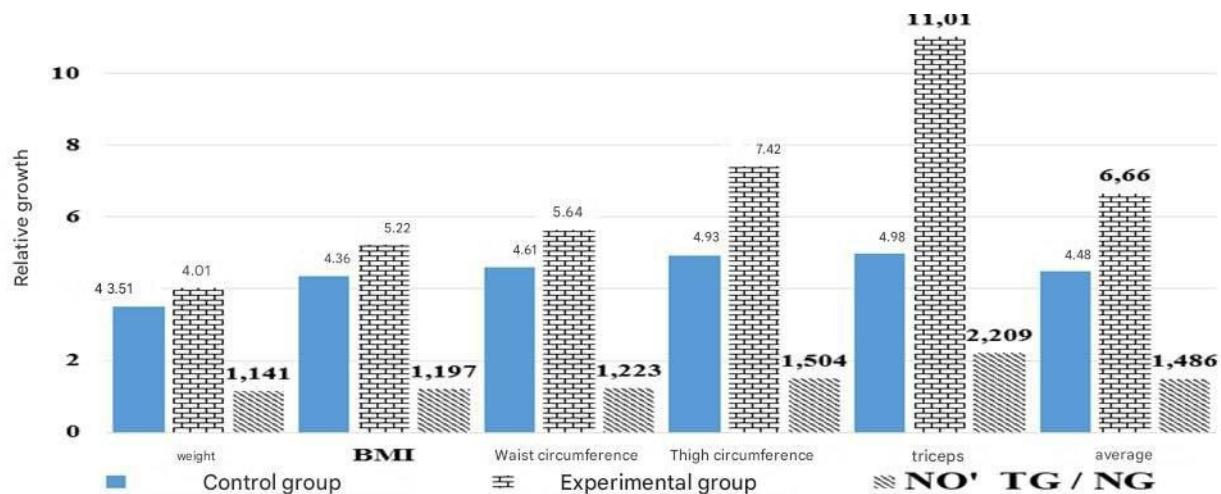


Figure 4. A comparative diagram (in percentages) of the average arithmetic values and the average relative growth rates of the anthropometric indicators recorded at the beginning and end of the pedagogical experiment among the participants of the control and experimental groups.

Table 5

Comparison of the dynamics of changes in the main statistical characteristics of the physiological indicators recorded at the beginning and end of the pedagogical experiment in the control (n=36) and experimental (n=36) groups.

Total		B/E		E/E		V, %	AI'	RI	t	P	
		X	σ	X	σ						
Toal fat	CG	40,18	5,45	13,57	37,56	5,05	13,44	2,61	6,50	2,11	<0,05
	EG	40,77	5,70	13,98	35,39	4,64	13,11	5,38	13,20	4,39	<0,001
Water balance	CG	45,45	6,63	14,59	48,54	7,03	14,48	3,09	6,80	1,92	>0,05
	EG	44,97	6,73	14,96	51,85	7,32	14,12	6,88	15,30	4,15	<0,001
Biological age	CG	46,17	6,28	13,6	43,19	5,81	13,45	2,97	6,44	2,08	<0,05
	EG	46,50	6,50	13,98	40,50	5,32	13,14	6,00	12,90	4,29	<0,001
Visceral fat	CG	34,47	5,04	14,61	32,51	4,70	14,47	1,96	5,70	1,71	>0,05
	EG	34,13	5,11	14,97	30,39	4,30	14,15	3,74	10,96	3,36	<0,01

At the end of our study, the comparative ratio of the indicators obtained from the experimental and control group members clearly reflected the effectiveness dynamics of our research.

Conclusion. In conclusion, over a six-month period, we conducted the study with the experimental group based on a specially developed program and mechanism consisting of dynamic, static, and psychological methods. The final results were positive, and the relative growth dynamics of the outcomes in the experimental group were higher than those in the control group. Moreover, the statistical analysis of these improved indicators confirmed the effectiveness of the recommended statodynamic and psychological methods. This demonstrates the high practical efficiency of the correctional-pedagogical intervention.

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