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## Motivational Principles Of Using Various Fitness Programs.

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### ABSTRACT

To establish the motivational principles of using different fitness programs and their influence on the adaptive potential of students of universities of Ukraine. The study was attended by 199 students (126 girls and 73 boys) of the first year of different universities in Kharkiv, engaged in various types of fitness classes. The study allowed to determine the motivation of classes for different types of fitness programs for girl students and boy students, as well as the impact on their adaptive potential. The most popular fitness programs among girls are: Fitness Mix, Step Aerobics, Dance Aerobics, Functional Training, Tabata Training; among boys: Crossfit Training, Kickboxing, Tabata Training, Body Sculpt, Barbell Workout  
**Keywords:** students, motivation, adaptive potential, fitness program.

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## INTRODUCTION

Today, young people's health is important both for the present and for the future of each country. Students are the future creators of the material and spiritual well-being of our state, its mental potential, in which the most important reproductive function of mankind is laid. That is why they bear the potential of future generations. Thus, strengthening, preservation and improvement of students' health 17-21 years old of higher educational establishments is the most important task at present stage of development of higher educational system in Ukraine.

According to the analysis of scientific researches, the importance of preserving and improving health of students of higher educational institutions and the role of recreational physical culture in solving these issues, was considered by authors such as A. Lotonenko, 1996; O Aghajanyan, 1997; V. Ilyinich, 1999; T. Bondarenko, 2001.

Separately, a large number of scientists took part in the study of health-related fitness classes, in particular, O. Gubareva (2001), I. Taran (2004), D. Hazayinova (2004), V. Romanenko (2006), O. Andreeva (2004), T. Ivchatova (2008), N. Opryshko (2011), F. Zagora (2010), O. Burkova, I. Belov (2008), O. Moroz (2011), I. Grigus, N. Mihailova (2012) and many others.

Some scholars, namely O. Drozd, 1998; G. Ivanova, 2000; O. Malimon, 1999; S. Savchuk, 2002, believe that there has been a steady deterioration in the health of the population in Ukraine, in particular, of student youth, which has determined the relevance of our research.

### **The purpose of the research.**

To establish the motivational principles of using different fitness programs and their influence on the adaptive potential of students of universities of Ukraine

## MATERIAL AND METHODS

In order to determine the students' desires to study different types of fitness classes, it was conducted a survey among the students (126 girls and 73 boys) of the first year of different universities in Kharkiv, namely: Kharkiv National Pedagogical University named after G.S. Skovoroda, Kharkiv National Medical University and Kharkiv National Automobile and Highway University.

The questionnaire provided for the availability of 21 types of exercises used in the fitness industry and presented in fitness clubs and sections of different universities of Kharkiv. The study was conducted during two years of study involving students from the Fitness Mix (n = 18), Tabata Training (n = 18), Functional Training (n = 16), Step Aerobics (n = 15), Dance Training (n = 15).

Adaptation potential was determined by the formula:

$$AP = 0.011HR + 0.014SBP + 0.008DBP + 0.0014A + 0.0009BW - 0.0009BL - 0.27;$$

where: **HR** - heart rate - heart rate at rest (per min-1); **SBP** - systolic blood pressure (mmHg); **DBP** - diastolic arterial pressure (mmHg); **A** - age, years old; **BW** - body weight (kg); **BL** - body length (cm).

## RESULTS OF THE RESEARCH

The results of the ranking of responses are presented in Table. 1, which indicates that the preferences of girls and boys differ significantly.

**Table 1: Rating of the most popular health fitness programs among students of universities in Kharkiv (n=126)**

<b>№</b>	<b>Variety of fitness classes</b>	<b>Place</b>	<b>Indicator % (girls)</b>
1	Fitness Mix	1	21,1
2	Step Aerobics	2	17,0
3	Dance Aerobics	3	13,6
4	Functional Training	4	10,6
5	Tabata Training	5	8,4
6	Yoga (Hatha Yoga)	6	4,7
7	Barbell Workout	7	4,0
8	Body Sculpt	8	3,8
9	Crossfit Training	9	3,2
10	Zumba Fitness	10	3,0
11	TRX Training	11	2,0
12	Yogalates	12	1,8
13	Pilates Matwork	13-15	1,6
14	ABT (abdominal, bums, thighs)	13-15	1,6
15	Bodybar Workout	13-15	1,6
16	Core Training	16-21	0,6
17	Bosu Training	16-21	0,6
18	Fly Yoga	16-21	0,6
19	Kickboxing	16-21	0,6
20	ABS (aerobic, body, strength)	16-21	0,6
21	Slide Aerobic	16-21	0,6

So, girls have the first place in the rating for the desired class program Fitness Mix, which includes a system of training, during which each session is conducted in different fitness areas (Dance Aerobics, Functional Training, Body Sculpt, Step Aerobics, Fitball, Pilates Workout, Crossfit Training), which are aimed at the comprehensive development of all systems of the body, improvement of the health status and level of physical fitness.

The second place in the rating is the Step Aerobics program, which step-platforms of different heights using basic and combined steps. The aerobic part lasts up to 35 minutes and strong part lasts up to 20 minutes. Classes are aimed at the development of coordination of movements, strengthening the cardiovascular system, improving the psycho-emotional state and weight loss.

The third place took the program Dance Aerobics, whose classes include elements of dance movements with musical accompaniment, aimed at the development of coordination of psycho-emotional state and weight loss.

The fourth place is the Functional Training program, aimed at mid-intensity functional training using additional equipment for deep body muscle development.

The fifth place occupied the newest highly intensive Tabata Training, based on an interval physical activity that develops strength, flexibility, endurance, agility and power, which thereby improves all physical characteristics and maximally promotes the state of work of all functional systems of the body and promotes weight loss.

Other fitness programs are to less cause the student's desire to train.

Boy student give preference to fitness programs that are designed to perform force loads (Table 2). The most popular fitness program is Crossfit Training, which is aimed at developing speed-strength qualities using heavyweights, athletics, weight lifting and gymnastics. This program develops flexibility, strength, coordination, agility, endurance, maximally improves all morphological and functional characteristics of the body.

**Table 2: Rating of the most popular health fitness programs among students of universities in Kharkiv (n=73)**

<b>Nº</b>	<b>A variety of fitness classes</b>	<b>Place</b>	<b>Indicator % (boys)</b>
1	Crossfit Training	1	18,1
2	Kickboxing	2	17,0
3	Tabata Training	3	16,2
4	Body Sculpt	4	12,8
5	Barbell Workout	5	10,3
6	Pilates Matwork	6	4,7
7	Core Training	7	4,2
8	Bosu Training	8	3,4
9	Functional Training	9	2,4
10	TRX Training	10	2,2
11	Yoga (Hatha Yoga)	11-12	1,2
12	Bodybar Workout	11-12	1,2
13	ABS (aerobic, body, strength)	13-15	1,0
14	Fitness Mix	13-15	1,0
15	Slide Aerobic	13-15	1,0
16	Step Aerobics	16	1,0
17	Yogalates	17	0,7
18	Fly Yoga	17-21	0,7
19	Dance Aerobics	17-21	0,7
20	Zumba Fitness	17-21	0,7
21	ABT (abdominal, bums, thighs)	17-21	0,7

The second place in the rating of classes for boys students is Kickboxing fitness program, which provides cardio exercise with the elements of boxing and kickboxing, which uses high-intensity strikes by hands and feet, combined in various combinations along with musical accompaniment. Also, the desire to engage in this fitness program is due to the desire to be strong, courageous and confident in their strengths and actions.

The third place among the boys was taken by the Tabata Training program, which is also presented in the rating of girl students' classes (5th rating).

The fourth place in the rating was taken by Body Sculpt fitness program, which aims to handle all major muscle groups using dumbbells, bodybuilders, mini bars, med balls and other loads to develop strength, endurance and proportional muscles.

The fifth place in the fitness class for boys students is Barbell Workout - (or Pump, pump Aerobics, body pump) strength training for the elaboration of major muscle groups using a rod. The training is intended both for boys and for girls of medium and high level of preparedness. The purpose of the lesson is to use as many body parts as possible using a barbell. Sometimes a step-platform is used for greater intensity.

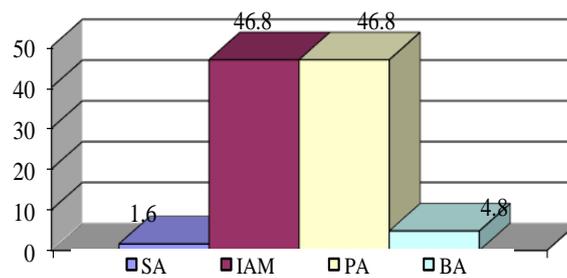
The rating of other fitness programs for male students has little indication of the willingness to engage in them.

The determined rating of the desire to engage in various fitness programs can only be conditionally recommended for students. Therefore, it was conducted an impact study of main ratings of fitness classes on the formation of adaptive capacity, which reflects physical health of students.

The primary assessment of the adaptation potential of the first year students of various universities in Kharkiv showed 1.6% with satisfactory adaptation (SA), 46.8% with the intense of adaptation mechanisms (IAM), 46.8% with poor adaptation (PA) and 4, 8% with a breakdown of adaptation (BA) (Table 3, Figure 1).

**Table 3: Primary assessment of the adaptation potential of students of the first year students at universities in Kharkiv (n=126) amount**

Value of the adaptation potential, conventional units	Assessment of the adaptation potential	Number	
		%	persons
< 2,10	satisfactory adaptation (SA)	1,6	2
2,11 – 3,20	intense of adaptation mechanisms (IAM)	46,8	59
3,21 - 4,30	poor adaptation (PA)	46,8	59
> 4,3	breakdown of adaptation (BA)	4,8	6



**Fig 1: Initial assessment of the adaptation potential of students of first-year students of universities of Kharkiv, n = 126: SA - satisfactory adaptation, IPM - intense adaptation mechanisms, PA - poor adaptation and AR - breakdown of adaptation**

Subsequently, 5 groups for different types of fitness programs were formed, based on the results of determining the motivation of students. Classes were held for two years three times a week for 60 minutes each according to the traditional programs of the specified trainings.

The measurements of the components of the AP were determined at the beginning (September) and at the end (June) of each annual training. The results of changing the adaptive potential of students engaged in various types of fitness programs during a two-year pedagogical experiment are presented in Table. 4

**Table 4: Results of changes in the adaptive capacity of students under the influence of classes for various fitness programs, standard units (n = 82)**

No	Fitness programs	Output data	After one year of classes	After two years of classes	Validation of reliability
1.	Fitness Mix (n=18)	3,2±0,10	3,02±0,10	2,56±0,11	t <sub>1,2</sub> =1,50; p>0,05 t <sub>2,3</sub> =2,95; p<0,01 t <sub>1,3</sub> =4,79; p<0,001
2.	Tabata Training (n=18)	3,19±0,09	2,99±0,10	2,62±0,10	t <sub>1,2</sub> =1,48; p>0,05 t <sub>2,3</sub> =2,62; p<0,05 t <sub>1,3</sub> =4,22; p<0,001
3.	Functional Training (n=16)	3,26±0,11	3,04±0,10	2,76±0,10	t <sub>1,2</sub> =0,96; p>0,05 t <sub>2,3</sub> =0,99; p>0,05 t <sub>1,3</sub> =3,38; p<0,01
4.	Step Aerobics (n=15)	3,20±0,09	3,06±0,10	2,90±0,11	t <sub>1,2</sub> =1,04; p>0,05 t <sub>2,3</sub> =1,76; p>0,05 t <sub>1,3</sub> =2,14; p<0,05
5.	Dance Training (n=15)	3,21±0,10	3,08±0,09	2,94±0,11	t <sub>1,2</sub> =0,96; p>0,05 t <sub>2,3</sub> =0,99; p>0,05 t <sub>1,3</sub> =1,82; p>0,05

The results of indicators of adaptive potential (Table 4.) show various fitness programs have a positive effect on the body of students. So, the most significant are the Fitness Mix classes, which increased the adaptive capacity indicators of the first year of studying by 0.18 standard units ( $t = 1.50$ ;  $p > 0.05$ ), further (for the second year of studying) improved by 0.46 standard units ( $t = 2.95$ ;  $p < 0.05$ ), and for the whole period of studying, the average group of AP was 2.56, which is significantly better at 0.64 standard units ( $t = 4.79$ ;  $p < 0.001$ ) than the output data.

The second most significant issue was Tabata Training program, in spite of the fact that the rating of the desire to engage in these classes took only fifth place.

During the first year of AP, it improved by 0.20 standard units ( $t = 1.48$ ;  $p > 0.05$ ); the second one at 0.37 standard units ( $t = 2.62$ ;  $p < 0.05$ ), and for two years of studying the difference was 0.57 standard units ( $t = 4.22$ ;  $p < 0.001$ ). Other fitness programs used by students did not significantly improve each year.

The program of fitness classes Functional Training contributed to the increase in AP for the first year at 0.22 standard units ( $t = 1.49$ ;  $p > 0.05$ ), for the second year it was 0.28 standard units ( $t = 1.99$ ;  $p > 0.05$ ), for the whole time of study at 0.50 standard units ( $t = 3.38$ ;  $p < 0.01$ ).

The AP's indicators under the program of Step Aerobics classes have improved by 0.14 standard units ( $t = 1.04$ ;  $p > 0.09$ ) for the first year and by 0.16 standard units ( $t = 1.76$ ;  $p > 0.05$ ) in the second year, and in general by 0.30 standard units ( $t = 2.14$ ;  $p < 0.05$ ).

The slightest influence on the functional state of the students was obtained during the sessions of fitness program Dance Aerobics, the difference in the rates of AP was during the first year of 0.13 standard units ( $t = 0.96$ ;  $p > 0.05$ ); for the second year, 0.14 standard units ( $t = 0.99$ ;  $p > 0.05$ ), and in two years 0.27 standard units ( $t = 1.82$ ;  $p > 0.05$ ).

The results of the measurement of AP in male students also indicate the unequal impact of different types of fitness programs on functional indicators. The most adapted capacity indicators are influenced by the Crossfit Training program, which involves the complex use of elements of weight and athletics, gymnastic exercises that promote the development of motor qualities and ultimately increase the morpho-functional characteristics of the students' body. For the first year of occupation the group's average results of the AP with 3.15 body improved by 0.26 standard units ( $t = 2.16$ ;  $p < 0.05$ ), for the second year at 0.46 standard units ( $t = 3.58$ ;  $p < 0.01$ ), which in the final measurement reached 0.72 standard units. ( $t = 5.63$ ;  $p < 0.001$ ) (Table 5).

**Table 5: The results of changing adaptive potential of boys student under the influence of classes for various fitness programs, standard units (n = 71)**

№	Fitness programs	Output data	After one year of classes	After two years of classes	Validation of reliability
1.	Crossfit Training (n=15)	3,15±0,10	2,89±0,09	2,43±0,08	$t_{1,2}=2,16$ ; $p < 0,05$ $t_{2,3}=3,58$ ; $p < 0,01$ $t_{1,3}=5,63$ ; $p < 0,001$
2.	Tabata Training (n=13)	3,12±0,10	2,84±0,09	2,54±0,08	$t_{1,2}=2,07$ ; $p > 0,05$ $t_{2,3}=2,50$ ; $p < 0,05$ $t_{1,3}=4,53$ ; $p < 0,001$
3.	Kickboxing (n=14)	3,14±0,10	2,91±0,09	2,76±0,09	$t_{1,2}=1,70$ ; $p > 0,05$ $t_{2,3}=1,18$ ; $p > 0,05$ $t_{1,3}=2,82$ ; $p < 0,05$
4.	Body Sculp (n=15)	3,14±0,10	3,01±0,10	2,82±0,09	$t_{1,2}=0,92$ ; $p > 0,05$ $t_{2,3}=0,82$ ; $p > 0,05$ $t_{1,3}=2,37$ ; $p < 0,05$
5.	Barbell Workout (n=14)	3,11±0,09	2,98±0,10	2,84±0,09	$t_{1,2}=0,96$ ; $p > 0,05$ $t_{2,3}=1,44$ ; $p > 0,05$ $t_{1,3}=2,13$ ; $p > 0,05$

Substantial influence on the components of the adaptation potential was provided by the Tabata Training program, which for the development of motor qualities include exercises based on interval physical activity. During the first year of studying the AP rose by 0.28 standard units ( $t = 2.07$ ;  $p > 0.05$ ), the second one at 0.30 standard units ( $t = 2.50$ ;  $p < 0.05$ ), and during the biennium classes under Tabata Training program the results reached 2.54 standard units ( $t = 4.53$ ;  $p < 0.001$ ), which testifies the intense of adaptation mechanisms. Other types of fitness programs that have been studied also have positive effect on AP indicators, but their changes are not significant every year ( $p > 0.05$ ).

The Kickboxing program has very specific exercises that involve using various boxing and kickboxing movements, which allowed during biennial application of 3.14 standard units improve results at 0.32 standard units ( $t = 2.82$ ;  $p < 0.05$ ).

Similar changes were made when using the Barbell Workout fitness program, whose results have significantly increased by 0.27 standard units for two years. ( $t = 2.13$ ;  $p > 0.05$ ).

The obtained research results can be used for distributing students to classes from various fitness programs.

### DISCUSSION

Nowadays, there is a large number of works on the usage of various types of classes in the sports and recreation activities of students [4, 6, 12, 20, 21]. Along with it, in recent years, the number of fitness programs used by student youth is increasing. There are some studies on the use of fitness programs [14, 15, 16], but at the same time it is relevant to determine the impact of some of them on the adaptive potential of students.

Therefore, it is important to determine the using each of them as a motivational basis and their impact on the functional state of student youth during studying at universities.

### CONCLUSIONS

The conducted questionnaire among the students of the first year of higher educational establishments in Kharkiv is determined that the most popular fitness programs among the girls are: Fitness Mix, Step Aerobics, Dance Aerobics, Functional Training, Tabata Training; among the boys: Crossfit Training, Kickboxing, Tabata Training, Body Sculpt, Barbell Workout.

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