

## TRAINING AT SPORT CIRCLE AS PRIORITY FORM OF ORGANIZATION OF STUDENTS' PHYSICAL EDUCATION (ON EXAMPLE OF SHAPING)

Malenyuk T.V., Kosivska A.V.

Kirovohrad Volodymyr Vynnychenko State Pedagogical University

**Abstract.** *Purpose:* to give foundation for effectiveness of training at sport circle as form of trainings' organization on the base of analysis of shaping influence on morphological functional indicators of girl students of higher educational establishments' non special faculties. *Material:* in research 60 girl students of 17-19 yrs age participated. Duration of pedagogic experiment was 8 months. In both groups trainings were conducted twice a week; duration of every training was 60 minutes. *Results:* we have worked out methodic of shaping training. It was determined that under influence of shaping harmonious physical development takes place, saving character and mobility of cardio vascular system of girl students is realized. *Conclusions:* author's methodic of shaping training in sport circles has been developed, which includes aerobic and power exercises, elements of health related gymnastic, stretching and relaxation. This methodic envisages individual control of loading, considering constitution and girls students' preferences; it includes recommendations concerning eating.

**Key words:** shaping, methodic, trainings in sport circles, girl students, morphological-functional indicators.

### Introduction

Main purpose of physical education as pedagogic process is provisioning of health's high level and workability of students. Though, in practice this purpose has often declarative character. Specialists [1, 2, 9, 15] show numerous deviations in health level and trend to worsening of health during period of studying at higher school. The necessary condition of elimination of the above mentioned problems is solution of economical (improvement of material base of trainings) and professional problems of physical culture instructors (making trainings non standard and interesting; democratic style of trainings; individual approach to students; constant professional self-perfection) [7, 14, 17].

Alongside with it specialists in physical education should train students to popular kinds of motor functioning, which would be interesting for leisure [5, 13, 16]. It is known that academic classes on physical education do not satisfy youth's demands and are oriented on general physical training in traditional kinds of sports. In contrast to it trainings in sport circles permit for students to independently choose kind of sports, in which they which to realize self perfection; test themselves in new activity; such trainings stimulate instructors to learning of new technologies in professional sphere. Trainings at sport circles as form of physical education facilitate increase of students' motivation for physical development at the account of theoretical, methodic, physical and functional trainings of students in non traditional kinds of motor functioning [8, 11, 12].

Shaping is one of modern kind of motor functioning. Shaping is oriented on elimination of physical defects, caused by imperfect body constitution. Shaping permits to correct separate parts of body by combining of aerobic, athletic gymnastic and appropriate eating means.

Specialists determined main methodic principles of classic shaping program and exercises for correction of different parts of body [10]. There were attempts of scientific foundation of health related shaping program, which included preparatory, main and support periods. Tasks, scope and intensity of loads for every period are determined [4]. It was proved that under influence of shaping there occur normalizing of muscular-fat content of body, increase of organism's resilience, strengthening of supporting motor system [5]. It was found that shaping optimizes emotional-will sphere, causes positive dynamic in morphological-functional indicators of girl students 3, 6].

Analysis of scientific and methodic literature showed that effectiveness of shaping trainings in circles and their influence on girl students morphological functional indicators have not been studied sufficiently yet. It proves urgency of the present research.

### Purpose, tasks of the work, material and methods

*The purpose of the research* is to prove effectiveness of trainings in sport circles on the base of analysis of shaping influence on 17-19 yrs age girl-students' morphological-functional indicators (of non specialized faculties of higher educational establishment).

*The tasks of the research:*

1. Work out methodic of shaping training in sport circles for girl students.
2. Carry out comparative analysis of morphological functional indicators of girl students, who attend physical culture academic classes and shaping sport circles.
3. Analyze effectiveness of shaping training in sport circles.

*Organization of the research:* the researches were conducted at physical education and health related physical culture department of Kirovohrad Volodymyr Vynnychenko State Pedagogical University in period from September 2013 to May 2014.

In our work 60 girl students of 17-19 yrs age, divided in two groups, participated. The first group of girl students was engaged in physical culture academic classes by traditional program (control group CG), the second – in

shaping sport circles' trainings (experimental group EG). Trainings in both groups were conducted twice a week; duration of each training was 60 minutes.

*The methods of the research:* analysis of scientific and methodic literature, pedagogic observation, pedagogic experiment, medical-biological methods of testing, methods of mathematical statistic.

### Results of the researches

At the beginning of pedagogic experiment we registered initial morphological-functional indicators of CG and EG girl students. We registered indicators, which permitted to assess physical condition of girl students: length and mass of body, circumference of chest (CC) at inhale and exhale, chest excursion (CE). The received morphological parameters of both groups' girl students met mean statistic data and did not differ significantly.

Indicators of heart beats rate (HBR) and orthostatic test characterize functional condition of cardio vascular system. In their turn they are an important factor in determination of human health and workability. In both groups of girl students HBR indicators were within norm (60-80 b.p.m.). Concerning orthostatic test it should be noted that in CG, just after rising in vertical position HBR increased by 15.30 b.p.m. and in EG – by 19.20 b.p.m. Normal increase should have been by 10-16 b.p.m. That means that in CG this reaction is at upper limit of norm and in EG it is more expressed. After 3 minutes of standing upright HBR indicators of CG girl students reduced by 10.50 b.p.m. and in EG – by 11.50 b.p.m. As per standard HBR reduction shall be by 6-10 b.p.m. In both groups we registered increased responsiveness of sympathetic of vegetative nervous system, which is intrinsic to insufficiently trained persons.

Analysis of morphological-functional indicators of both groups' girl students (at the beginning of pedagogic experiment) showed that girl students have moderate physical condition. Mobility of cardio-vascular system was at low level that was proved by orthostatic test.

In the course of the research we worked out author's methodic of shaping trainings in sport circles, which is based on combination of aerobic and power exercises, health related gymnastic, stretching and relaxation. It envisages individual control of loads, consideration of body constitution and preferences of girl students as well as recommendations on balanced eating. In structure of training we outlined specialized warming up of aerobic orientation, main part with exercises of general correction of body, correction of "problematic" parts of body and development of motor skills. Final part included stretching and relaxation exercises.

Fore determination of effectiveness of shaping training in sport circles, after 8 months of regular trainings we registered morphological-functional indicators in CG and EG (see table 1).

Table 1

*Comparative analysis of dynamic of girl students' morphological-functional indicators*

No/No	Indicators	Groups	(X±m)		ΔX, %	P
			I stage	II stage		
1	Body length, cm	CG	164.00±3.00	165.00±0.95	0.43	>0.05
		EG	164.96±1.33	165.00±1.30	0.02	>0.05
2	Body mass, kg	CG	56.50±1.31	56.80±1.42	0.53	>0.05
		EG	57.25±1.43	56.50±1.22	-1.31	>0.05
3	CC (inh), cm	CG	90.03±0.78	90.50±0.85	0.52	>0.05
		EG	90.84±1.22	91.00±1.02	0.18	>0.05
4	CC (exh), cm	CG	87.20±0.79	87.50±0.75	0.34	>0.05
		EG	88.15±1.31	87.00±0.99	-1.30	>0.05
5	CE, cm	CG	2.58±0.08	3.13±0.16	21.32	<0.05
		EG	2.77±0.16	3.70±0.23	33.57	<0.05
6	HBR in rest, b.p.m.	CG	72.70±1.30	71.41±1.34	-1.74	>0.05
		EG	74.50±1.27	70.00±0.61	-6.04	<0.05
7	Orthostatic test, b.p.m. HBR in upright pos.	CG	88.00±1.70	86.70±2.46	-1.48	<0.05
		EG	91.10±1.45	86.00±0.60	-5.60	<0.05
	HBR difference (lying and standing)	CG	15.30±0.38	15.29±0.90	-0.06	>0.05
		EG	19.20±0.60	16.90±0.48	-11.98	<0.05
	HBR after 3 minutes	CG	82.70±1.80	81.80±2.10	-1.09	>0.05
		EG	85.40±1.64	74.90±0.53	-12.29	<0.05
	HBR difference after 3 minutes	CG	10.50±0.46	10.24±0.53	-2.48	>0.05
		EG	11.50±0.56	6.30±0.40	-45.22	<0.05

Notes: CC-circumference of chest; CE- chest excursion; HBR heart beats rate; CG – control group; EG-experimental group.

Analysis of CG girl students' morphological-functional indicators showed the following unconfident (P>0.05) changes:

- Body length (164.00 cm) increased by 1.00 cm (0.43 % increment);
- Body mass (56.50 kg) – by 0.30 kg (0.53 %);

- CC at inhale (90.03 cm) – by 0.47 c. (0.52 %) and at exhale (87.20 cm) – by 0.30 cm (0.34%).

Mean indicator of CE (2.58 cm) confidently ( $P < 0.05$ ) increased by 0.55 cm (21.32 %). We also registered unconfident reduction of HBR (72.70 b.p.m.) in rest by 1.29 b.p.m. (1.74 %). Analysis of orthostatic test's results showed unconfident reduction of HBR difference just after rising in vertical position by 0.01 b.p.m. (0.06 %). After 3 minutes of standing, HBR indicator also unconfidently reduced by 0.26 b.p.m. (2.48 %).

Analysis of EG girl students' morphological-functional indicators showed the following unconfident ( $P > 0.05$ ) changes:

- Body length (164.96cm) increased by 0.04 cm (0.02 % increment);
- Body mass (57.25 kg) reduced by 0.75 kg (1.31%);
- CC at inhale (90.84 cm) increased by 0.16 cm (0.18 %) and at exhale (87.20 cm) reduced by 1.15 cm (1.30 %).

Mean indicator of CE (2.77 cm) confidently ( $P < 0.05$ ) increased by 0.93cm (33.57 %). We also registered unconfident reduction of HBR (74.50 b.p.m.) in rest by 4.50 b.p.m. (6.04 %). Analysis of orthostatic test's results showed unconfident reduction of HBR difference just after rising in vertical position by 2.30 b.p.m. (11.98 %). After 3 minutes of standing, HBR indicator also unconfidently reduced by 5.20 b.p.m. (45.22 %).

### Discussion

Generalization of results of the researches permits to say that in this age there is no accelerated increment of body length. In 16 yrs age in 67% body growth stops; in 17 yrs age – in 32% of girls (N.A. Fomin, V.P. Filin, 1972). Unconfident reduction of girl students' body masses witnesses about normalizing of active body mass at the account of aerobic exercises' fulfillment at shaping trainings (S.V. Khrushchev, M.M. Krugliy, 1982). Under influence of shaping there appeared unconfident changes of CC at inhale and exhale that prove harmonious development of organism. Because the most intensive increase of CC is registered in period of puberty (R.M. Dorokhov, I.I. Bakhrakh, 1975). Improvement of chest's mobility is proved by increase of CE in both groups. Unconfident reduction of HBR in rest and weak response of HBR in orthostatic test point that functioning of cardio-vascular system did not significantly improve under influence of academic physical culture classes. At the same time confident reduction of HBR in rest and more expressed HBR response in orthostatic test in EG prove saving character of cardio-vascular system's functioning and its mobility under influence of shaping trainings.

### Conclusions

1. Under influence of academic physical culture classes, conducted as per traditional program, level of girl students' physical condition remains unchanged. We determined only unconfident ( $P > 0.05$ ) improvement of saving character of cardio vascular system's functioning and its mobility.
2. Analysis of influence of shaping trainings in sport circle on morphological-functional indicators showed unconfident changes ( $P > 0.05$ ) of most of morphological parameters. It can prove more effective harmonious development of girl students. By HBR indicators in rest we determined confident ( $P < 0.05$ ) reduction by 6.04 %. In orthostatic test we also registered confident reduction of HBR at once and after 3 minutes (11.98 % and 45.22 % accordingly). The received results prove substantial improvement of cardio vascular system's condition.
3. Comparative analysis of dynamic of both group girl students' morphological-functional indicators that organization of trainings in sport circles is more effective (priority) in contrast to compulsory form of physical education classes. Indeed, under influence of shaping trainings in sport circle harmonious development is realized as well as functional state of cardio-vascular system improves.

In the future we plan to study influence of shaping means on morphological parameters of body content (fat mass, muscular and bone tissues).

### Conflict interests

The authors declare they have no conflict interests.

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**Information about the authors:**

**Malenyuk T.V.:** <http://orcid.org/0000-0003-2966-1382>; [tmaleniuk@gmail.com](mailto:tmaleniuk@gmail.com); Kirovohrad Volodymyr Vynnychenko State Pedagogical University; Shevchenko str. 1, Kirovograd, 25006, Ukraine.

**Kosivska A.V.:** <http://orcid.org/0000-0003-4725-7615>; [nastya.kosivskaya@mail.ru](mailto:nastya.kosivskaya@mail.ru); Kirovohrad Volodymyr Vynnychenko State Pedagogical University; Shevchenko str. 1, Kirovograd, 25006, Ukraine.

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