

**SOMATOMETRICAL PECULARITIES AND
MOTIVATION PREFERENCES OF MIDDLE-
AGED WOMEN ENGAGED IN SHAPING**



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Аннотация

В статье рассматриваются особенности соматометрических характеристик 67 женщин в возрасте от 25 до 50 лет, занимающихся шейпингом. Соматотипирование проводилось по метрической схеме Р.Н. Дорохова. Определялся габаритный уровень варьирования и компонентный состав тела (жировой, мышечный, костный). Изучена мотивационная сфера женщин зрелого возраста, определены приоритетные мотивы к занятиям шейпингом в каждом выделенном соматическом типе. Результаты могут служить основой для построения эффективных занятий шейпингом оздоровительной направленности.

Ключевые слова: шейпинг, женщины зрелого возраста, соматический тип, габаритное варьирование, компонентный состав, мотивация.

Анотація

У статті розглядаються особливості соматометричних характеристик 67 жінок у віці від 25 до 50 років, які займаються шейпінгом. Соматотипування проводилося за метричної схемою Р.Н. Дорохова. Визначався габаритний рівень варіювання і компонентний склад тіла (жировой, м'язовий, кістковий). Вивчена мотиваційна сфера жінок зрілого віку, визначені пріоритетні мотиви до занять шейпінгом в кожному з визначених соматичних типах. Результати можуть слугувати основою для побудови ефективних занять шейпінгом оздоровчої спрямованості.

Ключові слова: шейпінг, жінки зрілого віку, соматичний тип, габаритневаріювання, компонентний склад, мотивація.

Problem definition. One of the tendencies and goals of natural-historical process of physical, social and psychological health of various age-sex groups is the development of potential opportunities[1].

Middle-aged women constitute not only a substantial part of population, but also present the prime social group which effectively solves numerous problems within various areas of human activity[2, 3]. But at the same time women of 25-35 face the processes of regression. The processes are speeded up by the influence of unfavorable conditions, such as deceases, poor physical activity and weight gain. In accordance with the theory of adaptation to continuously changing outer and inner environmental conditions and the principal patterns of regression physiology it can be prevented by engaging in physical training activity [1, 2, 3, 5].

The process of involvement into physical training activity and sports are much complicated than that of any other activity. It should be noted that middle-aged women prefer such kinds of physical activity which they consider suitable for their feminine and the concepts of ideal woman body. Shaping which is the subject of the research belongs to this kind of physical training activity [7].



Table 1
The values of variation component based on somatotype (M ± m)

Values	Somatotypes		
	Micro-somatomical (n=21)	Meso-somatomical (n=8)	Macro-somatomical (n=38)
Body length(cm)	160,4±0,45	164,2±0,48	169,6±0,67
Body mass(kg)	53,0±0,68	64,2±0,54	74,4±0,53
Fat component(c.u.)	0,386±0,07	0,530±0,06	0,591±0,07
Muscular component(c.u.)	0,371±0,03	0,518±0,04	0,543±0,04
Bone component(c.u.)	0,392±0,04	0,526±0,03	0,601±0,03

Table 2
Motivation for going in for shaping for women of different somatotypes

Values	Somatotypes		
	Micro-somatomical (n=21)	Meso-somatomical (n=8)	Macro-somatomical (n=38)
	%	%	%
Emotional state improvement	10	38	3
Health promotion	14	50	10
Physical fit maintaining	28	12	5
Body sculpting	43	0	16
Weight reduction	0	0	63
Change of occupation	5	0	3

It is characteristic that the critical factor to start the training activity is the awareness of their bodies and the effects of age. “The oppression of gracefulness” and the desire to stay active and less medicine-dependent is main motivation of contemporary women [8].

The implementation of new health-giving technologies into the health and fitness practice enables women to choose the available and most effective forms of physical activity [3, 15]. Nowadays the health-oriented fitness is presented by a well-balanced program of physical training activity which aims to achieve and maintain the appropriate physical well-being of a human in contemporary world. Various authors emphasize the necessity to take into account numerous factors

while developing the health and fitness training activity for middle-aged women. The methodology of physical training selection is based on the principles of biological purposefulness which is specified by the peculiarities of women body [2, 3, 4].

While developing the health and shaping training activity, the peculiarities of trainees such as somatotype should be taken into consideration. Women with the determined somatotype adapt to the training loads in a different way. Each body type is characterized by its own strengths which make some kind of physical activities more effective. It speaks for the necessity to develop a physical training activity routine considering not only age and functional readiness of body systems but

also a body type and labile characteristics of a somatotype (like components of body weight). However, the characteristics of individual and general body types are a peculiar “platform” which enables physical trainings to affect the body purposefully [10].

Unfortunately, it’s hard to achieve an extensive use of the aforementioned training approaches and they are not widely used [3, 11]. Consequently, it is of interest at this time to conduct specific researches which focus the influence of individual typological women peculiarities on the efficiency of particular kinds of trainings. It is connected with the predetermination of involution processes which proceed differently in particular systems. The conducting of trainings without dividing women into somatotype-oriented groups makes the work of a trainer more complicated and set trainees up for a long unproductive process of training without tangible result. Besides, the peculiarities of muscular, fat and bone tissue development should be counted primarily during the process of trainings organization [4, 6].

Consequently, the methodology of shaping trainings should be determined by a program targeting, individual approach to each trainee depending on her age, somatotype, functional and physical specifications [13].

The analysis of scientific researches and publications. The main factor determining life of people of new millennium is the struggle for a healthy living in conditions of deteriorating ecology, permanent stress and physical inactivity. The remedy for all the deceases of the 21th century becomes a healthy lifestyle which is impossible without exercises [12].

Nowadays it is essential to find new forms of physical activity for middle-aged and elderly people, because sedentary lifestyle results in various deceases. Overweight is one of the greatest problems of modern



times [2, 3, 5, 12]. In that context the notions of physical training activities, healthy lifestyle and search for new forms of physical activity take a particular significance [7, 11, 14].

Health-improving physical training becomes one of the main factors of healthy lifestyle in the beginning of the 21th century. Experiments and researches prove that physical training activities ensure the reduction of deceases. As a rule, the principles of health-improving physical education are specified in health-improving physical training technologies [7, 15].

Recently the subject of numerous researches has become the study of physical condition of women of the first and second middle ages and the ways to improve the condition [3, 4, 5, 11, 12, 13]. The results of the scientific researchers showed serious shortcomings in physical condition of women of the age category [5, 11, 12].

Many scientists and practitioners believe that the current situation is determined by the minimal regard to individual peculiarities of women, such as somatotype and motivation of women, during physical training activity of different types, including fitness [4, 6, 9, 12, 13, 14].

The analysis of distinguished literary sources shows that numerous special researches are being conducted nowadays to find ways of increasing efficiency of physical training activity. The development of set exercises to increase the efficiency of health-improving physical training for women of different levels is still important and is of great practical concern.

The analysis of data from specialist literature proves that the current stage of development of recreation and health-improving physical training is characterized by increasing of fitness innovative technologies application [3, 4, 5, 7, 11, 12].

One of the most becoming physical activities is shaping due to its availability and emotional intensity.

The main objectives of health-giving shaping are the improvement of functional and physical conditions, balance of quantitative correlation of body type components [3, 7, 12, 13, 14].

The solving of the problems is impossible without scientifically proven methods of monitoring the health condition of trainees, good knowledge of principles and specifications of physiological effects resulted from routine shaping trainings without regard to individual peculiarities of trainees. It is known that physical capabilities of a human comprises of inherent neurophysical status and environment impacts which form current morphofunctional conditions by means of adaptation. Besides, the regular impact which includes muscular activity causes an uneven adaptive reaction of different typological categories individuals [9, 12].

Traditionally, the morphological criterion as a somatotype is taken as a base when determining the types of constitution. Somatotype is preferably regarded as the main source of information about the nature of human constitution unlike morphotype which combines with characteristics of functional organization, parameters of a "psychotype", peculiarities of metabolism and athletic abilities [10].

The objective of the research

is the study of somatometrical and motivational peculiarities of middle-aged woman which are engaged in shaping to develop a differentiated methodology of health-oriented trainings.

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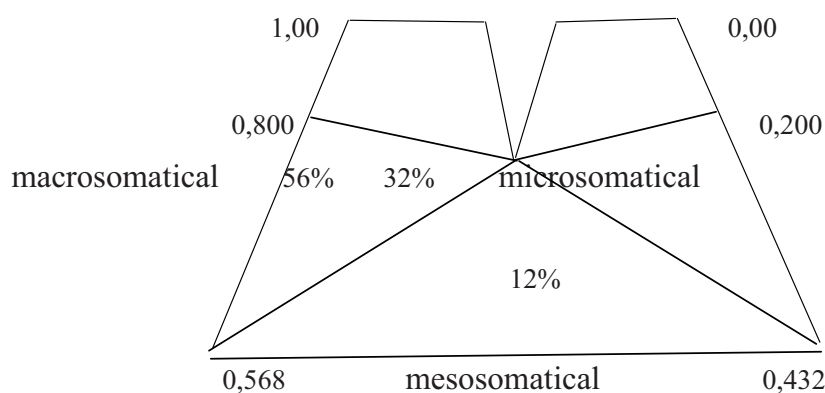
1. To define individual typological peculiarities of middle-aged women which are engaged in shaping.

2. To find the motivation of middle-aged women belonging to different somatotypesto shaping.

The results of the research and considerations. The method by DorokhovR.N. gave the opportunity to determine somatotypes of women by means of dimensional diversity[6]. Significant features of middle-aged women engaged in shaping were distinguished on the basis of somatotyping analysis. In the course of the pedagogical experiment three groups of middle-aged women were distinguished which were distinguished by their somatotypes. The percentages of each group participants were calculated (drawing 1).

The majority of women under investigation at the age of 25-50 are within macrosomatacal constitutional type - 56%, microsomatical constitutional type comprises 32%, mesosomatical - 12%.

The analysis of component level of diversity showed the significant distinctions in height of the women



Drawing 1. Somatogram: distribution of women aged 25-50 by the dimensional diversity



Table 3

Characteristic features of 25-50 aged women of different somatotypes

Values		Somatotypes		
		micro-somataical	meso-somataical	macro-somataical
Componentsbody	Fat	low	medium	high
	Muscular	low	medium	above the average
	Bone	below the average	medium	high
Motivation	Health-giving	-	health promotion	weight reduction
	Appearance	body sculpting	-	

of different somatotype (table 1). The diversity range makes 3,8 to 9,2 cm. Especially greater range of variation showed the women of macrosomataical constitutional type. The women of microsomatic constitutional type are lower than mesosomatic constitutional type women by 3,8 cm, the women of macrosomatic constitutional type are higher by 5,5 cm than mesosomatic constitutional type women, the women of microsomatic constitutional type are lower macrosomatic constitutional type women by 9,2 cm.

While studying the women's weight, researches determined intragroup similarity of women. The women of mesosomatic and macrosomatic constitutional types showed the weight gain by 11,2 and 21,4 kg ($p < 0,05$) comparing to weight of the women of microsomatic constitutional type.

As a result of fat estimation it was specified that women of microsomatic constitutional type showed poor development of fat component – microcorpulence. The women of mesosomatic constitutional type possess the medium development – mesocorpulence, while the women of macrosomatic constitutional type are reported to have fat component which higher than normal - macrocorpulence.

Analysing the muscular component of a studied women of different

somatic types, the following peculiarities were detected: micromuscular type which is of microsomatic constitutional type is characterized by poor development of muscular tissue, mesomuscular type has a medium development that of women of mesosomatic constitutional type, the women of macrosomatic constitutional type are characterized by an “intermediate” type of muscular development – MesoMacromuscular.

As a result of bone component estimation it was stated that the women of microsomatic constitutional type possess an “intermediate” type of bone development – micro-mesoostein, high figures of bone intensity possess macrosomatic constitutional type women – macroostein, mesostein type has a medium development that of women of mesosomatic constitutional type.

Subsequent to the results of the survey, the most significant trigger for going in for shaping among middle-aged women of different somatotypes were detected. The results are stated in table 2.

The results of the research revealed that most women of microsomatic constitutional type selected the motivation “body sculpting” – 43% among other motivational factors, a smaller group chose the motivation “physical fit maintaining” – 28%, and the smallest group

selected “health promotion” – 14%.

Among the representatives of mesosomatic constitutional type the prevailing motivation is health – 50%, the psychological motivation “emotional state improvement” selected 38% of the women, the motivation concerning appearance hadn't been given much attention. The women of macrosomatic constitutional type gave the leading position to the motivation “weight reduction”, but they also considered the motivations “body sculpting” (16%) and “health promotion” (10%) to be important.

The research specified characteristic peculiarities of middle-aged women belonging to different somatotypes (table 3).

The representatives of microsomatic constitutional type are characterized by poor development of fat and muscular tissues, the least value of bone component. The dominant motivation to go in for shaping of that group of women was “body sculpting”.

For trainees of mesosomatic constitutional type a medium development of all selected tissues is typical. The prevailing motivation to go in for shaping is “health promotion”.

A distinctive feature of women of macrosomatic constitutional type is excessive development of fat, muscular and bone tissues. The dominant motivation is “weight reduction”.

Accordingly, there is a necessity to differentiate middle-aged women (25-50) by their individual typological peculiarities and preferences while forming training groups in shaping, which became possible due to the results of the research. Such a distribution will contribute to result-oriented and comfort trainings which aim health promotion. Besides, it will provide the opportunity to choose the most efficient shaping programs.

Conclusions. The conducted pedagogical experiment revealed that most of women which are engaged in shaping are of macro-



somatomorphological type. The number of women of microsomatic constitutional types prevail the number of mesosomatic constitutional type.

The analysis of dimensional specifications of women of different constitutional types showed that women of macrosomatic constitutional type have greater average characteristic features of height and weight. The analysis of body components of women of macrosomatic constitutional type revealed the increased development of fat, muscular and osseous tissues. The values of the components were decreasing through mesosomatic to microsomatic constitutional type.

The revealed typological diversity of the values is a sufficient argument for differentiated approach to physical training mode. Applying of the differentiated approach to trainings organization based on typological peculiarities can provide highly effective increasing of functional abilities and physical conditioning of women.

The research specified dominating motivations to shaping of middle-aged women: weight reduction, body sculpting and health promotion. The motivations of middle-aged women of different somatotypes were thoroughly studied and it was concluded that women of all constitutional types had different shaping trainings expectations.

Consequently, there appeared the necessity for a differentiated approach to shaping trainees based on their somatotypical and motivational peculiarities.

The perspectives of the research: to develop a health-giving methodology of differentiated trainings for middle-aged women considering their individual typological peculiarities and motivations.

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