

## THE DEVELOPMENT OF ASSESSMENT SCALES OF PHYSICAL TRAINING OF WRESTLERS AT THE STAGE OF BASIC SPECIALIZED TRAINING

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**Annotation.** The aim of research is to select tests and develop scales for identification of premises of wrestlers preferences of definite wrestling style. The participants of the research were 92 wrestlers of free style aged 16-17 years at the stage of specialized basic training from Donetsk, Lviv, Ternopol, Ivano-Frankyvsk and Khmel'nitsk regions. A set of 15 tests is developed. Five new tests developed by the author with the account of new trends in wrestlers training were included. Average group indexes of physical conditions for 16-17 aged wrestlers as well as Kettle index were identified. Five point scales for identifying Kettle index and physical conditions of wrestlers aged 16-17 years were stated. They enable to highlight preconditions of wrestlers to choose a definite wrestling style.

**Key words:** wrestling, tests, scales of assessing, individualization.

### Introduction

In modern competition activity high level wrestlers are successful in their fights, if they apply their individual styles [3,8,11]. Earlier, we revealed and grounded existence of seven possible styles in freestyle wrestling: every of high class wrestlers can be related to one of these styles [4].

The style of a wrestler is determined by the structure and level of his physical and psychological qualities' development, as well as by his anthropometric characteristics. Manifestation of these qualities and anthropometric characteristics of every style's wrestler are rather different and are expressed in specificity of wrestlers' techniques, tactic and strategy of competition activity (CД) [5,7,9,10]. With it the combination of these indicators for every of wrestling style of high level wrestlers is a style's profile model (model profile).

One of the most important tasks for a coach is timely revelation of a wrestler's preference of certain style and then its further formation with accentuation on his in-born advantageous features. Revelation and beginning of formation of wrestling style usually occur at the second stage of specialized basic training (at the age of 16-17 years), when a wrestler has already shaped constitution of body, when he is sufficiently physically developed and has already mastered basic techniques of this kind of sports [1,2,6].

For determination of wrestler's preference of some certain wrestling style, it is necessary to compare his individual profile with model profiles of wrestling styles [8]. For determination of individual style of a wrestler it is necessary to have a number of tests and scales.

Thus, in the frames of the problem of theoretical methodic provision of freestyle wrestling individualized training the task of tests' selection and evaluation scales' development is urgent for revelation of a wrestler's preference of a certain fighting style.

The work has been fulfilled within the frames of combined plan of scientific & research works in the field of physical culture and sports of Ukraine for 2011-2015 as per subject 2.9. "Individualization of training process of qualified wrestlers", State registration number -111U001723.

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

*The purpose of the research* is to select tests and develop scales for revelation of wrestlers' preferences to certain style of wrestling.

*The methods and organization of the researches.* In the work analysis of literature sources, testing of physical qualities and anthropometric characteristics, quality metering were used. The results of measurements were processed with methods of mathematical statistics (MO Excel, Statistika).

In concluding experiment 92 free style wrestlers of 16-17 years old age participated. They were trained on the stage of specialized basic preparation in Donetskaya, Lvovskaya, Ternopolskaya, Ivano-Frankovskaya and Khmel'nitskaya regions.

### Results of the researches

Initially we developed a number of tests, which permitted to more completely evaluate the level and structure of physical preparedness of 16-17 years old wrestlers. The list of tests included commonly used tests and special tests, developed by us, considering the demands of modern competition activity. The developed tests were checked by us for reliability, informative character and their accordance. The list of tests was composed so, that one physical quality could be evaluated by several tests, while one test could evaluate complex manifestation of several physical qualities. This list of tests with description of their conduct's methodic was submitted to the coaches of mentioned above regions of Ukraine for testing in practice and correction.

After mathematical processing of data it was stated that the results of testing quite sufficiently comply with normal law of distribution. The values of physical preparedness indicators of wrestlers are given in table 1, where  $\bar{X}$  – is arithmetical mean; S – average square deviation and m – deviation of mean (error of representation). As we can see, the first seven tests are used for evaluation of general physical preparedness level, the rest tests are special for wrestlers.

Physical qualities are manifested in these tests in complex way, e.g., as speed-power, speed-coordination. The last tests Nos. 10-16 (in bold italics) were developed by us considering requirements of competition fight.

Table 1

*Indicators of 16-17 years old wrestlers' physical preparedness*

№	Test	$\bar{x}$	S	m
1	Long jump, without running, m	2,09	0,22	0,02
2	Triple jump, without running, m	6,59	0,64	0,07
3	Climbing a rope, 5 m, only with arms, sec.	9,76	2,43	0,25
4	Chin ups with cross hold, quantity of repetitions	18,54	5,20	0,54
5	Angle 90° in hanging position, sec.	13,74	3,21	0,33
6	Flexibility (wrestling bridge), cm	26,05	5,07	0,53
7	Quickness of response, cm	17,49	3,63	0,38
8	Circular run (head as axis), 10 times, sec	17,83	1,95	0,20
9	Turnover with head resting on mat into "wrestling bridge" and back 10 times, sec.	21,20	2,15	0,22
10	Circular run by side steps (arms as axis) 10 times, sec.	13,94	2,34	0,24
11	Holding position "defense against rush", sec.	53,85	9,48	0,99
12	Obstacle course, sec.	19,44	2,60	0,27
13	Passing through put apart legs, sec	23,51	2,16	0,23
14	Special endurance, quantity of repetitions	83,50	5,40	0,56
15	Special endurance, coefficient of endurance	0,85	0,04	0,01
16	Restoration, coefficient	0,74	0,07	0,01

In free style wrestling height, in the limits of weight category, is the most important anthropometric characteristic. With it, for cadets and juniors (who only pass from one weight category to another) it is necessary to measure height and weight; on the base of these data height-weight indicator should be calculated (Kettle's index). For adult high level wrestler it is sufficient to measure the height in the limits of his weight category. In table 2 results of measurements and calculation of these characteristics for free style 16-17 years old wrestlers are presented.

Table 2

*Body length and mass measurements' results, Kettle's index for 16-17 years old free style wrestlers (n = 92)*

№	Indicators	$\bar{x}$	S	m
1	Body length, m	1,70	0,10	0,01
2	Weight of body, kg	65,66	11,92	1,24
3	Height-weight indicator (Kettle's index)	22,44	2,07	0,22

As it can be seen in the table body length was 1,70 m (S = 0,10 m), the weight of body - 65,66 kg (S=11,92 kg). In our case coefficient of correlation between body height and weight is 0,86.

Further, from the tests, presented in table 1, we selected tests for revelation of a wrestler's preference of certain wrestling style. Then, for high level wrestlers of every style we stated the results by the selected tests by five point scale and evaluated Kettle's index (again by five point scale, by expert evaluations' method). Combination of these evaluations for a certain style of fighting is a component of style model profile. For comparison of style model profiles with individual styles it is necessary to evaluate physical qualities and Kettle's index of a wrestler also by five point scale.

Development of scales was carried out by commonly used method. All results, which are in the limits from  $\bar{x} - 0,5*S$  to  $\bar{x} + 0,5*S$  are evaluated with «3». Higher results receive marks «4» and «5», their limits are, correspondingly from  $\bar{x} + 0,5*S$  to  $\bar{x} + S$  and from  $\bar{x} + S$  and higher. Lower results are marked with «2» and «1», their limits are, correspondingly, from  $\bar{x} - S$  to  $\bar{x} - 0,5*S$  and lower  $\bar{x} - S$ .

On the base of 16-17 years old wrestlers' testing results, which are given above in table 1 and 2, with the help of the described above scaling methodic, we developed five point scales of evaluation (see table 3).

Table 3

*Scales for physical qualities and Kettle's index evaluation of 16-17 years old free style wrestlers.*

№	Tests	Оценка				
		1	2	3	4	5
1	Height-weight indicator (Kettle's index)	≥24,51	≥23,47	≥21,48	≥20,38	<20,38
2	Special endurance, quantity of repetitions	≤78	≤81	≤86	≤89	>89
3	Special endurance, coefficient of endurance	≤0,81	≤0,83	≤0,88	≤0,90	>0,90
4	Long jump, without running, m	≤1,87	≤1,98	≤2,20	≤2,34	>2,34

5	Climbing a rope, 5 m, only with arms, sec.	≥12,19	≥10,98	≥8,55	≥7,34	<7,34
6	Chin ups with cross hold, quantity of repetitions	≤13	≤16	≤21	≤24	>24
7	Obstacle course, sec.	≥22,04	≥20,74	≥18,14	≥16,84	<16,84
8	Circular run by side steps (arms as axis) 10 times, sec.	≥16,28	≥15,11	≥12,77	≥11,60	<11,60
9	Flexibility (wrestling bridge), cm	≥31,13	≥28,59	≥23,52	≥20,98	<20,98

Thus, testing results can be evaluated by five point scale that permits to compose individual wrestler's profile and to determine his preference of certain fighting style.

#### Summary

1. In order to achieve the aim of concluding experiment we developed a number of 15 tests. It included 5 new tests, developed by the author, considering the requirements of modern competition activity. The tests were standardized on large sample (n = 92) of wrestlers from different regions of Ukraine. All applied tests were checked for reliability, informative character and accordance. This list of tests was recommended for systematic application in coach's practice and was included in training programs of children-junior sport schools, specialized children-junior sport schools of Olympic reserve, schools of highest sportsmanship and specialized educational establishments on free style wrestling. [1].

2. Concluding experiment resulted in determination of mean-group indicators of physical preparedness and Kettle's index for 16-17 years old wrestlers on the stage of specialized basic training. The most complete data about development of those wrestlers' physical qualities, which fully manifest in fight, were obtained. These data were also used with development of program for children-junior sport schools, specialized children-junior sport schools of Olympic reserve, schools of highest sportsmanship and specialized educational establishments on free style wrestling.

3. Five point scales for determination of Kettle's index and testing results of 16-17 years old wrestlers' physical qualities on the stage of specialized basic training were composed. These scales will permit to reveal wrestlers' preferences of certain styles of wrestling.

In the future it is stipulated to develop and experimentally test individual programs of preparation of wrestlers for every style of fighting.

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