

INFLUENCE CHOREOGRAPHIC READINESS TO GYMNASTS FINAL ASSESSMENT OF PERFORMANCE SKILLS

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Annotation. *Purpose:* to provide a quantitative assessment and expert choreographic preparedness gymnasts. *Material:* the study involved eight gymnasts competition finalists in the floor exercise - female members of the Ukrainian national team in gymnastics. *Results:* the quantitative indicators of acrobatic and dance elements to determine the baseline assessment. Defined methods complications composition on the floor exercise by reducing the number of acrobatic lines and diagonals and increase the number of gymnastic elements. The theoretical performance of the composite sequence is improved structure and increases the difficulty of the exercise. *Conclusions:* in the process of composition complications need to pay more attention to the technique of performing gymnastic elements. In improving exercise choreography element replace (in some cases) acrobatic element. Based on the results is planned future direction of research in order to improve the training process in gymnastics.

Keywords: gymnastics, choreography, acrobatics, exercises, basic assessment, execution, difficulty.

Introduction

In modern sport gymnastic there exist high requirements to sportswomen. On the one hand they shall fulfill difficult elements with high technical skillfulness and on the other hand law of beauty requires that sportswomen should demonstrate lightness, grace, fineness, plasticity and etc. The most picturesque kind of gymnastic all round events was floor exercise [1, 7, 9, 12, 13, 15, 16, 18, 20].

Gymnastic choreographic training starts from mastering of classic dance. It permits to master body movement's culture, videlicet: purity, plasticity and expressiveness of movements [1,3, 8, 11, 14, 17, 19].

In choreographic training of female gymnasts aesthetic, physical and educational tasks are solved. **Aesthetic tasks** mean cultivation of musical sense and horizon, training of movement under music; **physical** – mean development of coordination, flexibility, plasticity, expressiveness and accuracy of movements; **educational tasks** mean psychological relaxation, cultivation of ability to feel, think, remember and estimate culture of movements [3, 4, 10].

Choreographic training in gymnastic is closely connected with technical training and is a component of training process. It is difficult to demarcate these two kinds of training because in training for example of jumps, turns, flies simultaneously technical level of floor exercises is improved. Expressiveness of arms' head's body's movements, expressiveness and completeness of posture permit to demonstrate individual style, performance mastering and artistry that give advantage with evaluation of exercise [2, 4].

Floor exercises are a synthesis of complex acrobatic jumps and choreographic elements, dance and gymnastic movements that, in their turn, condition complexity of the whole exercise [5, 6].

The main condition of floor exercises' composition depends on skillfull combination of all components, obeying of this wholeness to emotionality of music [5, 7].

Purpose, tasks of the work, material and methods

The purpose of the research is to give quantitative and expert evaluation of female gymnasts' choreographic fitness.

The tasks of the research:

1. Determination of quantitative indicators of acrobatic and choreographic elements in floor exercises composition with the help of records, made in symbols, accepted by International gymnastic federation (IGF).
2. Evaluation of technical level of female gymnasts' fitness with the help of experts' marks.
3. Determination of methods and means of complicating of floor exercises compositions.
4. Provision of theoretical proof of interconnection of female gymnasts' choreographic fitness with performance mastering.

The methods and material of the research: 1. Analysis and generalization of special scientific-research literature's data. 2. Analysis of video and recording of compositions in compliance with IGF requirements.. 3. Method of experts' evaluation. In the research 8 floor exercises' finalists for 2012-2013 period participated.

Results of the research

Floor exercises composition consists of complex of elements, which are fulfilled by female gymnast, and of these elements' choreography, i.e. distribution of gymnastic and acrobatic elements in time and space of mat in harmony with music. Choreography shall demonstrate smooth transition of a movement to movement with contrasts in speed and intensity.

Choreography and structure of composition include:

- Rich and various choice of elements from different groups of complexity in "Table of elements";
- Different levels (standing, sitting, lying, in movement or static);

- Changes of movements' directions (forward, backward, aside, arching, zigzag, by diagonal and so on);
- Creative and original movements, combinations and transitions [5, 7].

There exists the so called formula of "**Basic mark**", which consists of special requirements to composition (+ 2.5 p), complexity of elements («A» = 0.1; «B» = 0.2; «C» = 0.3; «D» = 0.4; and etc.) and combinations (+0.1 p and +0.2 p).

According to sport gymnastic competition rules **composition shall consist of** (complexity of elements):

- Maximum – **5 acrobatic** elements, using maximum 4 lines (or diagonals) – possible less but not more;
- Minimum – **3 "dancing"** elements (gymnastic, choreography, dance and etc.).

With fulfilling 5 **requirements to composition** (every one is evaluated as **0.5**) female gymnast receives + **2.50**

points:

- 1. Dance combination** of minimum 2 different jumps with one leg or hops (from Table of elements' complexity); one of them – with backward forward split by 180° + **0.5 p**
- 2. – Forward somersault back and aside, + 0.5 p**
- 3. – Somersault with turn around longitudinal axis** (min. 360°), + **0.5 p**
- 4. – Double somersault, + 0.5 p**
- 5. – Dismount – end of exercise.**
 - Without dismount or dismount «A» or «B», 0.00 p
 - Dismount «C», + **0.3 p**
 - Dismount «D» or more complex, + **0.5 p**.

In order to gain "Basic mark" female gymnasts fulfill maximum 4 acrobatic lines, which consist of standard **acrobatic** elements, and often they are: 2 groups of complexity «D» x 4 = **0.8 p** (at least one of them must be at the end of exercise, otherwise complexity of combination would not be achieved); 3 «C» x 3 = **0.9 p**, mean elements of **choreography**: – 2 gymnastic groups of complexity «C» x 3 = **0.6 p** and 1 gymnastic group of complexity «B» x 2 = **0.2 p**; it makes in total + **2.5** points for **complexity** and + **2.5** points are added for **requirements to composition**; so gross total "**basic mark**" is **5.0 points**. If to use combinations with additions then basic mark will increase accordingly.

As a rule, female gymnasts desire to increase "basic mark" at the cost of complicating of **acrobatic elements** and their increasing, but it does not always give required result. With fulfillment only one acrobatic line or diagonal, female gymnast can "loose" (fall downs and rough mistakes are not considered) from 0.3 points. As per competition rules it is necessary to take specific deductions on apparatus:

- More than 1 pause, without motion on 2 legs – 0.1 p;
- Pause more than 2 seconds before acrobatic line – 0.1 p;
- More than 1 lunge (acrobatic elements) – 0.1 p;
- "Entering" diagonal before acrobatic line, without dance or choreographic elements ("empty steps") – 0.1 p;
- Device for running to acrobatic line – 0.1 p;

After world championship 2013 there were made some changes and additions to acting competition rules, which meant that it was prohibited to come to diagonal with simple steps, with face or back turned forward, i.e. without choreographic movements [2]. It results in minus – **0.1** points. Thus, preparing to certain acrobatic line, having no proper choreography, female gymnast loses – 0.3 points (she even did not start to fulfill acrobatic elements, she only prepared for it); if landing after diagonal was added by lunge, - one more deduction – 0.1 points. They can be added by technical deductions for performance. In total, female gymnast hopes to receive bonus but have deductions. We can conclude that it is necessary to replace acrobatic element by gymnastic one. If female gymnast does not fulfil technical requirements to element's performance, then :

- She is given next element from Table of Elements' Complexity;
- Or she is given complexity less by one group. With it, if fulfillment of element is satisfactory, no deduction happens.

In this case there will be less deductions for performance and basic mark will be higher.

We offer reducing of quantity of acrobatic lines and increasing of quantity of **gymnastic elements** with their further complicating. Thus, we exclude deductions for preparation before acrobatic line.

We took as the base results of finalists of competitions 2012-2013 (CU – Cup of Ukraine, ChU – championship of Ukraine, ChU CJSS – championship of Ukraine for children junior sport schools) (see table 1).

Having analyzed results, presented in table 1, we can judge about technical fitness of female gymnasts and their performance mastering. For example, in the simplest formula the first mark is "basic mark" or complexity of fulfilled exercise; second mark – is mark received for performance and final result is sum of first two marks.

Table 1

Results of competitions of Ukrainian sport gymnastic combined team (women), n=8

№	Initials	CU- 20212	ChU- 20212	ChU CJSS 12
		CU - 20213	ChU- 20213	ChU CJSS -13
1	L.M.	$5.4 + 7.1 = 12.5$	$4.4 + 8.075 = 12.475$	$5.4 + 8.75 = 14.15$
		$5.5 + 8.933 = 14.433$	–	–
2	V. A.	$5.1 + 7.633 = 12.733$	$5.2 + 8.0 = 13.2$	$5.1 + 7.866 = 12.966$
		$5.4 + 7.85 = 13.15$	$5.4 + 8.025 = 13.425$	$5.4 + 8.275 = 13.675$
3	M. D.	$5.0 + 7.366 = 12.366$	$5.0 + 6.525 = 11.525$	$5.0 + 7.733 = 12.733$
		$5.1 + 8.525 = 13.625$	–	$5.1 + 8.6 = 13.7$
4	S. K.	$5.1 + 8.05 = 13.05$	$4.5 + 8.15 = 12.65$	$5.1 + 8.3 = 13.4$
		$5.2 + 8.15 = 13.35$	$5.5 + 8.25 = 13.75$	$5.6 + 8.333 = 13.933$
5	K. A.	$5.1 + 8.0 = 13.1$	$5.1 + 8.075 = 13.175$	$5.1 + 8.1 = 13.2$
		$5.2 + 8.35 = 13.55$	$5.4 + 8.45 = 13.85$	$5.4 + 8.433 = 13.833$
6	S. L.	$5.4 + 8.133 = 13.533$	$5.3 + 8.1 = 13.4$	$5.1 + 7.925 = 13.025$
		$5.0 + 7.75 = 12.75$	$5.1 + 7.8 = 12.9$	$5.4 + 8.266 = 13.666$
7	I. A.	$4.8 + 8.0 = 12.8$	$5.0 + 8.233 = 13.233$	$5.0 + 8.55 = 13.55$
		$5.1 + 8.433 = 13.533$	$5.2 + 8.166 = 13.366$	$5.5 + 8.633 = 14.133$
8	K. D.	$5.0 + 8.475 = 13.475$	$5.0 + 8.4 = 13.4$	$5.0 + 8.2 = 13.2$
		$5.2 + 8.3 = 13.5$	$5.2 + 7.95 = 13.15$	$5.2 + 8.5 = 13.7$

As we have already mentioned above, with fulfillment of all special requirements and with optimal complexity mean mark is 5.0 points. If initial mark is less, that means that some special requirement is not fulfilled or there is deficit of complexity.

In table 1 and fig.1 it is seen that 4 marks are low, 26 marks have middle indicator and 11 – are high. Even these marks are not criteria for final competitions of international level. Indicators of “basic mark” shall be higher – 5.8-6.0 points.

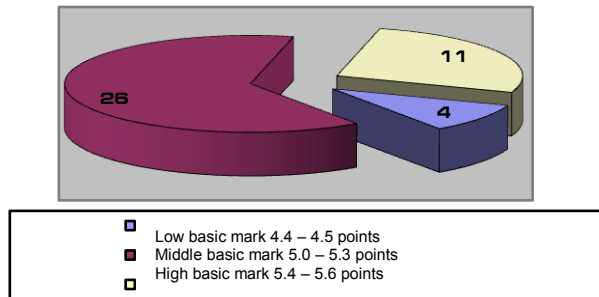


Fig.1. Determination of technical fitness of female gymnasts, considering points for complexity

From table 1 and fig 2 it is seen that performance mastering was evaluated with 36 low marks and only 11 – with high marks.

If mark is lower than 8.0 points it witnesses about rough mistakes; deduction of **0.5 points** or, in case of fall down – deduction is **1.0 points**. Also, here mistakes in technique of performance (both gymnastic and acrobatic elements) can be considered. Fulfillment of gymnastic or choreographic element in falling is practically impossible.

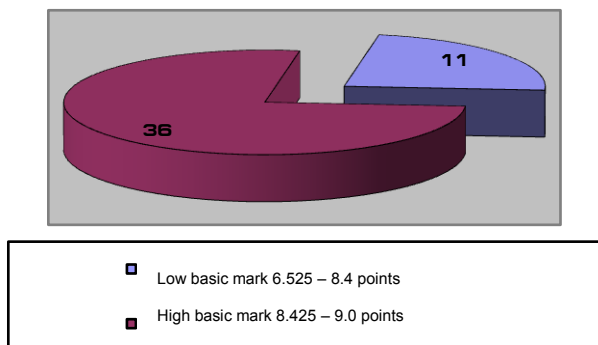


Fig.2. Determination of performance mastering of female gymnasts (mark for performance)

Having analyzed all results and marks and basing on existing rules of competitions in sport gymnastic we came to conclusion that it is important to pay more attention to technique of fulfillment of gymnastic elements. In this connection it is necessary to replace acrobatic element with element of choreography. We should orient on individual potentials of female gymnasts, no matter if elements will be of “turn” or “jump” character. In any case it is necessary to use basic dance elements with further their complicating.

In the course of our research 2 sportswomen began to change their free compositions in floor exercises. We offered to them to build their programs so as to add choreographic elements and to fulfill three diagonals (each of them), excluding extra losses and deductions.

Having discussed changes in competition rules with coach and sportswoman D.K., we made record of exercises, which were fulfilled in 2012 and offered new composition (for 2014 with perspective development of it) with reducing of acrobatic lines and elements and replacing of them with gymnastic elements.

As it is shown in table 2 (composition 1) sportswoman used 5 acrobatic elements in 4 lines and 4 gymnastic elements. In 2012 her “basic mark” was - **5.0 points**.

Table 2

Compositional sequence of sportswoman D.K.

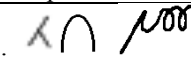
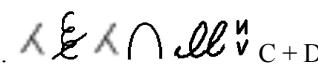
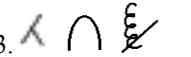

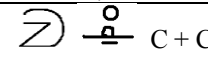



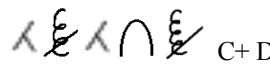






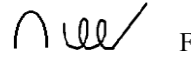
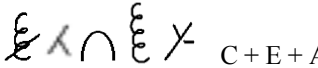






1 composition of 2012		
Acrobatic: 4 lines, 5 complex elements 2 D, 3 C	Gymnastic: 4 complex elements 2 B, 2 C	Basic mark 5.0 points:
1. D 2. C+C 3. C 4. D	C+B C B	2 D = 0.8 p 5 C = 1.5 p 1 B = 0.2 p complexity 2.5 p complexity 2.5 p
2 composition for 2014		
Acrobatic: 3lines, 4 complex elements 3 D, 1 C	Gymnastic: 6 complex elements 1 D, 4 C, 1 B	Basic mark 5.4 points:
1. C+D 2. D 3. D Element of composition	C+C C D B C	4 D = 1.6 p 4 C = 1.2 p complexity 2.8 p composition 2.5 p plus for combining 0.1 p
3 perspective composition		
Acrobatic: 3lines, 4 complex elements 1 E, 2 D, 1 C	Gymnastic: 6 complex elements 3 D, 2 C, 1 B	Basic mark 6.0 points:
1. C+E+A 2. D 3. D Element of composition	C+D C D+B D	1 E = 0.5 p 5 D = 2.0 p 2 C = 0.6 p complexity 3.1 p composition 2.5 p plus for combining 0.4 p

Having determined optimal elements for improvement in compliance with existing competitions' rules we chose the following composition (2nd composition for 2014). It is: 4 acrobatic elements in 3 lines and 6 gymnastic elements; “basic mark” is **5.4 points**. For female gymnast, who is not able to fulfill complex acrobatic elements it is a good mark. Thus,, by replacement of one acrobatic series with element (equal by complexity) we excluded minimum 0.4 points of deduction for performance and received bonus in “basic mark”.

In third composition we regard complicating of both acrobatic and choreographic elements. However, we may leave all acrobatic lines unchanged and accentuate only gymnastic elements. And even in this case “basic mark” of a female gymnast will be **5.8 points**.

Table 3

Compositional sequence of sportswoman K.S.

1 composition of 2012		
Acrobatic: 4 lines, 5 complex elements 1 E, 3 D, 1 C	Gymnastic: 4 complex elements 3 C, 1 B	Basic mark 5.5 points
1.  E 2.  C+D 3.  D 4.  D	 C+C  C  B	1 E = 0.5 p 3 D = 1.2 p 4 C = 1.2 p complexity 2.9 p composition 2.5 p composition 0.1 p
2 composition for 2014		
Acrobatic: 3 lines, 4 complex elements 1 F, 2 D, 1 C	Gymnastic: 5 complex elements 4 D, 1 C	Basic mark 5.9 points:
1.  F 2.  C+D 3.  D Element of composition 	 C+D  D  D  D	1 F = 0.6 p 6 D = .4 p 1 C = 0.3 p complexity 3.3 p composition 2.5 p plus for combining 0.1 p
3 perspective composition		
Acrobatic: 3 lines, 4 complex elements 1F, 1 E, 1 D, 1 C	Gymnastic: 5 complex elements 4 D, 1 C	Basic mark 6.2 points:
1.  F 2.  C+E+A 3.  D Element of composition 	 C+D  D  D  D	1 F = 0.6 p 1 E = 0.5 p 5 D = 2.0 p 1 C = 0.3 p complexity 3.3 p composition 2.5 p plus for combining 0.3 p

The above presented example of composition's change refers to female gymnast, who is skillful in acrobatic and choreography. Her initial "basic mark" is higher than of previous sportswoman; she is a candidate to final in floor exercises.

As it is shown in table 3 (composition 1), female gymnast used 5 acrobatic elements in 4 lines and 4 gymnastic elements as well as combining + 0.1 points. In 2012 her "basic mark" was – **5.5 points**.

We discussed with coach variant "three diagonals", replacing completely acrobatic lines and complicating choreographic elements. Also we excluded deductions of minimum 0.4 points. We received the following exercise: 4 acrobatic elements in 3 lines and 5 gymnastic elements with "basic mark" – **5.9 points**. It is already "international" level of finals.

In third composition we accentuated thy second acrobatic line with its further complicating. This composition includes elements of acrobatic and choreographic elements that, gives plus 0.3 points. Thus, complicating of composition occurs at the cost of addition and improvement of gymnastic and choreographic elements.

Conclusions:

1. With the help of vide analysis and records, fulfilled by symbols, adopted in International gymnasts' federation, we could evaluate quantitative indicators of acrobatic and choreographic elements in floor exercises' compositions.

2. Method of experts' marks permitted for us to evaluate female gymnasts' technical fitness in free exercises. Basing on received data we determined that complicating of program occurs at the cost of increasing of acrobatic elements and combinations, however it can result in deductions for performance.

3. When planning improvement of composition, we offer to pay more attention to gymnastic elements and choreography in order to vary and improve exercise.

4. We have shown and proved theoretically that female gymnasts' choreographic fitness directly influence on performance mastering.

Further researches will be oriented on improvement of female gymnasts' choreographic fitness in compositions and on implementation of such compositions in training and competition processes.

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