

Quality of implementation of structural components of competitive programs of qualified athletes, as a factor determining the sporting result in acrobatic rock and roll

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Purpose: to analyze modern competitive programs of "B" class athletes specializing in acrobatic rock and roll, and to determine the most informative indicators of the contents of these programs.

Material & Methods: during the study, video footage of the speeches at the Ukrainian Championship in acrobatic rock and roll of sports pairs of class "B" and electronic protocols of these competitions were analyzed. To assess the relationship between the most informative indicators of the content of competitive programs, a correlation analysis.

Results: it is determined that the most informative indicators of the content of the competition composition of qualified athletes of the "B" class, specializing in acrobatic rock and roll, are "elements of acrobatics and combinations", "main move", "dance figures", and in the block "choreography" "changes on the main move", "variation of the main move", "dance pair figures without the main move".

Conclusions: a strong correlation was found between "acrobatics" and "acrobatic combinations" (0,95), between "changes in the main move" and "main move" (0,89), between "variations in the main move" and "main move" (0,91), between "variations of the main move" and "changes in the main move" (0,93), between "dancing pair figures without the main move" and "dance figures" (0,94).

Keywords: acrobatic rock and roll, competitive programs, qualified athletes, class "B".

Introduction

Acrobatic rock and roll is one of the most spectacular sports that is developing intensively in Ukraine and abroad. The high social significance of this type of sport necessitates the study of various aspects of the process of preparation of athletes. The efforts of many scholars are aimed at this. So, in a number of scientific studies highlights the actual problems of the preparation of athletes in acrobatic rock and roll [8] and the modern definition of acrobatic rock and roll is given, and a general strategy for the development of the theory of this sport is singled out [9]. Studies [2; 5] disclose features of the construction of competitive programs of qualified athletes, and article [4] focuses on the contradictions existing in the evaluation of acrobatic elements that are used in competitive programs of qualified athletes. A number of publications highlight the problems of technical training for athletes specializing in acrobatic rock and roll [6], and the dependence of the qualitative performance of basic exercises in acrobatic rock and roll on special physical fitness of athletes [1]. The results of the analysis show that modern trends in the development of acrobatic rock and roll are associated with the increasing complexity of competitive programs and an increase in the performing skills of athletes [2; 3]. They are conditioned by modern international competition rules [7], which focuses on the complexity of acrobatic elements and combinations that are performed by athletes, on the technique of their "main move", as well as on the increase in the number of dance figures that are included in the competition program [4; 6]. This raises a number of practical tasks to improve the process of training qualified athletes in acrobatic rock'n'roll, namely: acrobatic elements used in competitive programs, how to combine acrobatic elements and combinations with dance series.

This aspect of the process of training qualified athletes of class "B" in acrobatic rock and roll, as shown by the analysis of scientific and methodological literature, is still insufficiently studied.

Purpose of the study: to analyze modern competitive programs of "B" class athletes specializing in acrobatic rock and roll, and to determine the most informative indicators of the contents of these programs.

Objectives of the study:

1. To highlight the most informative indicators of the contents of competitive programs of qualified athletes of class "B" in acrobatic rock and roll.
2. Estimate the strength of correlation relations between the most informative indicators of the contents of competitive programs of sports couples of class "B".
3. Characterize the dependence of the competitive result in acrobatic rock and roll from deduction, which are due to errors in the technique of performing athletes competitive exercises.

Material and Methods of the research

To determine the most informative indicators of the content of competitive programs and to identify their relationship to the competitive result, an analysis of the video footage of the performances of sports couples of class "B", finalists of the championship of Ukraine in acrobatic rock and roll. The content of the competitive program was evaluated on the basis

of the analysis of the videograms by a specially developed method that reflects the structure of the competition program and includes the introduction (intro), 6 main blocks (in each of which the sports pair demonstrates the dance series and acrobatic elements and combinations) and the final pose (outro). In the course of the analysis, the conformity of the competitive programs of the championship participants to the requirements for the construction of programs, which are described in the rules of the acrobatic rock and roll competition [7] and the catalog of acrobatic elements for the sports pairs of class "B".

Results of the research and their discussion

The analysis of the video materials of the competitive programs showed that sports pairs of the "B" class, specializing in acrobatic rock and roll, perform dance series and acrobatic elements in 6 blocks. Dance series include: six full competitive moves, variation of the competitive course, dance tracks, elements and movements of modern choreography, classical (andorhane, andedan) and rock and roll (use of an accented spring on the "re-le-ve"), jumps, dynamic changes in the positions of partners and specific dance figures and expressive poses, which successfully emphasize the accents of musical accompaniment. The acrobatic elements include: 4 groups of obligatory acrobatic elements (somersault forward, back somersault, "Todes", rotation) and two or more combinations.

To determine the most informative indicators and establish reliable links between the sport result and quantitative indicators of the content of competitive programs, a special correlation analysis was conducted. Its results are presented in the table. They show that among the structural indicators that determine the content of the competitive composition, there are strong ties between the nine. Thus, a strong correlation was found between the elements of acrobatics and acrobatic combinations ($r=0,95$), between the main move and the dance figures ($r=0,78$), between changes in the main move and the main move ($r=0,89$) between the changes in the main move and the dance figures ($r=0,78$), between variations of the main move and the main move ($0,91$), between variations of the main move and changes in the main move ($0,93$), between the dancing pair figures the main course and acrobatic combinations ($0,85$), between the dancing pair figures E without the basic stroke and dance iguramy f ($0,94$), between the elements and the dance choreography paired basic shapes without stroke ($0,73$). The received results testify that the selected connections should be taken into account in the process of assembling or correcting competitive programs of

qualified "B" class athletes in acrobatic rock and roll.

The results of the research also showed that, in acrobatic rock and roll, the high result of a sports pair in the performance of a competitive program is significantly affected, firstly, by the qualitative performance of the "main move" with observance of the swing rhythm, which, as was shown above, has a strong correlation dependence on dance figures, as well as changes in the main move and variations in the main move. Secondly, the qualitative performance of dance figures with elements of choreography by sports couples, as, according to the results of the analysis, there is a strong correlation between dance figures, changes in the main move and variations in the main move.

The competitive result in acrobatic rock and roll is also significantly dependent on deduction, which are due to errors in the technique of performing athletes competitive exercises. To determine this relationship, mistakes were made in the technique of performing athletes' acrobatic elements and combinations, dance series and their deduction. In the technique of performing acrobatic elements and combinations by athletes, seven groups of deduction are allocated: deduction for the quality of performance; deduction for the amplitude of performance; speed deduction; deduction for the integrity of the implementation; deduction for partner control; deduction for security; deduction for the quality of landing. The weight of these deduction can reach from 5% to 100% of the total evaluation for a specific element of the program.

The analysis also showed that between the "elements of acrobatics and combinations" there are interrelations between the average (deduction for landing quality, partner control and security) to high (deduction for performance, amplitude, speed and integrity of performance). Thus, "elements of acrobatics and combinations" strongly correlate with deduction for "quality of the technique of execution" ($r=0,97$), with deduction for "amplitude" ($r=0,88$). The average correlation dependence is revealed between "acrobatics and combination elements" and deduction for "speed of completion" ($r=0,74$), "integrity" ($r=0,73$), "safety of execution" ($r=0,68$), "Partner control" ($r=0,65$) and "landing quality" ($r=0,68$).

In the technique of performing the dance series, three groups of deduction are singled out: for the technique of performing the "main move", for the technique of performing dance figures, for performing the choreography.

The weight of these deductions can reach from 5% to 100% of the total evaluation, which can be exposed for this item. As

Correlation between the indicators that determine the content of the competition program

No.	Indicators that determine the content of the competition program	1	2	3	4	5	6	7	8
1.	elements of acrobatics	1							
2.	acrobatic combinations	0,95*	1						
3.	main move	0,56	0,63	1					
4.	dance figures	0,54	0,55	0,78	1				
Choreography:									
5.	Changes in the main move	0,47	0,41	0,89	0,78	1			
6.	Variations of the main move	0,43	0,40	0,91	0,64	0,93	1		
7.	Dance paired figures without the main course	0,52	0,85	0,44	0,94	0,47	0,56	1	
8.	Other choreographic elements	0,45	0,42	0,49	0,51	0,54	0,58	0,73	1

Remark. * – high and statistically significant ($p<0,05$) values of correlation coefficients.

a result of the correlation analysis, reliable interrelationships between the average (deduction for choreography) and high (deduction for performing the "main course" and dance figures) between the dance series and the overall evaluation for the performance of the sports program "Acrobatics" were revealed. Thus, a strong correlation dependence of the "dance series" was revealed with deduction for "dance figures" ($r=0,83$) and for "main move" ($r=0,98$). The average correlation dependence is revealed between "dance series" and "choreography" ($r=0,71$).

Conclusions

1. The results of the research showed that "the elements of acrobatics and combinations", "main move" and "dance figures" are the most informative indicators of the content of the competitive composition for qualified "B" class athletes specializing in acrobatic rock and roll. In the block "choreography" – "changes in the main move", "variation of the main move", "dancing pair figures without the main move".

2. As a result of the study, a strong (close to functional) correlation between "acrobatics" and "acrobatic combinations" ($r=0,95$), between "changes in the main move" and "main move" ($r=0,89$), between "variations of the main move" and the "main move" ($0,91$), between "variations of the main move" and "changes in the main course" ($0,93$), between "dancing pair figures without the main move" and "dance figures" ($0,94$).

3. The results of the study indicate a high correlation of "acrobatics and combination elements" with discounts for "quality of the execution technique" ($r=0,97$), with discounts for "amplitude" ($r=0,88$). Also, a strong correlation dependence of the "dance series" with discounts for "dance figures" ($r=0,83$) and "main move" ($r=0,98$).

Prospects for further research are a more detailed definition of the relationship between the structural indices of the content of the composition and the special physical preparedness of qualified "B" class athletes specializing in acrobatic rock and roll.

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