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PROBLEMS OF SELECTION OF FEMALE ATHLETES FOR THE FORMATION OF FORMATION TEAMS IN ACROBATIC ROCK 'N' ROLL

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Purpose: the substantiation of the most significant components of the comprehensive assessment of the results of the competitive program, which will determine the effectiveness of the composition of athletes for the teams of formation in the acrobatic rock 'n' roll.

Material and methods: research was conducted on the basis of clubs from the acrobatic rock and roll of the All-Ukrainian public organization "Federation of Acrobatic rock and roll of Ukraine" (FARRU). The study participated athletes of Female Command formation aged 13 to 28 years in an amount of 84 people. Qualification: 19 athletes (22,6 %) have the first discharge, 46 athletes (54.8%) have a discharge of KMS, 19 athletes (22,6 %) of the MS of Ukraine. To achieve the goal we used a complex of modern research methods: theoretical analysis and generalization of literary and Internet sources, analysis of documentary materials, pedagogical observation, anthropometry, methods of mathematical statistics.

Results: the conducted study made it possible to determine the harmonism of the structure of teams by their components and the influence of components for a comprehensive assessment for the implementation of competitive exercises.

Conclusions: as a result of the use of modern research methods managed to establish components of the contingent structure and determine the elements of the evaluation system for forming commands in the category of Female formations in the Acrobatic rock 'n' roll.

Keywords: acrobatic rock-n-roll, team of formations, selection of athletes.

Introduction

Acrobatic rock 'n' roll today is a non-Olympic kind of sport that has appeared in Ukraine since the 1990s. Of course, for such a short period of its existence, it does not yet have a scientifically sound system of long-term training of athletes, part of which is the selection of athletes and their orientation to certain specializations.

This sport belongs to the group of complex coordination sports, as it's main content is the interaction of partners, designed in motor compositions with musical accompaniment in accordance with the rules of the competition [2, 12, 21].

In fact, dance movements in combination with technically complex acrobatic elements are performed at a high pace, without pauses and static poses (except for the final pose), with a particularly characteristic color, which is determined by the characteristics of the music. At the same time, the presence of the same type of musical accompaniment in the style of " rock 'n' roll " does not impoverish this type of competition because the compositions are performed by athletes in various ways [3, 11, 16].

The category of formation of a woman in acrobatic rock 'n' roll has certain requirements for the age and number of team members and must be represented by girls from 12 years old in the number of 8 - 16 people (the final composition of the team at the All-Ukrainian competitions by age and number of team members competitions in sports Acrobatic rock 'n' roll, and in international competitions by international rules WRRC) [12, 23].

To date, competitions in acrobatic rock 'n' roll are held in the following types: solo (men, women), duets (women), couples (male + female), group performances of formation (women, couples) (male + female).

There are also categories: children, youth, juniors, adults. According to the rules of the competition, one athlete is allowed to participate in several types of categories. Therefore, athletes engaged in this sport can realize themselves in any kind of competitive categories.

With a wide choice of specializations for acrobatic rock 'n' roll classes, the coach has the task to choose for the athlete exactly the one that corresponds to individual physical development and a set of abilities for successful training.

Competitive performance in women's formations is a constant rearrangement, which must be performed with exceptional accuracy and stylistic color. During the competition program, athletes need to synchronize their movements with other team members from the foot to the gaze [19, 20].

No less important point in the performances of formation teams is the observance of a clear geometric pattern after rearrangement. For example, after placing on the field in a line, the athletes are rearranged in a circle, then diagonally, then in a wedge, then in parallel lines and other shapes [2]. The sequence of changes can be varied.

Also a prerequisite is that for the time allotted for the performance of dynamic motor activity (in the qualifying rounds 1.30-1.45 min, in the final round 2.15-2.30 min), athletes must make at least ten basic moves (mandatory basic element) and present dance figures of four types of groups. Acrobatic elements complement dance figures and expand the arsenal of motor activities of athletes, which requires a certain level of sports training [12, 23].

The calculation of points in the performances of women's teams formation is carried out according to the following criteria:

- basic step (male + female). The criterion evaluates: the quality of the technique of performing the basic element of the Basic Step, the position of the torso, the position of the hands, rhythm, synchronicity and harmony;

- dancing figures. The criterion evaluates: originality, complexity, variability, aesthetics of dance figures;

- choreography. The criterion evaluates: ideas, images, matching costumes, interpretation of music, dance lines, synchronicity, harmony, entrance to the dance floor, exit from the dance floor.

- formation notes. The criterion evaluates: clarity of choreographic drawing, rearrangement, use of space on the field, clear and uniform location of athletes on the dance floor, clarity of lines.

The competitive assessment of the team's performance among the various criteria is also influenced by the general impression of the team members, which includes compliance with height and weight characteristics, features of physical development and mastery of the technique of elements and dance figures.

The judge may also add additional points. For example, in the criterion of choreography for extraordinary artistic performance [12, 23].

Thus, for the effective existence of a formation team, all its members must meet certain aesthetic requirements and have similar genetic predispositions to reflect the combined, synchronous sports activities of acrobatic rock 'n' roll [1, 4, 14, 15, 22].

Given the fact that common to all types of competitive programs of acrobatic rock 'n' roll is group or pair interaction in the implementation of basic changes, dance figures and acrobatic elements, experts in the selection of contingents for team performances involve athletes of other specialties of acrobatic rock 'n' roll.

It is possible to give an objective description of the athlete's potential only based on certain criteria that allow to determine individual inclinations and their compliance with the motor activity of sports specialization.

In determining the selection criteria must consider: the makings that determine the anatomical and physiological features of the organism; abilities that provide speed of mastering movements and their preservation in time; giftedness, as a combination of abilities that enable success in a particular sport.

Given that all motor activities of athletes in the team must be synchronized, it is important to match the body of each athlete to perform a given set of technical elements of acrobatic rock 'n' roll and the dynamics of their performance.

Modern research in acrobatic rock 'n' roll and other complex coordination sports, in which there is an aesthetic component, indicate that to achieve high results is possible only for gifted athletes who have a rare combination of morphological

characteristics with a high level of development of leading motor skills and mental abilities that provide complexity and stability of technique.

At the present level of development of acrobatic rock 'n' roll, despite the coverage of the selection and construction of the training process of athletes in pairs for youth and adult categories, almost no attention is paid to the organization of the training process for formation teams, no criteria for selecting athletes in teams. models of a successful team are not built. As a result, the national team of Ukraine is currently not represented by participants of this type of competition in the international arena.

If we talk about the participation of women's formation teams in all-Ukrainian competitions, we can say that their number is limited, athletes of one team have a large variation of height and weight, different levels of sports training, and the composition is constantly changing. That is, coaches without any methodological materials try to solve this issue by choosing a team from the existing contingent, which takes a long time and does not give the desired results.

Therefore, determining the indicators of the structure of the contingent of athletes and their physical development, taking into account morphological characteristics as a prognostic criterion for success in selecting athletes for the formation of women's teams formation is relevant, which requires research.

Purpose of the study: substantiation of the most important components of a comprehensive assessment of the results of the competitive program, which will determine the effectiveness of the composition of athletes for team performances of formation in acrobatic rock 'n' roll.

Objectives of the study: 1. To analyze the scientific and methodological literature on the organization of training, competitive activities and selection of athletes for group performances in the category of female formations in acrobatic rock 'n' roll. 2. Identify research methods that sufficiently achieve the goal. 3. To determine the features of the structure of the contingent of women's formation teams participating in all-Ukrainian competitions in acrobatic rock 'n' roll.

Material and Methods of research

The research was conducted on the basis of acrobatic rock and roll clubs of the All-Ukrainian public organization "Federation of Acrobatic Rock and Roll of Ukraine" (FARRU). The study involved female athletes of formation teams aged 13 to 28 years. The number of subjects is 84 people. Athletes have sports qualifications: 19 athletes (22,6%) - first category, 46 athletes (54,8%) - CMS category, 19 athletes (22,6%) - MS of Ukraine.

To achieve this goal we used a set of adequate research methods: theoretical analysis and generalization of literary and Internet sources, analysis of documentary materials, pedagogical observations, anthropometry, methods of mathematical statistics

Connection of research with scientific or practical tasks, plans, programs. Scientific work was performed in accordance with the initiative scientific theme of the Department of Gymnastics, Dance Sports and Choreography: "Theoretical and methodological principles of development of system-forming components of physical culture (sports, fitness and recreation) for 2020-2025), state registration number 0120U101215".

Results of the research

The presented material was collected during the research in the field of training women's formation teams in acrobatic rock 'n' roll.

In analyzing the scientific and methodological literature, we paid special attention to the methods of selection of athletes in other complex coordination sports, which have a component of joint group activities and a combination of biokinematic characteristics of sports techniques with the rhythmic structure of musical accompaniment.

The authors [5, 6, 9, 10] propose to select team members for joint activities taking into account certain features of physical development, physical and functional fitness of athletes, among which are necessarily present: anthropometric parameters, propensity to develop leading physical qualities and ability of athletes to perform motor activity in a conditioned environment.

According to the works of the authors [7, 8, 13, 17, 18], the adaptability to perform a certain motor activity is inherent in a person from birth and is reflected in his physical development. Indicators of physical development include a complex indicator of morpho-functional parameters of the organism, which is an indicator of its proportionality of development and stock of physical capabilities.

To solve the problems we made measurements of height and weight characteristics, determined the IR, which gives an understanding of the ratio of fat to other components of body composition. Also indicative of the selection of athletes for team performances is the age, experience in the chosen sport, and the age at which the athlete has reached a high qualification. These characteristics can then be used to create a passport of the relevant specialization of athletes in acrobatic rock 'n' roll.

Since school and adult athletes can take part in team performances, we analyzed and compared the indicators of these age ranges.

Table 1 presents the results of statistical processing of the teams formed in the course of acrobatic rock 'n' roll collected during the control of passport data of athletes.

Table 1

Indicators of physical development and the level of quality for the contingent of female athletes of the FARRU formation teams (n = 84)

Indexes	Body length, sm	Weight, kg	IK, kg/m^2	Experience classes, years	Passport age, years
Contingent of 1 group aged 13-16 years (n=46)					
$\overline{X}$	162*	50,6*	19,1*	7,5*	14,5*
S	0,07	7,14	1,81	2,08	1,14
m	0,01	1,05	0,27	0,31	0,17
max	175	63,2	23,4	11	16
min	145	33	15,2	3	13
Contingent of 1 group aged 17-28 years (n=38)					
$\overline{X}$	166	56,2	20,4	9,5	20,5
S	0,05	5,33	1,9	3,13	3,08
m	0,01	0,86	0,31	0,51	0,50
max	178	70	25,7	15	28
min	156	43	16,8	3,5	17

Remark: * asterisks indicate significant changes between group indicators

The obtained results give an idea of the studied contingent of athletes engaged in acrobatic rock 'n' roll specializing in women's formations, representing clubs that are part of different branches of FARRU and can serve as a criterion for the selection of athletes in teams.

Analyzing the contingent of teams of women's formations, we can say that there are 46 school-age athletes and 8 fewer adult athletes. This composition can be represented in the ratio 55: 45.

The average age of school-age athletes is: 14,5±1,14 years. The maximum age is 16 years and the minimum is 13 years. In adult athletes, this figure is 20,5±3,08 years. The maximum age is 28 years and the minimum is 17 years.

The average height of school-age athletes is 162±0,07 cm. The maximum height is 175 cm and the minimum is 145 cm. For adult athletes, this figure is 166±0,05 cm. The maximum height is 178 cm and the minimum is 156 cm. .

The average body weight of school-age athletes is 50,6±7,14 kg. The maximum limit is 63.2 kg body weight and the minimum 33 kg. In adult athletes, this figure is 56,2±5,33 kg. The maximum limit is a body weight of 70 kg and a minimum of 43 kg.

Analyzing the data of the length of service, we can say that both adults and school-age athletes have a minimum length of service of 3 years. The maximum number of years of acrobatic rock 'n' roll training for school-age athletes is 11 years, and for adult athletes 4 years more. The average length of service for school-age athletes is 7,5 ± 2,08 years, and for adult athletes this figure is 9,5±3,13 years.

The obtained data emphasize the data of other authors in the field of training athletes [6, 7, 10, 13, 15, 16, 17, 21] and indicate that sports can be started at any childhood or adolescence. However, all the authors agree that to solve certain pedagogical tasks, the beginning of classes must coincide with the primary school age, when the future athlete lays the foundation of physical and functional fitness. And the qualitatively carried out selection and orientation of the sportsman to occupations by a certain specialization at each stage of long-term preparation will considerably reduce a way to success.

The average result of the growth-weight index of Kettle in school-age athletes is 19,1±1,81 kg / m^2. The maximum limit is the result of 23,3 kg / m^2, and the minimum is 15,2 kg / m^2. In adult athletes, the Kettle index is 20,4±1,9 kg / m^2. The maximum limit is the result of 25,7 kg / m^2, and the minimum is 16,8 kg / m^2.

When comparing the average values for the reliability of the differences (Table 1), we found that all the studied indicators have significant differences at $p < 0.05$. Thus, according to age, training experience and height-weight characteristics, both groups of athletes have a large variation.

For each coach when planning process, it is indicative to obtain individual indicators of athletes.

The distribution of individual indicators of female athletes by IR in accordance with the norms given by the WHO is presented in Fig. 1.

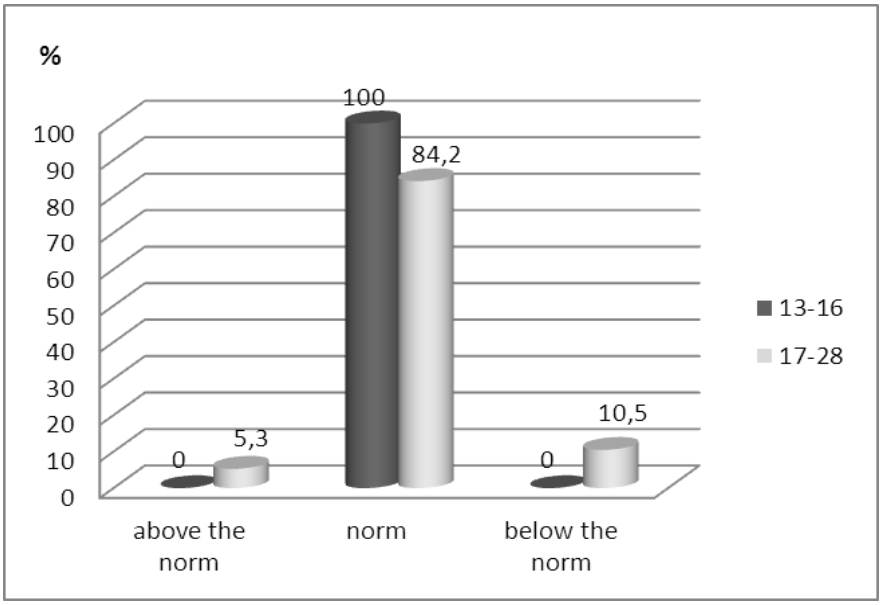

Fig. 1. Distribution of individual indicators of athletes by IK 13-16 n = 46, 17-28 n = 38

Of the total number of surveyed athletes aged 13-16 for IK 100% of the results are within normal limits. A slightly different distribution of IK relative to the norms is observed among athletes aged 17-28. In this contingent, the results of 32 athletes (84,2 %) correspond to the norm, 2 athletes (5,3 %) also have results above the norm and 4 athletes (10,5 %) have below the norm, but these results are close to the norm.

Thus, in the vast majority of results of athletes on IR correspond to the norm, which indicates the positive impact of acrobatic rock 'n' roll on the metabolic processes of the surveyed contingent.

It is noteworthy that a characteristic feature of the structure of the teams is a wide passport age range of their members.

Graphic representation of the distribution of the age range of the studied athletes are presented in the graph (Fig. 2).

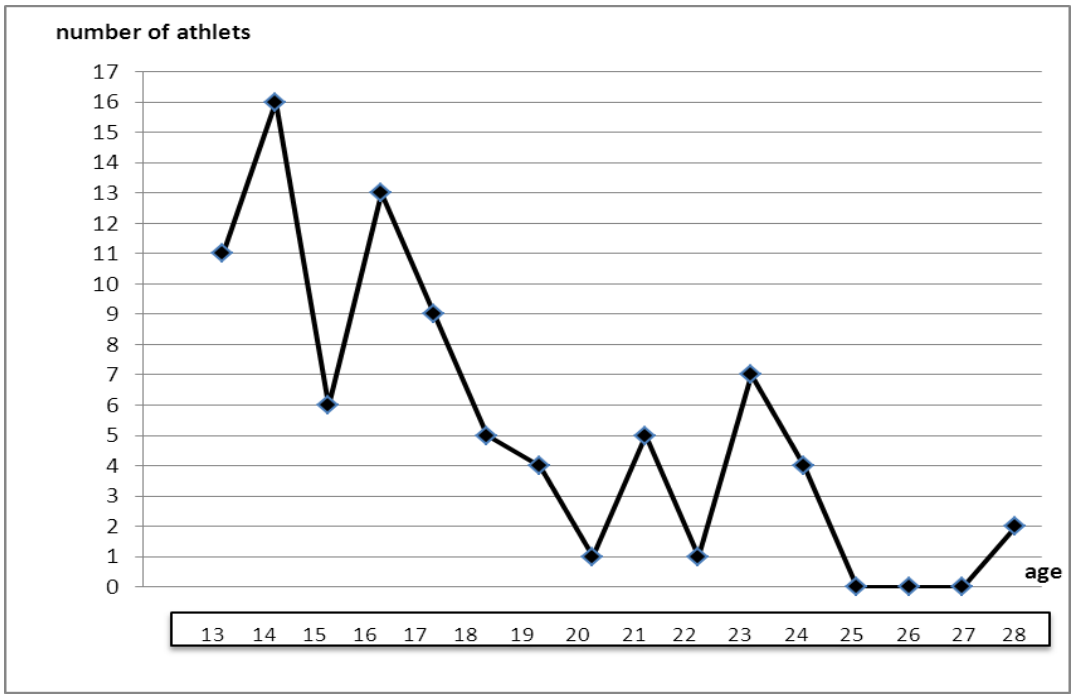

Fig. 2. Distribution of the age range of female athletes of formation teams in acrobatic rock 'n' roll (n = 84)

According to the data presented in Figure 2, among the surveyed contingent there are eleven athletes aged 13 years (13,1 %). Also in the sample of the studied athletes is traced one person aged 20 and 22, which is 1,2 %. Two athletes are 28 years old (2,4%), they can be called veterans of acrobatic rock 'n' roll, but female formies are a category in which more adult girls can realize themselves than in paired performances, and today athletes of this type age were selected as coaches for team performances.

Explaining this issue more broadly, it can be added that in paired performances, adult athletes, participating in competitions, must perform flight

acrobatic elements. In the category of women's uniforms, not all team members must perform such acrobatic elements at the same time. Due to the fact that the team of adult athletes consists of up to 16 people, some of them perform the function of support, some - the function of those who push and those who ensure the safety of the athlete during landing, after performing flight elements, and some perform flight acrobatic elements. So this type of competition allows adult sportswomen to continue their sports careers, who for various reasons are not able to compete in doubles, but this decision can be called temporary, because it does not solve the problem of selecting the most promising athletes in the team.

There are 4 athletes aged 19 and 24, which is 4,8% of the total age range of athletes. Five athletes each have the presence of girls aged 18 and 21 (5,9 %) among the surveyed contingent. Six athletes (7,1 %) are 15 years old, seven (8,3 %) have reached 23 years. There are 9 seventeen-year-old athletes (10,7 %). The presence of athletes who have reached 16 years of age is 13 people (15,5 %). The largest number of 16 people is among girls aged 14 (19 %). There are currently no athletes aged 25, 26 and 27 among the surveyed contingent.

The analysis revealed that all athletes meet the requirements of the competition rules by age, but the wide range does not allow to determine the most optimal age for selection and requires the study of additional indicators.

In team performances there can be nothing more or less important for one of the team members, because the score for the performance is given to the whole team, but it depends on the skill of each athlete [5, 6, 9, 11].

Of course, the success of performances at competitions is due to the presence in the team of highly qualified athletes who have extensive competitive experience and can consistently perform complex elements of acrobatic rock 'n' roll. To identify the possibility of approval of motor activity of such an age range of female athletes, we paid attention to such a characteristic as the level of qualification of the studied athletes, which can be considered one of the criteria for selecting the contingent in the team.

The consistency of the contingent of formation teams with the level of their professional qualification is presented in Fig. 3.

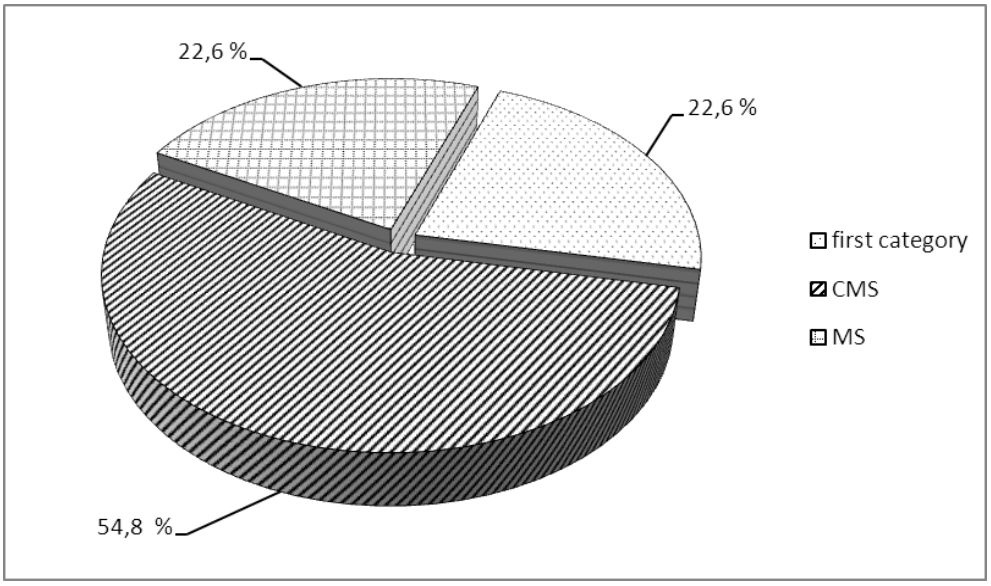

Fig. 3. Consistency of the contingent of teams with the level of their professional qualifications (n = 84)

The data of the analysis indicate that 19 athletes (22,6 %) have the first category, 46 athletes (54,8 %) performed the category of CMS, and the title of Master of Sports of Ukraine is found among the surveyed contingent of 19 athletes (22,6 %).

To date, the level of sports qualification of athletes received by participating in competitions in doubles, solo and participating in competitions of junior doubles and girls formations.

The fact of the presence in the maximum number of athletes of mass categories is confirmed by other studies in sports [4, 6, 7, 9, 12], which convincingly show that not every athlete is able to get high qualification in the chosen sport, but only those who have the necessary set genetically determined components that allow for purposeful pedagogical influence to express themselves in a particular type of professional or sports activity.

Such information gives an understanding that athletes who have previously been engaged in acrobatic rock 'n' roll and have experience in performing motor activities in this sport can be considered for selection into women's formation teams.

And in combination with other indicators, these data can be used as a model characteristic.

We also conducted an analysis of the age at which athletes achieved high qualifications. The results are presented in Fig. 4.

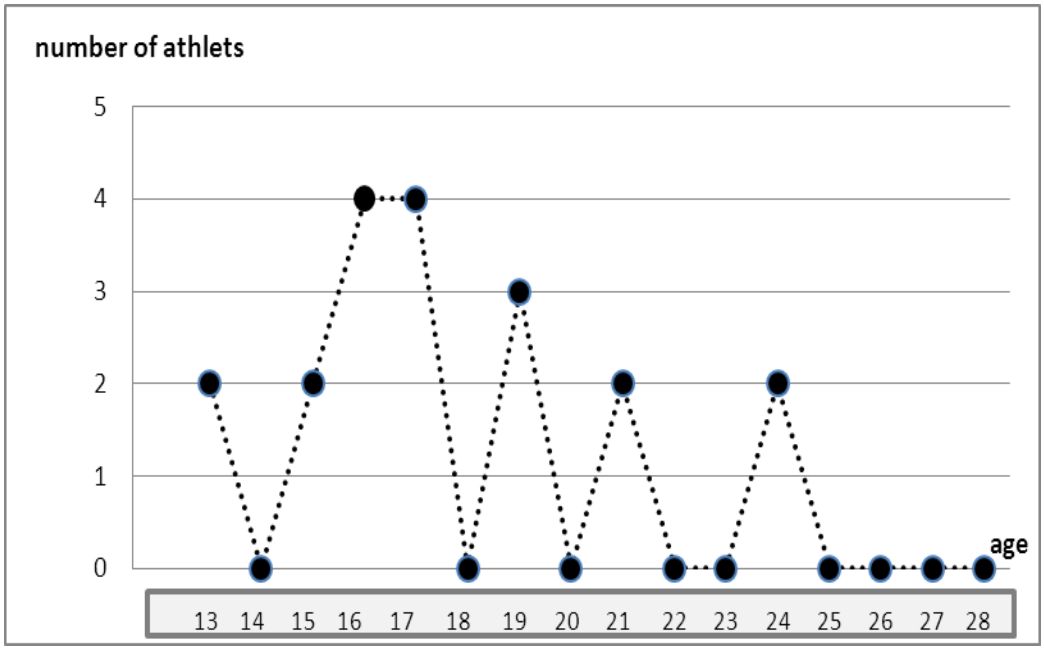

Fig. 4. Age at which athletes reached high qualification (n = 19)

The analysis showed that the maximum number of highly qualified athletes is among girls aged 16 and 17 for 4 people, which is 21,1% of the total number of options. Three 19-year-old athletes (15,8%) have the title of master of sports. There are two masters of sports of Ukraine among athletes aged 13, 15, 21 and 24 (10,5 % each).

Among the surveyed contingent there were no athletes with the title of MSIK.

Analysis and comparison of the results shown in Figure 2 and Figure 3 allows us to conclude that athletes 20, 22, 23, 25-28 years, neither in number nor in skill level can not be used as models of success and participate in the selection of athletes for formation teams.

In the future, we made a correlation analysis of the studied indicators, which gives an understanding of the interdependence of the studied indicators in the contingent of athletes, and the data are presented in table 2.

Table 2

Correlation analysis of the studied indicators of athletes

Indexes	1	2	3	4	5	6
1	1					
2	0,26	1				
3	-0,33	-0,06	1			
4	0,15	0,38	0,09	1		
5	0,07	**0,50**	0,14	**0,70**	1	
6	-0,01	0,37	0,13	0,16	**0,82**	1

Remark: 1 – experience; 2 – age; 3 – qualification; 4 – height; 5 – body weight; 6- IK.

The correlation analysis revealed a weak relationship between age, experience and qualifications of athletes, which confirms the lack of a sound selection system for many years of training and orientation of athletes to specialization in acrobatic rock 'n' roll. Weak dependence is observed in the following indicators: between seniority and age (r=0,26) weak positive dependence; between qualification and length of service (r=-0,33) weak negative relationship.

Indicators of physical development correlate with each other in the following relationship: between height and age (r=0,38) weak positive relationship; between age and IK (r=0,37) weak positive relationship; between body weight and age r=0,50) average positive relationship; between body weight and height (r=0,70) average positive relationship; between body weight and IK (r=0,82) high positive relationship. Therefore, physical development indicators must be taken into account when selecting athletes. Other indicators have a very low relationship (r<0,20).

The analysis revealed that the contingent of teams has a very large variation of structural characteristics, and experts in acrobatic rock 'n' roll do not use selection techniques. This fact confirms the low development of the studied problem.

Today, FARRU clubs have a sufficient number of contingents to form formation teams. The federation is constantly holding competitions to promote and develop this sport and is looking for ways to address the issues of creating women's formation teams and their representation on the world stage. Coaches also try to

address this issue by forming teams from the available contingent. However, some athletes who have succeeded in doubles have already exhausted their reserves and their inclusion in women's teams does not give the desired result.

To build effective team training, it is necessary to review the entire training process and define criteria for selecting the appropriate contingent for joint team activities.

For successful training of teams it is necessary to have a passport of the environment which includes: the availability of exercises and their complexity, the rank of achievements of athletes, a list of arsenal of exercises available to stay in the appropriate rank, the required level of physical, mental and trophic qualities. acrobatic rock 'n' roll and control methods. Theoretical substantiation of construction of the passport of professional activity is carried out in characteristic semantic spaces with introduction in them of uniform measurement of sigma distance of Gaussian distribution of density of elements of comparison. This construction is performed in the Cartesian coordinate system, where the coordinate axes act as: "requirements of professional activity" and "individual capabilities of the athlete." Further geometric analysis of the construction of characteristic semantic spaces allows to establish the ranking qualification of the capabilities of the surveyed contingent. The structure of this process is given in Fig. 5.

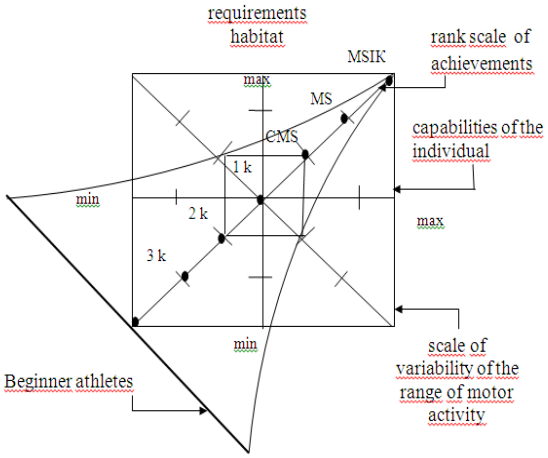

Fig. 5. Characteristic semantic space of construction of the corresponding passport of specialization of formation in acrobatic rock and roll

Carrying out further research and creating an athlete's passport for joint group activities will provide an opportunity to create a high-quality competitive composition of formation teams.

Conclusions / Discussion

1. The analysis of literary and Internet sources made it possible to find out the unresolved issues of organizing the training process of athletes for group performances in the category of female formations in acrobatic rock 'n' roll and the lack of selection methods for forming athletes into a team.

2. Analysis of sources of information allowed to form research methods that sufficiently allow to achieve this goal.

3. The obtained results made it possible to determine a large variation in the structure of the contingent of athletes of the formation teams of the Federation of Acrobatic Rock 'n' Roll and to determine the need to create a passport of specialization. Creating a passport of specialization will fundamentally change the system of educational and training process of athletes specializing in group performances and determine the selection criteria for the formation of teams in the category of female formations in acrobatic rock 'n' roll.

Prospects for further research. Further development of this problem will be associated with the certification of athletes specializing in group performances of women's formation teams in acrobatic rock 'n' roll to select the optimal training mode and assess their progress to reflect the degree of readiness to perform the task of complexity.

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