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Investigation of the relationship between the indicators of physical preparedness and the basic technique elements of young water-slalom athletes

Daria Okun
Kateryna Mulyk

Kharkiv State Academy of Physical Culture, Kharkiv, Ukraine

Purpose: *to determine the relationship between the indicators of physical fitness and the basic technical elements of young water-slalom athletes.*

Material & Methods: *theoretical analysis and generalization of data from scientific and methodological literature, pedagogical control tests (tests), methods of mathematical statistics.*

Results: *it found to achieve successful results in water-slalom, the level of development of motor qualities is of great importance. It identified the most important lessons for the water-slalom motor quality (speed-strength, power).*

Conclusion: *during preparation of athletes in water-slalom, in the first place, these motor qualities must be taken into account.*

Keywords: *water slalom, training, technical elements, motor qualities.*

Introduction

Training of beginners is characterized by a variety of means and methods, a wide application of exercises from various sports. It is advisable to build up the movement of athletes in the initial training process using a wide range of preparatory exercises in order to prevent the formation of technically incorrect stable motor skills. This approach is the basis for improving athletes in the first stages of many years of preparation [9]. The problem of finding general preparatory exercises with the aim of effectively influencing the development of physical qualities of beginners, mastering the technique of the sport, and the optimal balance of general and special physical training at each stage of long-term training of athletes is relevant.

According to experts, the training process of beginners is expedient to build with the definition and application of such general preparatory exercises that positively affect the development of special motor qualities [1; 3; 5; 9].

Analysis of special literature suggests that at the stage of initial training of athletes the selection of such general training exercises and methods and their application is relevant, which contribute to the development of special physical qualities and the effective mastery of the sport technique [2; 4; 8; 9].

Therefore, in the process of initial training of athletes, it is expedient to search for such exercises, the application of which will be most effective for developing physical qualities and optimizing the mastery of technique in the chosen sport.

The rapid increase in the level of achievements in world sports requires the search for new effective means, methods and organizational forms of training sports reserves [4; 8].

A characteristic feature of modern canoe slalom is a significant increase in the difficulty of competitive distances with the steady growth of sports results. High competition in canoe slalom led to increased requirements for the athletic qualities of athletes [1; 5; 6].

The analysis of the scientific and methodological literature and the generalization of the best practices of the trainers make it possible to state that up to the present time there is no single developed and generally accepted method for the initial training of young canoe slalom athlete, which would contain clear physiological and anthropometric indicators, a complex of tests and a system for evaluating the results. n connection with this, increasing the effectiveness of initial training of children for canoe slalom is one of the actual problems of the modern system of sports training of oarsmen.

Relationship of research with scientific programs, plans, themes. The work is carried out in accordance with the Consolidated Plan of Research in the field of physical culture and sports for 2011–2015, on topic 2.8 “Improving the training of athletes in certain groups of sports” (registration number 011U003125).

The purpose of the research: to determine the relationship between the indicators of physical fitness and the basic technical elements of young water-slalom athletes.

Objectives of the study:

1) Identify the level of physical preparedness of children who are engaged in canoe slalom in the initial training group.

2) To study the significant interrelations between the indicators of the physical preparedness of children and the leading technical elements during the initial preparation.

Material and Methods of the research

The study involved 28 boys 10–11 years of age who are en-

gaged in canoe slalom in the sports section of the Sports School "Mayak+" in Kharkov in the group of initial training. We determined the indicators of their physical readiness.

Determination and assessment of physical and technical preparedness was carried out according to the regulations established for water-slalom athletes at the initial stage of preparation. Techniques for testing and processing of testing results are presented in the works of Y. O. Vorontsov [1] and L. P. Sergienko [8]. The correlation analysis of the links between the leading technical elements and physical preparedness in the course of the study made it possible to establish the dependence of the success of the performance of technical elements on the level of development of motor qualities. The most interdependent indicators were determined which had a higher correlation coefficient between the obtained results. Using the coefficient of rank correlation, conditionally evaluate the tightness of the relationship between the signs, considering the coefficient values at 0,3 and lower than the weak linkage indicators; the value is greater than 0,4, but less than 0,7 – the average linkage, and the value 0,7 or more – indicators of high communication. Table 1 shows the correlation between the test scores of water-slalom athletes 10–11 years.

Methods of research:

1. Theoretical analysis and generalization of data from scientific and methodological literature.
2. Pedagogical control tests (tests).
3. Methods of mathematical statistics.

Results of the research and their discussion

The results shown in Table indicate a significant influence of the level of development of power, speed-strength and coordination qualities on the manifestation of the qualities of technical skill in canoe slalom, and therefore there is the expediency of using exercises for their development.

Correlation analysis of the dependence of motor performance indices of young men of 10–11 years revealed the presence of direct and inversely proportional relationships between them. Thus, the results of the correlation links of exercise 8 laps in 1 min have a weak connection between the indices run at 30 m (r=–0,13), Cooper test (r=0,27); average connection with jump over rope (r=0,51) and sit-up (r=0,47); high connection with push-ups (r=0,79) and pull-ups (r=0,86).

Found a weak correlation between the indicators of pass right gate and left gate and sit-up (r=0,37, r=0,29), pull-ups (r=0,81, r=0,9), push-ups (r=0,65, r=0,51) and jump over rope (r=0,41, r=0,49).

Indicators of time to pass the distance of 100 m have a weak connection between run at 30 m (r=–0,31), Cooper test (r=–0,34) and jump over rope (r=0,28), and also correlated with performing push-ups (r=0,68), sit-up (r=0,47) and pull-ups (r=0,71).

Thus, the data elements and technical indicators of physical qualities of young men aged 10–11 years have a correlation relationship with the results of the change in one exercise (Pull-ups, push-ups) varies another indicator (8 laps in 1 min, pass right gate and left gate).

The study of the correlation between technical elements and test indicators has a high level of tightness of links – 8,6%, average – 26,9%, weak – 65,4%. Thus, the results of the study indicate that there is an interference between the test of motor abilities of athletes specializing in water slalom and technical elements.

Conclusions

1. Obtained data in the course of the research showed that the level of physical preparedness of children aged 10–11 years, engaged in water slalom, is in accordance with the regulations presented in the program of the Youth Sports School for water slalom.

2. As a result of the research, we found that to achieve successful results in rowing slalom, the level of development of motor qualities is of great importance: speed-strength, power. This gives grounds to assert that during the training of athletes in water slalom, these motor qualities must first of all be taken into account.

3. The revealed correlation interrelations enable us to purposefully use physical exercises for mastering individual elements of technology in water slalom.

In the **perspective of further research**, it is planned to develop a training program for the purposeful development of motor qualities necessary for mastering the basic elements of the technique of water slalom in the initial training phase.

Correlation links between the indices of physical training and the main elements of the technique of the young men of the water-slalom athlete of 10–11 years by the method of Spearman (n=28)

	Indicators	1	2	3	4	5	6	7	8	9	10
1.	8 laps in 1 min	1									
2.	Right gate	0,621854	1								
3.	Left gate	0,510766	0,076163	1							
4.	Time to pass the distance of 100 m (rowing)	–0,74428	0,051798	0,221978	1						
5.	Run at 30 m	–0,13854	–0,134593	–0,1567	–0,31871	1					
6.	Push-ups	0,79993	0,650075	0,513042	0,689448	0,048804	1				
7.	Pull-ups	0,86484	0,81677	0,91699	0,71515	0,240174	–0,0794	1			
8.	Cooper test	0,279609	0,1712	0,096599	–0,34246	–0,25749	0,124018	0,008984	1		
9.	Jump over rope	0,518454	0,41843	0,4983	0,28357	0,049179	–0,04936	0,111579	0,038464	1	
10.	Sit-up	0,47044	0,37419	0,296562	0,47027	0,002259	–0,22396	–0,18431	–0,1319	0,01325	1

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Information about the Authors

Daria Okun: *Kharkiv State Academy of Physical Culture: Klochkovskaya 99, Kharkiv, 61058, Ukraine.*
ORCID.ORG/0000-0002-0639-5846
E-mail: dariaokun@gmail.com

Kateryna Mulyk: *Doctor of Science (Pedagogical), Associate Professor; Kharkiv State Academy of Physical Culture: Klochkivska str. 99, Kharkiv, 61058, Ukraine.*
ORCID.ORG/0000-0002-6819-971X
E-mail: kateryna.mulyk@gmail.com