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Original article

OBSERVATION OF THE LEVEL OF FORMATION OF SWIMMING SKILLS AMONG SWIMMERS OF DIFFERENT AGES AND GENDERS AT THE XXXVI EUROPEAN AQUATICS CHAMPIONSHIPS IN BUDAPEST 2022, HUNGARY

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Abstract.

Aim. Determine the objective level of formation of swimming skills based on the results of performances of the strongest prize-winning swimmers among men and women, participants in the final swims of sports and marathon swimming at the XXXVI European Aquatics Championships in Budapest, Hungary, held on August 11-17 and 20-21, 2022.

Methods. Theoretical analysis of literary sources and practice experience, monitoring ascertaining experiment, generalization of documentary materials, mathematical statistics. The best final achievements of European swimmers among 117 men and 117 women on all 49 distances of sports and marathon swimming were established according to the program of these prestigious competitions of the continent.

Results. In terms of age, men and women wanderers were almost the same: men, $x \pm m = 23.84 \pm 1.92$; women, $x \pm m = 23.80 \pm 2.05$; $t = 0.93$, $p > 0.05$. The level of difference in achievements among men from women in terms of average swimming speed is determined by the distances of their overcoming by various means: first, it concerns freestyle sprint swimming and freestyle relay and combined at the level up to -0.21 m/s. A further advantage of the average swimming speed in men compared to women is observed in swimming butterfly and backstroke -0.20 m/s, breaststroke at the level -0.19 m/s, medley swimming -0.17 m/s, and stayer swimming at 400-800-1500 m -0.15 m/s. Less difference in average swimming speed in women from men is observed in mixed relay races up to -0.13 m/s and in marathon swimming -0.12 m/s. Therefore, the overall difference in average swimming speed is more than -0.18 m/s: men, $x \pm m = 1.84 \pm 0.16$; women, $x \pm m = 1.66 \pm 0.14$; $t = 7.46$; $p < 0.05$.

Conclusions. The generalized difference in the results of the formation of swimming skills in men from women in terms of average speed is determined by distances: primarily at 50 m: freestyle, backstroke, butterfly, breaststroke at the level -0.22 m/s and 100 m -0.22 m/s. Smaller difference by 400 m -0.19 m/s, distance by 200 m -0.18 m/s, by 800-1500 m -0.16 m/s, and the smallest difference in mixed joint relay races -0.13 m/s and marathon swimming 5000-10000 m -0.12 m/s. The generalized difference between the average swimming speed of men and women was 0.18 m/s: men, $x \pm m = 1.84 \pm 0.16$; women, $x \pm m = 1.66 \pm 0.14$; $t = 7.46$; $p < 0.05$.

Keywords: European Swimming Championships, swimming distance, men, women, achievements of winners, average speed, and achievement score.

Introduction.

Reliable information about the various possibilities of realizing the existing potential physical abilities in achieving better results in men and women of different ages and qualifications at long stages of training and improving the formation of motor skills of sports and marathon swimming are becoming increasingly important at the present III stage of development of European swimming. Therefore, the presence of objective information about the similarity and difference in the formation of swimming skills among representatives of different sexes, ages, and qualifications allows us to optimally substantiate, develop and implement objective criteria for their readiness to implement the normative and evaluative function in different parts of the existing system of physical education and sports, which emphasizes the relevance of the topic of the selected study. The article was prepared in accordance with the existing research plan of NU "OMA" of the Ministry of Education and Science of Ukraine for 2008-2016-2020, RK No 0108U001487, on the topic "Technology of intensive training and improvement of swimming skills in different age groups".

The availability of information on the dynamics of sexual (gender) differences in sports swimming among young people and adults in existing publications on the theory and methodology of physical education and sports is revealed almost sporadically (Ganchar, 2015-a, 2015-b, 2015-c). There are separate publications about the peculiarities of training in women's swimming, both by domestic authors (Ganchar, 2007; Ganchar et. al., 2021; Dutchak, 2009; Corop

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& Kononenko, 1983; Onopryenko, 1981; Platonov, 2004; Platonov et. al., 2000) and in foreign publications (Hannula, 1995, www.wikipedia.org; www.sports-reference.com; www.swimrankings.net, www.len.eu). At the same time, the greatest interest for specialists and fans of swimming is the differences in the results of the achievements of women and men in quite prestigious competitions, such as the final starts of the European Aquatics Championships. It should be noted that this sport appears to be an integral part of sports swimming, including competitions in marathon swimming in open water, which have been held since 1991, since individual swimmers-participants combine races, both in sports and marathon swimming.

Objectives

Based on the development of the proposed urgent problem, we have chosen the appropriate object of study: the dynamics of readiness for swimming among young people and adults at the stages of long-term training and improvement of swimming skills. Subject of research: features of the manifestation of similarities and differences in the levels of formation of sports and marathon swimming skills among the achievements of representatives of different ages and genders at the XXXVI European Aquatics Championships on August 11-17 and 20-21 in Budapest-2022, Hungary.

Methods

The purpose of the study is to determine the level and degree of formation of motor swimming skills among swimmers-winners based on the results of monitoring the final swims at the XXXVI European Aquatics Championships in Budapest-2022, August 11-17 and 20-21, Hungary. The objectives of the study were: a) to identify the dominant differences and similarities in the dynamics of readiness for swimming among swimmers according to practical data on August 11-17 and 20-21 at the XXXVI European Aquatics Championships in Budapest 2021, Hungary; and b) the introduction of the most significant research results in practice for a possible increase in readiness for swimming in different age groups. The main research methods include: theoretical analysis of literary sources, generalization of documentary materials and mathematical statistics.

Results

At the final start of the XXXVI European Aquatics Championships in Budapest 2022, Hungary, which took place on August 11-17 and 20-21, representatives of 21 countries of the continent (from 46 participating countries) who competed in 43 types of sports swimming for men (117) and women (117), as well as 3 types of marathon swimming in open water received prize medals (Table 1).

Table 1. Ranking of teams participating in the XXXVI European Aquatics Championships in Budapest 2022, Hungary, including open water sports and marathon swimming (on the facts of receiving gold, silver and bronze medals)

Team rating	Medals of the participating countries	Gold		Silver		Bronze		Just		Together men + women
		men	women	men	women	men	women	men	women	
1.	Italy	8+3	5	7+1	5+1*	5	3+1*	20+4	13+2**	33+6**=41
2.	France	1	1*	2+1	4*	3+3	-	6+4	5**	11+4**=17
3.	Hungary	4	1	5+1	2	-	3	9+1	6	15+1=16
4.	Great Britain	2	1*	-	4*	2	3*	4	8***	12***=15
5.	Netherlands	-	3+1*	-	1	-	6	-	10+1*	10+1*=12
6.	Germany	1	1+1	1	1	3	1	5	3+1	8+1=9
7.	Sweden	-	4	-	1	-	*	-	5*	5*=6
8.	Switzerland	-	1	3	-	-	-	3	1	4
9.	Lithuania	-	1	-	-	1	2	1	3	4
10.	Greece	1	-	1	-	1	-	3	-	3
11.	Portugal	-	-	-	-	2	+1	2	+1	2+1=3
12.	Romania	2	-	-	-	--	-	2	-	2
13.	Bosnia and Herzegovina	-	1	-	-	-	1	-	2	2
14.	Poland	-	-	-	1	1	-	1	1	2
15.	Austria	-	-	-	-	2	-	2	-	2
16.	Ukraine	1	-	-	-	-	-	1	-	1
17.	Israel	-	1	-	-	-	-	-	1	1
18.	Finland	-	-	1	-	-	-	1	-	1
19.	Denmark	-	-	-	1	-	-	-	1	1
20.	Spain	-	-	-	+1	-	-	-	-	+1
21.	Turkey	-	-	-	-	-	1	-	1	1
Sports swimming		20	20	20	20	20	20	60	60	120
Marathon swimming		+3	+2	+3	+2	+3	+2	+9	+6	+15
Middles relays		-	3*	-	3*	-	3*	-	9*	9*
Medals total received		23	25	23	25	23	25	69	75	144

The largest number of prize medals (from 46 European countries) on the courses of sports and marathon swimming (*compatible) was given to the first in the ranking of achievements of 10 teams: athletes from Italy (33+6**=41 medals, respectively), France (11+4**=17), Hungary (15+1=16), Great Britain (12***=15), the Netherlands (10+1*=12), Germany (8+1=9), Sweden (5*=6), Switzerland (4), Lithuania (4), Greece (3). The second ten less successful countries in European swimming included: Portugal (2+1=3), Romania (2), Bosnia and Herzegovina (2), Poland (2), Austria (2), Ukraine (1), Israel (1), Finland (1), Denmark (1), Spain (1) and Turkey (1). Having considered the results of the winners of the final swims, data have been obtained that are more characteristic of the winners and runners-up of the final swims by various means of swimming, both among men and women, considering their age characteristics. This allows to study in detail the state of swimming readiness of swimmers, as well as to identify the peculiarities of the dynamics of the results of their performance, both in men and women of different age groups, which contributes to an objective assessment of their gender differences in the formation of sports and applied swimming skills (Table 2). The greatest excess of the age of participants over men was observed in 13 cases of competition: 50 butterfly (6 years), in mixed relay 4×100 m freestyle (4), 100 m on the back (2), 100 m freestyle (2), although up to 1 year in the second 9 distances of the competition: 50 m freestyle, 50 m on the back, 50 m brass, 100 m butterfly, 4×100 m freestyle relay and combined 4×100 m relay, mixed 4×200 m freestyle relay, combined 4×100 m relay and 4×1250 m marathon swimming. Meanwhile, the advantage of men's age over women was recorded in 10 cases of competition: 200 m brass (6 years), 200 m backstroke (4), 200 m butterfly (3), relay 4×200 m freestyle (2) and second types of program up to 1 year. Although in the 200-400 m freestyle and 10000 m marathon swimming, there were no age differences (0). Therefore, the general difference in the age of swimmers-winners is almost similar parameters: men, $x \pm m = 23.84 \pm 1.92$; women, $x \pm m = 23.80 \pm 2.05$; $t = 0.93$, $p > 0.05$ (Table 2).

Table 2. Overview of the formation of the swimming for the results of the financial floods and the participation of the XXXVI Championship of Europe with water sports in Budapest, Ugric region, August 11-17 and 20-21 2022

Swimmer results			Distance, swimming methods	Age of swimmers		
men	women	difference		men=17	women=17	± difference
21,64	24,25	2,61	50 m freestyle	27	28	-1+
47,32	53,49	6,17	100 m freestyle	21	23	-2+
1.44,82	1.56,65	11,83	200 m freestyle	21	21	0
3.43,65	4.05,63	21,98	400 m freestyle	22	22	0
7.42,29	8.22,29	40,00	800 m freestyle	22	20	+2-
14.42,25	16.02,89	1.20,64	1500 m freestyle	28	25	+3-
24,48	27,44	2,96	50 m backstroke	24	25	-1+
52,45	59,46	7,01	100 m backstroke	23	25	-2+
1.55,93	2.08,70	12,77	200 m backstroke	24	20	+4-
26,79	29,87	3,08	50 m breaststroke	21	22	-1+
58,91	1.06,27	7,36	100 m breaststroke	24	23	+1-
2.09,44	2.23,69	14,25	200 m breaststroke	30	24	+6-
22,97	25,30	2,33	50 m butterfly	21	27	-6+
50,80	56,91	6,11	100 m butterfly	22	23	-1+
1.53,93	2.07,29	13,36	200 m butterfly	23	20	+3-
1.57,96	2.11,14	13,18	200 m individual medley	22	21	+1-
4.12,15	4.39,13	26,98	400 m individual medley	28	27	+1-
3.11,87	3.37,11	25,24	4×100 m freestyle relay	22	23	-1+
7.06,20	7.54,84	48,64	4×200 m freestyle relay	23	21	+2-
3.31,41	3.56,20	24,79	4×100 m medley relay	24	25	-1+
2 men+2 women = 3.23,16		-	mixed 4×100 m freestyle relay	24		-
1.36,68	1.46,48	9,80	mixed 4×100 m freestyle relay	22	26	-4+
2men+2 women = 7.29,75		-	mixed 4×200 m freestyle relay	24.5		-
3.33,97	3.55,78	21,81	mixed 4×200 m freestyle relay	24	25	-1+
2men+2 women = 3.43,34		-	mixed 4×100 m medley relay	24.5		-
1.50,67	1.52,67	2,00	mixed 4×100 m medley relay	24	25	-1+
52.16,2	56.59,7	4.43,5	5000 m marathon	27	26	+1-
1:51.38,4	2:01.15,0	9.76,6	10000 m marathon	26	26	0
2 men+2 women = 59.68,4		-	mixed team 4×1250 marathon	25	26	-1+

The difference in the age of the swimmers-winners: men, $x \pm m = 23.84 \pm 1.92$; women, $x \pm m = 23.80 \pm 2.05$; $t = 0.93$, $p > 0.05$

According to the indicators given in Table 2, the absolute values of the difference in the results of female and male swimmers in terms of speed parameters increase synchronously as the length of the distance covered increases, as well as by various means of swimming. Their detailed knowledge can determine the use of the main priorities by teachers in the appropriate and effective provision of the training process and the configuration of swimming teams.

Table 3 shows the summarized results on differences in average swimming speed in different ways among men and women winners and runners-up in sports and marathon swimming distances. This information should be used in the practice of sports and marathon swimming to improve the real possibilities of developing motor swimming skills in the educational process both at the initial stages of initial training and further improve the skills of sports and marathon swimming.

Table 3. Dynamics of the formation of swimming skills of persons of different ages and genders according to the results of swimmers-winners of men and women participants of the XXXVI European Aquatics Championships in Budapest-2022, Hungary, August 11-17 and 20-21

Distance, m, swimming methods	Average speed, distance: time = m/s, men – women, men/women.	The difference between the average swimming speed, men / women.	Rank differences in distance and swimming methods, m/s, men /women.	Difference of results, m/s, men/women
50 m freestyle	50:21,64-50:24,25	2,31-2,06=0,25	0,64:3=0,21	1.58:9=0,18 m/c; t= 7,46; p<0,05
100 m freestyle	100:47,32-100:53,49	2,11-1,87=0,24		
200 m freestyle	200:1.44,82-200:1.56,65	1,90-1,71=0,19		
400 m freestyle	400:3.43,65-400:4.05,63	1,78-1,62=0,16	0,44:3=0,15	
800 m freestyle	800:7.42,29-800:8.22,29	1,73-1,59=0,14		
1500 m freestyle	1500:14.42,25-1500:16.02,89	1,70-1,56=0,14		
50 m backstroke	50:24,48-50:27,44	2,04-1,82=0,22	0.61:3=0,20	
100 m backstroke	100:52,45-100:59,46	1,90-1,68=0,22		
200 m backstroke	200:1,55,93-200:2.08,70	1,72-1,55=0,17		
50 m breaststroke	50:26,79-50:29,87	1,87-1,67=0,20	0.56:3=0,19	
100 m breaststroke	100:58,91-100:1.06,27	1,70-1,50=0,20		
200 m breaststroke	200:2.09,44-200:2.23,69	1,55-1,39=0,16		
50 m butterfly	50:22,97-50:25,30	2,18-1,97=0,21	0.61:3=0,20	
100 m butterfly	100:50,80-100:56,91	1,97-1,76=0,21		
200 m butterfly	200:1.53,93-200:2.07,29	1,76-1,57=0,19		
200 m medley	200:1.57,96-200:2.11,14	1,70-1,53=0,17	0.33:2=0,17	
400 m medley	400:4.12,15-400:4.39,13	1,59-1,43=0,16		
4×100 m freestyle	400:3.11,87-400:3.37,11	2,08-1,84=0,24		
4×200 m freestyle	800:7.06,20-800:7.54,84	1,88-1,68=0,20	0.64:3=0,21	
4×100 m medley	400:3.31,41-400:3.56,20	1,89-1,69=0,20		
mixed 4×100 m f/s	3.23,16 (2 men+2 women)	1,97		
mixed 4×100 m f/s	200:96,68-200:106,48	2,06-1.88=0,18	0,39:3=0,13	
mixed 4×200 m f/s	7.29,75 (2 men+2 women)	1,78		
mixed 4×200 m f/s	400:3.33,97-400:3.55,78	1,87-1.69=0,18		
mixed 4×100 relay	3.43,34 (2 men+2 women)	1.79	0,23:2=0,12	
mixed 4×100 relay	200:1.50,67-200:1.52,67	1.80-1.77=0,03		
5000 m marathon	5 km:52.16,2-5 km:56.59,7	1.59-1.46=0,13		
10000 m marathon	10 km:1:51.37,4-10 km:1:59.13,3	1,49-1,39=0,10	1.39 steam result	
4×1250 m marathon	5km:59.68,4=1.39 m/s			
Difference between average swimming speed, m/s: men, $x \pm m = 1,84 \pm 0,16$; women, $x \pm m = 1,66 \pm 0,14$; $t = 7,46$; $p < 0,05$				

The greatest difference between the average swimming speed in men and women was found in freestyle swimming at sprint distances of 50-100-200 m: more than 0.21 m/s and relay swimming – 0.21, then in butterfly swimming – 0.20 m/s, and in backstroke swimming – 0.20 m/s. Similar difference in the results of the average speed of overcoming distances is manifested in women from men, which is fixed when swimming brass: at 50-100-200 m also at the level - 0.19 m/s and medley swimming at 200-400 m - 0.17 m/s, and stable swimming at 400-800-1500 m - 0.15 m/s. In the mixed relays of 4×100 m freestyle, 4×200 m, as well as in the combined relay of 4×100 m, the difference in the average speed of overcoming distances for women from men at the level of 0.13 m/s was recorded. it was only – 0.12 m/s: the general difference between the average swimming speed: people, $x \pm m = 1.84 \pm 0.16$; women., $x \pm m = 1.66 \pm 0.14$; $t = 7,46$; $p < 0.05$.

A comparative analysis of the difference in the results of the average swimming speed of the swimmers-winners for men and women, depending on the swimming distance, showed that the greatest parameters are observed in sprint swimming at 50 m: freestyle – 0.25 m/s, then on the back – 0.22 m/s, butterfly swimming – 0.21 m/s, and brass – 0.20 m/s, which is summarized over – 0.22 m/s (Table 4).

Table 4. Dynamics of the formation of swimming skills of persons of different ages and genders according to the results of swimmers – prize-winners of men and women participants of the XXXV European Aquatics Championships in Budapest-2022, Hungary, August 11-17 and 20-21

Distance, m, swimming methods	Average speed, distance: time = m/s, men/women	The difference between the average swimming speed, men/ women	Rank differences in distance and swimming methods, m/s, men/women	Difference of results, m/s, men/women
50 m freestyle	50:21,64-50:24,25	2,31-2,06=0,25	0,88:4=0,22	0,18 m/s; t= 7,46; p<0,05
50 m backstroke	50:24,48-50:27,44	2,04-1,82=0,22		
50 m брaк	50:26,79-50:29,87	1,87-1,67=0,20		
50 m butterfly	50:22,97-50:25,30	2,18-1,97=0,21		
100 m freestyle	100:47,32-100:53,49	2,11-1,87=0,24	0,87:4=0,22	
100 m backstroke	100:52,45-100:59,46	1,90-1,68=0,22		
100 m breaststroke	100:58,91-100:1.06,27	1,70-1,50=0,20		
100 m butterfly	100:50,80-100:56,91	1,97-1,76=0,21		
200 m freestyle	200:1.44,82-200:1.56,65	1,90-1,71=0,19	0,88:5=0,18	
200 m backstroke	200:1,55,93-200:2.08,70	1,72-1,55=0,17		
200 m breaststroke	200:2.09,44-200:2.23,69	1,55-1,39=0,16		
200 m butterfly	200:1.53,93-200:2.07,29	1,76-1,57=0,19		
200 m medley	200:1.57,96-200:2.11,14	1,70-1,53=0,17	0,76:4=0,19	
400 m freestyle	400:3.43,65-400:4.05,63	1,78-1,62=0,16		
400 m medley	400:4.12,15-400:4.39,13	1,59-1,43=0,16		
4×100 m freestyle	400:3.11,87-400:3.37,11	2,08-1,84=0,24		
4×100 m medley	400:3.31,41-400:3.56,20	1,89-1,69=0,20	0,48:3=0,16	
4×200 m freestyle	800:7.06,20-800:7.54,84	1,88-1,68=0,20		
800 m freestyle	800:7.42,29-800:8.22,29	1,73-1,59=0,14		
1500 m freestyle	1500:14.42,25-1500:16.02,89	1,70-1,56=0,14		
mixed 4×100 f/s	3.23,16 (2 men+2 women)	1,97	0,39:3=0,13	
mixed 4×100 m f/s	200:96,68-200:106,48	2,06-1.88=0,18		
mixed4×200 m f/s	7.29,75 (2 men+2 women)	1,78		
mixed4×200 m f/s	400:3.33,97-400:3.55,78	1,87-1.69=0,18		
mixed 4×100 med.	3.43,34 (2 men+2 women)	1.79	0,23:2=0,12	
mixed 4×100 med.	200:1.50,67-200:1.52,67	1.80-1.77=0,03		
5000 m marathon	5 km:52.16,2-5 km:56.59,7	1.59-1.46=0,13		
10000 m marathon	10 km:1:51.37,4-10 km:1:59.13,3	1,49-1,39=0,10		
4×1250m marathon	5km:59.68,4=1.39 m/s	1.39 steam result		
Difference between average swimming speed, m/s: men, $x\pm m=1,84\pm 0,16$; women, $x\pm m=1,66\pm 0,14$; $t=7,46$; $p<0,05$				

Further, the degree of similarity of this indicator is followed by swimming at 100 m: freestyle – 0.24 m/s; backstroke – 0.22 m/s; butterfly – 0.21 m/s, then 100 m breaststroke – 0.20 m/s, and the total figure is more than – 0.22 m/s. At 400 m distances of sport swimming, greater than several indicators of difference in average swimming speed – 0.19 m/s were obtained. At swimming distances of 200 m, the difference in average swimming speed was smaller, almost – 0.18 m/s. At stable distances of 800-1500 m and relay of 4×200 m freestyle, this figure is more than – 0.16 m/s. In mixed relays, this figure is more than – 0.13 m/s, and the smallest difference was recorded at marathon swimming distances – 0.12 m/s, and the overall difference in average swimming speed is over – 0.18 m/s: men, $x\pm m=1.84\pm 0.16$; women., $x\pm m=1.66\pm 0.14$; $t=7,46$; $p<0.05$.

The parameters of the difference in the average swimming speed recorded by us in different ways at the distances of sports and marathon swimming indicated by the competition program allow specialists in physical education and sports to observe in detail and evaluate the dynamics of the results of swimmers-winners at the most prestigious European competitions.

Discussions

Swimming performance is determined by physiological, psychological and anatomical factors (Smith, Norris & Hogg, 2002). In general, a combined swimming and strength training regimen is more effective than a swim-only approach in achieving gains in swimming performance (Fone & van den Tillaar, 2022).

The results of our study highlight a higher speed in men than in women in competitive swimming. These differences exist in all types of swimming and are confirmed by other authors who have analyzed the performances of swimmers at the highest competitive level. In a recent study on the results obtained at the Tokyo Olympics 2020, almost all swimmers' times improved compared to the previous Olympics of Rio 2016. Only men in the 200 m backstroke demonstrated a clear worsening of performance, but a stagnation in results was already evident from London 2012 (Demarie, Chirico & Galvani, 2022). In ice swimming in water temperatures below 9 °C, it was also found that male athletes were generally faster than females for all strokes and water categories in the 25 m and 200 m events of the Winter Swimming World Cup, published on the International Winter Swimming Association (IWSA) since 2016.

Women were closing the gap at longer distances. The effect size of the sex differences at 200 m (0.22–0.36) was smaller than that at 25 m (0.34–0.45) for all strokes and water temperatures. Colder water temperatures do not always mean slower times; however, differences were related to stroke. (Oppermann et. al., 2022).

Conclusions

At the final start of the XXXVI European Aquatics Championships in Budapest 2022, Hungary, which occurred on August 11-17 and 20-21, representatives of 21 countries of the continent who competed in 43 types of sports swimming for men (117) and women (117), as well as 3 types of marathon swimming in open water, received prize medals. The largest number of prize medals (from 46 European countries) on the courses of sports and marathon (+) swimming (*compatible distances) was given to the first in the ranking of achievements of 10 teams of European: athletes from Italy (33+6**=41 medals, respectively), France (11+4**=17), Hungary (15+1=16), Great Britain (12***=15), the Netherlands (10+1*=12), Germany (8+1=9), Sweden (5*=6), Switzerland (4), Lithuania (4). Greece (3). The second ten less successful countries of European swimming included: Portugal (2+1=3), Romania (2), Bosnia and Herzegovina (2), Poland (2), Austria (2), Ukraine (1), Israel (1), Finland (1), Denmark (1), Spain (1) and Turkey (1).

The greatest difference between the average swimming speed in men and women was found in freestyle swimming at sprint distances of 50-100-200 m: more than 0.21 m/s and relay swimming – 0.21, then in butterfly swimming – 0.20 m/s, and in backstroke swimming at a level of 0.20 m/s, and is also recorded when swimming breaststroke: at 50-100-200 m at the level – 0.19 m/s and medley swimming at 200-400 m – 0.17 m/s, and stable swimming at 400-800-1500 m – 0.15 m/s. In the mixed relays of 4×100 m freestyle, 4×200 m, as well as in the medley relay of 4×100 m, the difference between the average speed of overcoming distances in women and men at the level of 0.13 m/s was recorded. In marathon swimming, the lowest value of the difference between the average swimming speed in men and women at distances of 5000-10000 m of overcoming distances was noted, only - 0.12 m/s. Consequently, the difference between the average swimming speed in men and women at these most prestigious European competitions is more than – 0.18 m/s. $\bar{x}\pm m=1,84\pm 0,16$; жін., $\bar{x}\pm m=1,66\pm 0,14$; $t=7,46$; $p<0,05$. Although in terms of age, the winners were almost the same: men, $\bar{x}\pm m = 23.84\pm 1.92$; women, $\bar{x}\pm m = 23.80\pm 2.05$; $t= 0.93$, $p>0.05$.

The generalized difference in the results of the formation of motor swimming skills in men and women in terms of average speed at distances is largely determined by the distances of their overcoming. First, it concerns swimming distances of 50 m: freestyle, on the back, butterfly, brass at the level – 0.22 m/s. Similar differences in the average swimming speed of women from men were also observed for swimming distances of 100 m: over – 0.22 m/s. A smaller difference in the average swimming speed in women than in men is observed in overcoming distances of 400 m: almost – 0.19 m/s, distances at distances of 200 m: near – 0.18 m/s, then at stable distances of 800-1500 m: over – 0.16 m/s, and the slightest difference is observed in mixed compatible relays – 0.13 m/s, as well as in marathon swimming of 5000-10000 m – 0.12 m/s. The generalized difference between the average swimming speed of men and women is over – 0.18 m/s: men, $\bar{x}\pm m=1,84\pm 0,16$; women, $\bar{x}\pm m=1,66\pm 0,14$; $t= 7,46$; $p<0,05$. Although in terms of age, the winners of men and women in these prestigious European countries were almost the same: men, $\bar{x}\pm m = 23.84\pm 1.92$; women, $\bar{x}\pm m = 23.80\pm 2.05$; $t=0.93$, $p>0.05$.

Further studies of the problem of modern gender differences in the results of the formation of motor swimming skills should be carried out on the example of the participation of athletes-swimmers of winners and prize-winners in many other prestigious competitions of our time, including real facts of extraordinary holding of Ukrainian championships, world Universidad, World Championships and Olympic Games, accompanied by examples of the impact of negative challenges of the negative impact of various viral infections and quarantine conditions, their modern holding on different continents of the world.

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