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Model characteristics of anthropometric indicators of Juvenile category athletes in acrobatic rock'n'roll (preliminary preparatory stage)

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Purpose: *to develop model characteristics of the anthropometric indicators of the Juvenile category in acrobatic rock'n'roll.*

Material & Methods: *the following research methods were used: theoretical analysis and generalization of data from special scientific and methodological literature, methods of mathematical statistics. The study involved 20 sports couples (20 male partners and 20 female partners) of an acrobatic rock'n'roll category Juveniles aged 10–14 years.*

Results: *obtained anthropometric indicators separately by male partners and female partners of sports pairs of acrobatic rock'n'roll. Based on the results obtained, model characteristics of anthropometric indicators of partners and partners of sports pairs of the Juvenile category of acrobatic rock'n'roll.*

Conclusion: *it is established that the developed characteristics can be used to optimally select a male partner and female partner in pairs and also to improve the optimization of the training process in acrobatic rock'n'roll.*

Keywords: *anthropometric indicators of acrobatic rock'n'roll athletes, model characteristics.*

Introduction

Acrobatic rock'n'roll is a pair sport, in which, when selecting a sports couple, you should take into account the weight-growth index of the male partner and female partner [2; 5; 6]. This is especially important at the initial stage of the formation of a sports couple. When preparing athletes for acrobatic rock'n'roll at the stage of preliminary basic training, it is important to find the optimal weight-growth index that will correspond, as much as possible, to the technique of conducting in pairs, to the sensation of the partners of simultaneous performance of basic and choreographic exercises in the competition composition of this category. In the future, with the increasing technical skill of the male partner and female partner in the performance of the basic dance technique and the transition to a different age category where acrobatic elements are used, the optimal selection of a sports couple and their weight-growth index play a big role in the indicator of the sport result [1; 3; 4].

Authors of N. P. Bateeva and V. A. Gradusov [1] indicate the criteria for performing acrobatic elements:

1. Musical performance of the acrobatic element (entry and exit from the element).
2. Tempo and amplitude of the acrobatic element.
3. Safety performance of the acrobatic element.
4. Technique for performing an acrobatic element.

On this basis, it is important to have an idea of the optimal difference in weight-growth rates between a male partner and female partner.

At the moment, we have not found any publications on the study of anthropometric indicators of the Juvenile category in acrobatic rock'n'roll. In this regard, one of the current problems in acrobatic rock'n'roll is the lack of model characteristics of the anthropometric indicators of the athletes of the category Juvenile of this sport.

Relationship of research with scientific programs, plans, themes. The work is carried out in accordance with the Consolidated Plan of research work in the field of physical culture and sports for 2016–2020. On the topic: "Psychosensory regulation of motor activity of sportsmen of situational sports" (State registration number 0116U008943)

The purpose of the research: to develop model characteristics of the anthropometric indicators of the Juvenile category in acrobatic rock'n'roll.

Objectives of the study:

1. To analyze the sources of special scientific and methodological literature on the research problem.

2. Determine the anthropometric performance of the Juvenile category in acrobatic rock'n'roll.

3. To develop model characteristics of the anthropometric indicators of the Juvenile category in acrobatic rock'n'roll.

Material and Methods of the research

Research methods: theoretical analysis and generalization of data from special scientific and methodological literature, methods of mathematical statistics. The study involved 20 sports couples (20 male partners and 20 female partners) of an acrobatic rock'n'roll category Juvenile aged 10–14 years.

Results of the research and their discussion

Analysis of the data of special scientific and methodological literature and generalization of practical experience made

it possible to establish that the selection of a sports couple (female partner, male partner) in acrobatic rock'n'roll at the stage of preliminary basic training is of great importance in their competitive activity [2; 5].

The analysis of the weight-growth index of the Juvenile category athletes from acrobatic rock'n'roll gives grounds to state about the importance of the optimal difference in weight-growth rates between the female partner and male partner (Table 1–3), which, in our opinion, can influence the technique of pairing, the feeling of partners during synchronous performance of basic and choreographic exercises in the competitive composition of this category, and also influence the technique of performing acrobatic elements in the transition of sports couples to the second age group.

Based on the obtained results of the study, model characteristics of anthropometric indices of the Juvenile category athletes in acrobatic rock'n'roll (Table 4).

Table 1

Results of the anthropometric indicators of the Juvenile category in acrobatic rock'n'roll (male partners)

No. i/o	Full name male partner	Sports category	Age, years	Body lenght, cm	Body weight, kg	Weight-growth index, g·cm^{-1}
1.	Ya-y	II	13	141,5	33,7	238,16
2.	N-ko	I	12	142,5	34,5	242,1
3.	V-y	I	12	154	35,8	232,47
4.	O-k	CMS	14	170	63,7	374,7
5.	A-v	I	11	145	32,4	223,45
6.	M-s	CMS	14	147	36,4	247,6
7.	G-n	CMS	13	167	51,9	310,8
8.	P-ko	CMS	12	150,5	41,9	278,4
9.	C-v		12	173,5	68,4	394,24
10.	B-a	CMS	14	152	42,2	277,63
11.	Yo-n	III	12	137,5	31	225,45
12.	S-ko	II	13	143	38	265,73
13.	Sh-v	CMS	14	163,5	49	299,69
14.	M-ko	1	13	162	50,3	310,49
15.	F-v	1	12	143	38,6	269,9
16.	G-y	I	14	162	53,4	329,63
17.	K-ko	CMS	14	179,5	76,2	424,5
18.	G-v	I	12	172,5	69	400
19.	Yu-n	III	10	127,5	28	219,6
20.	G-v	CMS	14	182	77,3	424,72
	$\bar{X}$		**12,75**	**155,8**	**47,6**	**299,5**
	σ		**±1,16**	**±15,2**	**±15,7**	**±69,6**

Table 2

Results of the anthropometric indicators of the Juvenile category in acrobatic rock'n'roll (female partners)

No. i/o	Full name female partner	Sports category	Age, years	Body lenght, cm	Body weight, kg	Weight-growth index, g·cm^{-1}
1.	K-ko	II	11	146	28,6	194,56
2.	D-n	I	11	149	35,8	240,27
3.	R-a	I	13	146	40,3	276,03
4.	S-ko	CMS	13	152	46,6	306,58
5.	D-ko	II	10	137,5	32,2	234,18
6.	Sh-y	CMS	13	146	39,8	272,6
7.	K-ko	CMS	12	148,5	38,7	260,6
8.	M-ko	CMS	12	145	33,8	233,1
9.	Y-ko	I	13	162	52,8	325,92
10.	M-k	I	13	153,5	48,9	318,56
11.	M-n	III	11	132,5	30,7	231,7
12.	G-ka	II	11	142,5	31,1	218,24
13.	S-ko	II	11	145	33	227,58
14.	Kh-eт	I	12	146,5	46,3	316,04
15.	S-r	I	12	144	46,3	321,6
16.	Z-ka	III	10	138,5	37	267,15
17.	V-va	III	10	139	36,3	261
18.	Ch-ko	III	10	137	26,5	193,4
19.	A-na	II	10	131,5	33,3	253,23
20.	P-ko	I	14	152	44	289,5
	$\bar{X}$		**11,6**	**145,1**	**38,1**	**262,1**
	σ		**±1,3**	**±8,1**	**±7,3**	**±41,2**

Table 3

Results of the anthropometric performance of the Juvenile category in acrobatic rock'n'roll

No. i/o	Full name of athlete	Sex	Sports category	Age, years	Body lenght, cm	Body weight, kg	Weight-growth index, g·cm^{-1}
1.	Ya-y	m	II	13	141,5	33,7	238,16
2.	K-ko	f	II	11	146	28,6	194,56
3.	N-ko	m	I	12	142,5	34,5	242,1
4.	D-n	f	I	11	149	35,8	240,27
5.	V-y	m	I	12	154	35,8	232,47
6.	R-a	f	I	13	146	40,3	276,03
7.	O-k	m	CMS	14	170	63,7	374,7
8.	S-ko	f	CMS	13	152	46,6	306,58
9.	A-v	m	I	11	145	32,4	223,45
10.	D-ko	f	II	10	137,5	32,2	234,18
11.	M-s	m	CMS	14	147	36,4	247,6
12.	Sh-y	f	CMS	13	146	39,8	272,6
13.	G-n	m	CMS	13	167	51,9	310,8
14.	K-ko	f	CMS	12	148,5	38,7	260,6
15.	P-ko	m	CMS	12	150,5	41,9	278,4
16.	M-ko	f	CMS	12	145	33,8	233,1
17.	S-v	m	I	12	173,5	68,4	394,24
18.	U-ko	f	I	13	162	52,8	325,92
19.	B-a	m	CMS	14	152	42,2	277,63
20.	M-k	f	I	13	153,5	48,9	318,56
21.	U-n	m	III	12	137,5	31	225,45
22.	M-n	f	III	11	132,5	30,7	231,7
23.	S-ko	m	II	13	143	38	265,73
24.	G-ka	f	II	11	142,5	31,1	218,24
25.	Sh-в	m	CMS	14	163,5	49	299,69
26.	S-ko	f	II	11	145	33	227,58
27.	M-ko	m	1	13	162	50,3	310,49
28.	Ch-et	f	I	12	146,5	37,7	257,33
29.	F-v	m	1	12	143	38,6	269,9
30.	S-r	f	I	12	144	34,8	241,66
31.	P-yo	m	I	14	162	53,4	329,63
32.	Z-ka	f	III	10	138,5	32	231,04
33.	K-ko	m	CMS	14	179,5	76,2	424,5
34.	V-va	f	III	10	139	33,5	241
35.	G-v	m	I	12	172,5	69	400
36.	Ch-ko	f	III	10	137	32,7	238,7
37.	Ju-n	m	III	10	127,5	28	219,6
38.	A-na	f	II	10	131,5	31,2	237,26
39.	G-v	m	CMS	14	182	77,3	424,72
40.	P-ko	f	I	14	152	46,6	306,6

Table 4

Model characteristics of the anthropometric indicators of the Juvenile category in acrobatic rock'n'roll

No. i/o	Indicators	Male partner	Female partner
1.	Age, years	12,8±1,2	11,6±1,3
2.	Body length, see	155,8±15,2	145,1±7,3
3.	Body weight, kg	47,6±15,7	38,1±7,3
4.	Weight-growth index, g·cm^{-1}	299,5±69,6	262,1±41.2
5.	Difference in body weight, kg	9,5±0,7	
6.	Length difference, cm	10,7±2,0	
7.	Difference in height-growth index in a pair, g·cm^{-1}	37,4±21,8	

Conclusions

1. As a result of the weight-growth study of the Juvenile category in acrobatic rock'n'roll, the pair selection model.

2. Developed model characteristics can be used for an optimal selection of a partner and partner in a pair, and also for optimization of the training process of athletes at the stage of preliminary basic training.

Prospects for further research will be directed to the development of model characteristics of special physical and technical preparedness of athletes of acrobatic rock'n'roll category, Juveniles aged 10–14 years.

Conflict of interests. The authors declare that no conflict of interest.
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