

# Influence training process program for coach physiological quality of players 10–12 years

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*The practice of sport shows with proper evidence-based construction training process, not all young athletes can achieve high-level sports technics that puts them at further sporting destiny.*

**Purpose:** identify the dynamics of psychophysiological preparations young players aged 10–12 years.

**Material & Methods:** analysis and synthesis of the literature; pedagogical testing laboratory method; methods of mathematical statistics.

**Results:** significant difference in evaluating the capacity for predicting the situation in the field: between 10 and 11 years – on 0.16 points ( $t=3,57$ ;  $p<0,001$ ) and between 11 and 12 at 0.27 points ( $t=2,99$ ;  $p<0,05$ ). In 11-year-old young players improved 0,79 points relative to 10-year ( $t=2,30$ ;  $p<0,05$ ), and 12 years 1.09 points respectively to 11 years ( $t=4,12$ ;  $p<0,001$ ). Retrieved changes in terms Tapping test from 10 to 12 years ( $t=3,15$ ;  $p<0,01$ ), due to a higher physical activity (both in terms of employment and volume load).

**Conclusions:** with age, physiological indicators improved significantly.

**Keywords:** young players, physiological properties, tests.

## Introduction

The functional condition of the nervous system and its parameters are the main background for the motive activity [1; 2; 5; 20]. It is known that the psychophysiological status of a sportsman plays a large role in the organization of the adequate answer in game sports to which the high level of psychoemotional pressure and concentration of attention are inherent [4; 6; 8; 10].

Skill of a football player is defined by the sum of many qualities which provide the high level of game endurance, coordination of movements, accuracy, operational thinking. A sportsman with the high level of mental preparedness and indicators of the personality corresponding to its, has an advantage at identical qualifications, levels of physical qualities, technical and tactical preparedness, [4; 5; 8; 12–14; 16].

Practice of sports activity shows that not all young sportsmen can reach the high level of sports skill even at a competent evidence-based creation of the educational and training process, a natural elimination of sportsmen takes place [21; 22].

Some stop playing sports, others stop at the level of classes by physical culture, mass sport, and only the small part of sportsmen achieves high-class results, because of the fact that the level of modern sport demands from sportsmen of special abilities for the effective implementation of the competitive activity [17; 19].

Decision-making at football players depends on the efficiency of information processing and its use for performance of the special motive activity [3; 16]. So, the progress of tactical activity of football players considerably is defined the main properties of attention at them by the high level of the development [5; 7; 9].

Thus, the definition of influence of classes by football on a psychophysiological condition of young football players is important.

## Communication of research with scientific programs, plans, subjects

This work was performed by a subject: 2.3. «Scientifically-methodical bases of improvement of the system of training of sportsmen in football taking into account features of the competitive activity» of the Built plan of the research work in the branch of physical culture and sport for 2011–2015 (No. of the state registration is 0111U001722) and by the initiative subject of the RW of the department of football and hockey of Kharkiv state academy of physical culture for 2011–2015 2.6. «The optimization of the educational and training process of football players of different qualification» (No. of the state registration is 0111U003127).

## The purpose of the research

To define dynamics of psychophysiological qualities as a result of classes by the program of CYSS.

## Material & Methods

The following methods were used in the research: analysis and synthesis of references; pedagogical supervision, laboratory method; methods of mathematical statistics [9].

The research has been conducted on the basis of children's football club «Arsenal» Kharkiv, in which 24 football players of 10-12 years old have taken part. The tests of psychophysiological preparedness were carried out four times before the first circle (8/28/2013), after the first circle (11/23/2013), before the second circle (3/27/2014) and after the end of the second circle (6/5/2014) of the superiority of Kharkiv on football.

## Results and discussion

The analysis of results of testing which are presented in tab. 1 confirms the improvement of psychophysiological indicators with age at young football players.

Changes in indicators of *speed of reaction to a sound* and visual signal, reactions with a choice and on mobile object have a positive character, but they are insignificant and doubtful ( $p > 0,05$ ) (pic. 1).

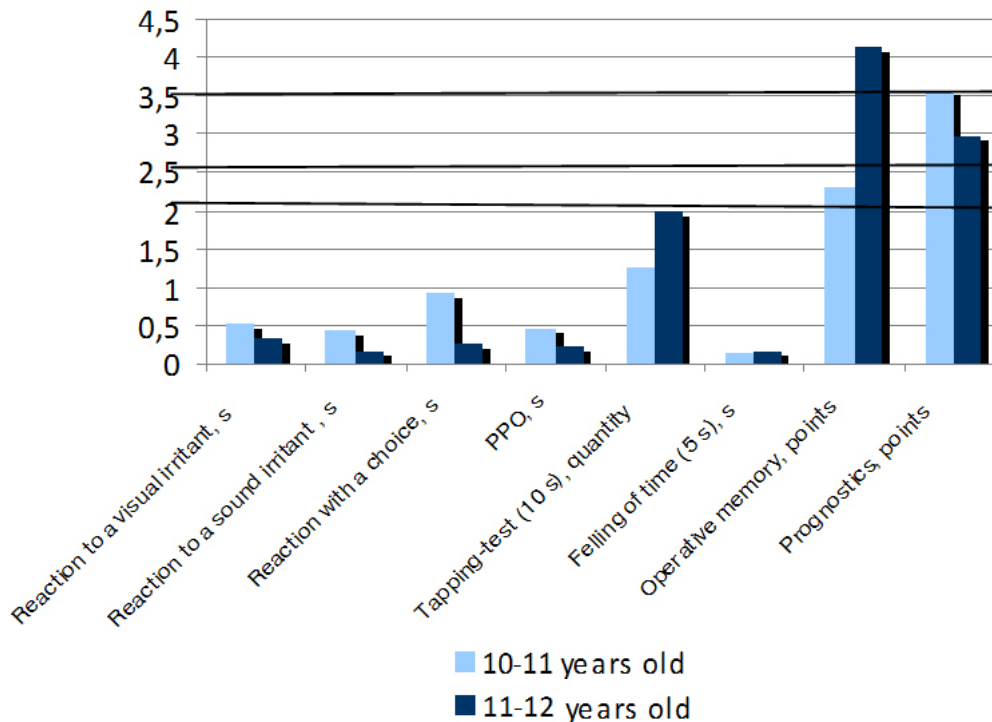
So, the improvement of speed of reaction to a visual irritant between football players of 10 and 11 years old makes 0,089 s ( $t=0,44$ ;  $p > 0,05$ ), between 11 and 12-years old – 0,025 s ( $t=0,15$ ;  $p > 0,05$ ) (pic. 1).

The difference in indicators of speed of reaction to a sound irritant between football players of 10 and 11 years old is defined in 0,08 s ( $t=0,54$ ;  $p > 0,05$ ), between 11 and 12 years old – 0,025 s ( $t=0,32$ ;  $p > 0,05$ ) (pic. 1).

The difference between football players of 10 and 11 years old makes 0,053 s ( $t=0,92$ ;  $p > 0,05$ ), between 11 and 12 years old – 0,015 s ( $t=0,25$ ;  $p > 0,05$ ) in reaction speed indicators with a choice.

**Table 1**  
The comparative analysis of psychophysiological properties of football players of 10-12 years old during trainings (n1=n2=n3=24)

№	Indicator	Age of sportsmen, years old:		
		10 $\bar{X}_1 \pm m_1$	11 $\bar{X}_2 \pm m_2$	12 $\bar{X}_3 \pm m_3$
1.	Reaction to a visual irritant, s	0,394±0,14	0,314±0,11	0,289±0,12
2.	Reaction to a sound irritant, s	0,413±0,25	0,324±0,12	0,271±0,11
3.	Reaction with a choice, s	0,565±0,040	0,512±0,041	0,497±0,043
4.	PPO, s	0,371±0,5	0,341±0,4	0,328±0,4
5.	Tapping-test (10 s), quantity	22,4±1,25	24,3±0,85	27,3±1,28
6.	Felling of time (5 s), s	0,31±0,012	0,29±0,015	0,26±0,011
7.	Operative memory, points	2,32±0,27	3,11±0,21	4,2±0,16
8.	Prognostics, points	0,37±0,04	0,53±0,02	0,62±0,03



**Fig. 1.** Numerical values of t-criterion and reliable levels (p) of indicators of special physical fitness of young football players of 10-12 years old (n1=n2=n3=24)

**Table 2**

**Matrix of statistical reliability of indicators of the tapping-test of football players of 10-12 years old (n1=n2=n3=24)**

Age	10		11		12	
	t	p	t	p	t	P
10	*		1,25	>0,05	3,18	<0,01
11	-	-	*		1,97	>0,05
12	-	-	-	-		*

The difference between football players of 10 and 11 years old makes 0,03 s (t=0,46; p>0,05), between 11 and 12 years old – 0,013 s (t=0,22; p>0,05) in indicators of speed of reaction to a mobile object (pic. 1).

The difference between football players of 10 and 11 years old makes 0,02 s (t=0,12; p>0,05), and between 11 and 12 years old – 0,03 s (t=0,18; p>0,05) in indicators of feeling of time (pic. 1).

The reliable difference in tapping-test indicators isn't also determined between football players of 10–11 and 11–12 years old (p>0,05), significant improvements have taken place at that time for the entire period of researches (from 10 to 12 years old) (t=3,15; p<0,01) (tab. 2).

Operative memory of young football players of 11 years old has improved on 0,79 points concerning to 10 years old (t=2,3; p<0,05), and next year (12 years) – on 1,09 points (t=4,12; p<0,001) (tab. 3).

Indicators of young football players have authentically improved during the estimation of ability to prognostics of a situation in the field: between 10 and 11 years old – on 0,16 points (t=3,57; p<0,001) and between 11 and 12 years old – on 0,27 points (t=2,99; p<0,05) that is explained by more increased volumes of physical activity (both by the number of

**Table 3**

**Matrix of statistical reliability of indicators of operative memory and ability to prognostics of football players of 10-12 years old (n1=n2=n3=24)**

Age	10		11		12	
	t	p	t	p	t	P
10	*		1–2,30 2–3,57	1–<0,05 2–<0,001	1–5,99 2–6,93	1–<0,001 2–<0,001
11	-	-		*	1–4,12 2–2,99	1–<0,001 2–<0,05
12	-	-	-	-		*

**Note.** 1 – operative memory, 2 – ability to prognostics.

classes, and by volume loading).

## Conclusions

1. Psychophysiological indicators authentically improve with the age in estimation of ability to prognostics of a situation in the field: between 10 and 11 years old – on 0,16 points (t=3,57; p<0,001), and between 11 and 12 years old – on 0,27 points (t=2,99; p<0,05).

2. Operative memory of football players of 11 years old young has improved on 0,79 points concerning to football players of 10 years old (t=2,30; p<0,05), and in 12 years – on 1,09 points in comparison with 11 years old (t=4,12; p<0,001), changes in tapping-test indicators from 10 to 12 years old are revealed (t=3,15; p<0,01) that is explained by more increased volumes of physical activity (both by the number of classes, and by volume loading).

## Prospects of the subsequent researches

The definition of psychophysiological indicators is compliant to each role of football players from 10–12 years old.

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