

INTELLECTUAL ABILITIES OF HIGH-END HANDBALL PLAYERS OF DIFFERENT PLAYING ROLES

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<https://doi.org/10.29038/2220-7481-2017-04-128-133>

Abstract

The article presents the results of the study of the intellectual abilities of high-end handball players of various gaming roles. It was revealed that the playing players of the Dniproanka team (Kherson) had a high level of intellectual potential (113,3 points), goalkeepers – a level lower (80,3 points). The level of intellectual potential of players in other game roles did not differ significantly and was on average 107 points. By the same method, the goalkeepers of Lviv's Galichanka (98,5 points) scored less points, linear players showed a score of 110,5 points. The intellectual potential of the welterweight, angular and playing players was high and averaged 120,2 points. It is established that the angular players of handball team «Dniproanka» had the highest IQ (according to Eysenck's method) among players of other gaming roles, which was 108,4 points. In the team «Galichanka» the best ratio among the playing players (114 points), in contrast to them at the goalkeepers, he was 103,5 points. Players of other game roles on average scored 107,5 points. The higher level of intellectual abilities of playing players in both teams can be explained by the peculiarities of the playing role, which are the «conductors» of the game.

Key words: handball, team, game role, intellect, ability, potential, competition.

Євгеній Стрикаленко, Ігор Жосан, Олег Шалар. Інтелектуальні здібності гандболісток високого класу різного ігрового амплуа. У статті наведено результати дослідження інтелектуальних здібностей гандболісток високого класу різного ігрового амплуа. Виявлено, що розігруючі гравці команди «Дніпрянка» (Херсон) мали найвищий рівень інтелектуального потенціалу (113,3 бала), у воротарів виявився рівень нижчий (80,3 бала). Рівень інтелектуального потенціалу гравців інших ігрових амплуа суттєво не відрізнявся й перебував на середньому на рівні (107 балів). За цією ж методикою найменше балів набрали воротарі львівської «Галичанки» (98,5 бала), лінійні гравці показали результат у 110,5 бала. Інтелектуальний потенціал півсередніх, кутових і розігруючих гравців перебував на найвищому рівні й у середньому складав 120,2 бала. Установлено, що кутові гравці гандбольної команди «Дніпрянка» мали найвищий коефіцієнт інтелекту (за методикою Айзенка) серед гравців інших ігрових амплуа (108,4 бала). У команді «Галичанка» найкращий коефіцієнт у розігруючих гравців (114 балів). На відміну від них, у воротарів він складав 103,5 бала. Гравці інших ігрових амплуа в середньому набрали 107,5 бала. Більш високий рівень інтелектуальних здібностей розігруючих гравців в обох командах можна пояснити особливостями ігрового амплуа, які є «диригентами» гри.

Ключові слова: гандбол, команда, ігрове амплуа, інтелект, здібності, потенціал, змагання.

Евгений Стрикаленко Игорь Жосан Олег Шалару. Интеллектуальные способности гандболисток высокого класса различного игрового амплуа. В статье приведены результаты исследования интеллектуальных способностей гандболисток высокого класса различного игрового амплуа. Выявлено, что разыгрывающие игроки команды «Днепрянка» (Херсон) имели высокий уровень интеллектуального потенциала (113,3 балла), у вратарей он оказался на уровень ниже и составлял 80,3 балла. Уровень интеллектуального потенциала игроков других игровых амплуа существенно не отличался и находился в среднем на уровне (107 баллов). По этой же методике меньше баллов набрали вратари львовской «Галичанки» (98,5 баллов), линейные игроки показали результат в 110,5 баллов. Интеллектуальный потенциал полусредних, угловых и разыгрывающих игроков находился на высоком уровне и в среднем составлял 120,2 балла. Установлено, что угловые игроки гандбольной команды «Днепрянка» имели самый высокий коэффициент интеллекта (по методике Айзенка) среди игроков других игровых амплуа, который составлял 108,4 балла. В команде «Галичанка» лучший коэффициент в разыгрывающих игроков (114 баллов), в отличие от них у вратарей он составлял 103,5 балла. Игроки других игровых амплуа в среднем набрали 107,5 балла. Более высокий уровень интеллектуальных способностей разыгрывающих игроков в обеих командах можно объяснить особенностями игрового амплуа, которые являются «дирижерами» игры.

Ключевые слова: гандбол, команда, игровое амплуа, интеллект, способности, потенциал, соревнования.

Introduction. Only athletes that have complex of specific abilities and psychophysical indicators achieve the highest level of mastery in modern sport. It is necessary to have certain skills to orient on the playground and to find an appropriate solution according to the situation in sport games. There are special

methodologies to define and mark the psychophysical indicators of athletes, but they do not give full and reliable information about thinking process development of athletes during the game.

Intellectual abilities are the part of mastery of sportsman in sport according to the theory. Methodology of sport and intellectual abilities are included to the tactical preparation. According to the theory of psychologist D. Harre, tactical act as a product of difficult psychomotor processes is successful and compatible. He accents on three stages of realization of the psychomotor processes. He states that perception and analysis of the situation are on the first place and are followed by mental process of solution of the special tactical problem. The main point of this problem is memory. He points that tactical problem is solved first mentally and then physically.

Interrelation of athletes intellect and competitive activity in the sport games is the leading component of science directions. They are related with questions of improving of efficiency of playing competitive activity and preparation of future teachers of physical culture, coaches, judges, instructors and managers.

Purpose of Research: to learn the level of intellectual abilities of high-level handball players.

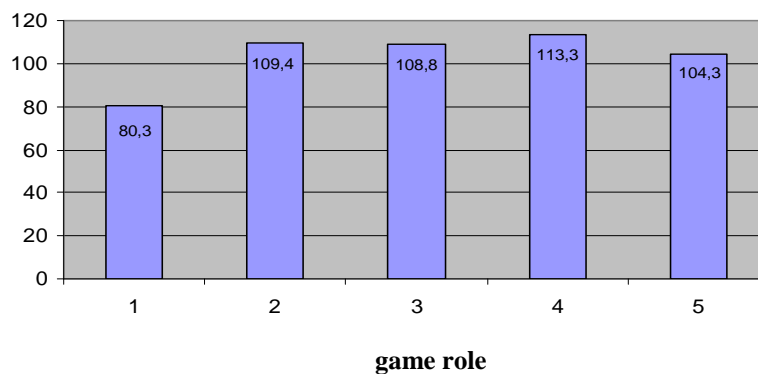
Material and Research Methods. This research is related to the definition of intellectual abilities of high-level handball players, typology characteristics, structure and features of playing activity. The subjects of research were such women's handball teams as the winners of the championship of Ukraine «Dniper» city Kherson and «Galician» city Lviv. The research was held in 2015–2017. Twenty four handball players took part in this research (12 in every team).

During carrying out the control of the level of players intellectual abilities Handball Super League teams «Dniper» and «Galician» were used methodologies for getting specific result with the purpose of definition of intellectual abilities.

Testing methods included the following tests: P. Rzhichan's test on detection of intellectual potential, Aisenck's test – IQ test and Raven's test – progressive matrices.

Method of assessment of the efficiency of competitive activities, which we used during the experiment, was developed by coaches of handball team «Dniprianka». (Method is approved and tested by council), was actively used during competitive process.

Research Results. On the base of processed data, according to Rzhichan's method, it was found that players of «Dniprianka» team have the highest level of intellectual potential (the result is 113,3), while the goalkeepers have low level, it is 80,3. Level of intellectual potential of players of other playing positions do not significantly differ and it was on the level 107 on average.



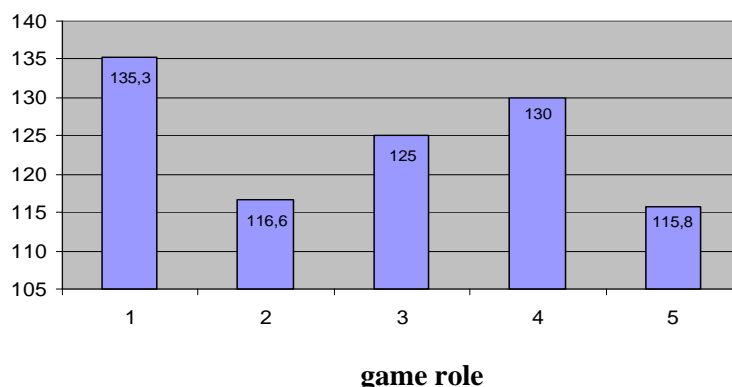
1 – Goalkeeper; 2 – left and right back players; 3 – left and right wingers; 4 – centre backs; 5 – circle runners

Pic. 1. Indexes of Intellectual Potential of Handball Players of Different Playing Positions in «Dniprianka» Team. (According to Rzhichan)

According to the test result, all field players have significantly better level of intellectual abilities. In our opinion, it is explained by Rzhichan's method, which provides setting the sequence (one right variant of attack development), field players have the manifestation of intellectual abilities during competition.

Conducted research allows us to suppose that there is the connection between the level of intellectual abilities and features of implementation of different playing functions, which is caused by features of competitive activity.

The next step in our research is to determine coefficient of intellectual abilities according to Aisenck's method. Results of conducted testing and comparison between players of different positions are showed on the picture 2.



1 – Goalkeeper; 2 – left and right back players; 3 – left and right wingers; 4 – center backs; 5 – circle runners

Fig. 2. *Indexes of the Intelligence of the Dniprianka Team (According to Aisenck's Method)*

Aisenck's test is a collecting test, which is made for total estimation of intellectual abilities with using verbal, digital and graphic material in different ways of task formulation. For example, if handball player copes with verbal tasks well, but solves arithmetic tasks bad, he neither get any advantages, nor find himself in disadvantageous situation, because of two types of tasks that are introduced in the tests approximately equally.

During processing the results of the testing the coefficient of intellectual abilities according to Aisenck's method it was found that the highest level of intellectual abilities have goalkeepers (the result is 135,3), center players (130) and left and right wingers (125). The level of intellectual abilities of circle runners and left and right back players is approximately 116.

The next step of research was detection of intellectual abilities, according to Raven's method, in which it was necessary to choose right images and put it into the main matrix. The results of the research are showed on the third picture, which are introduced in the points.

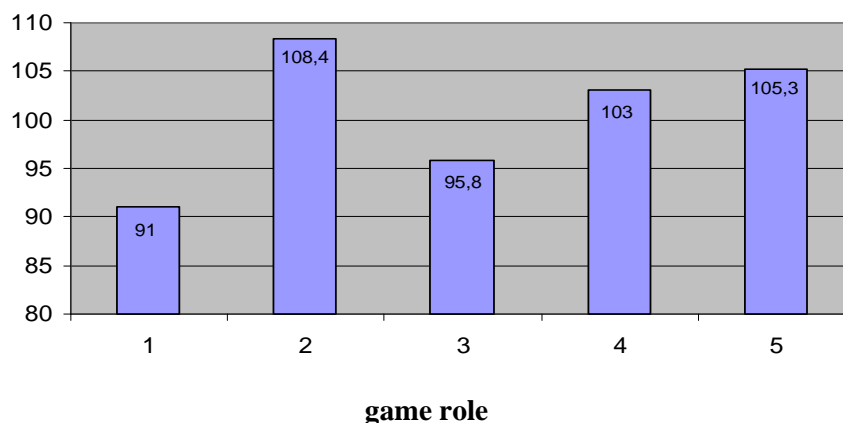
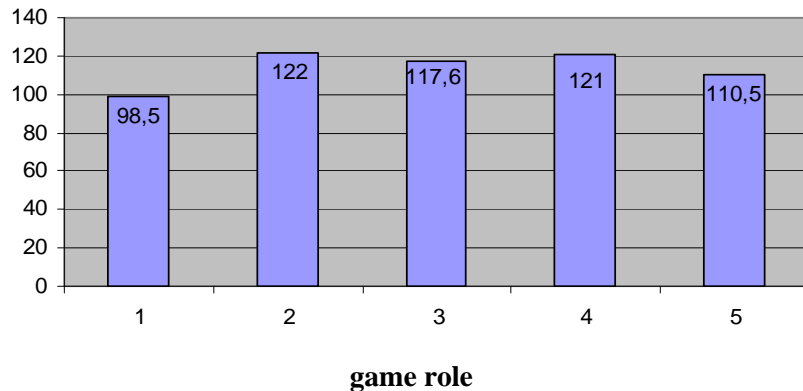


Fig. 3. *Indicators of Intellectual Abilities of the Handball Team «Dniprianka» (According to Raven's Method)*

According to the Raven's method, it was found out, that the corner players of the handball team «Dniprianka», have the highest score among the players in other game roles, which is 108,4 points. Although the level of intellectual potential of circle runner and centre back do not differ significantly from the highest point of the left and right back players and on average was 104 points. Left and right wingers scored in comparison less points (95,8 points), and the goalkeepers had the lowest result with 91 points. According to the scale of mental abilities, we can make a conclusion, that goalkeepers and left and right wingers were of an average intelligence, while left and right back players, centre backs and circle runners were above average.

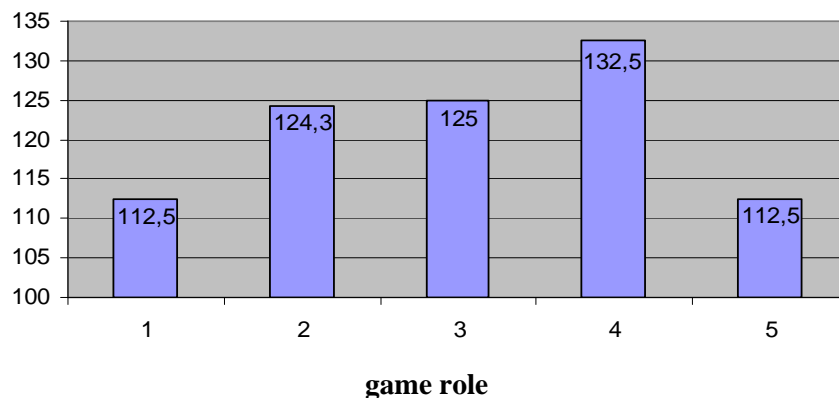
The second stage of our testing was concentrated on Lviv team «Galychanka» and three above mentioned methods were used.

The results of the assessment of the level of intellectual potential according to Rzhichan's method is showed on Picture 4. We found that circle runners showed a result of 110,5 points and goalkeepers scored the least goals (98.5 points). The highest level of intellectual potential of left and right wingers, left and right backs and centre backs was on average 120,2 points.



Pic. 4. *Indexes of Intellectual Potential of Handball Players of Different Game Roles of the Team «Galychanka» (According to Rzhichan)*

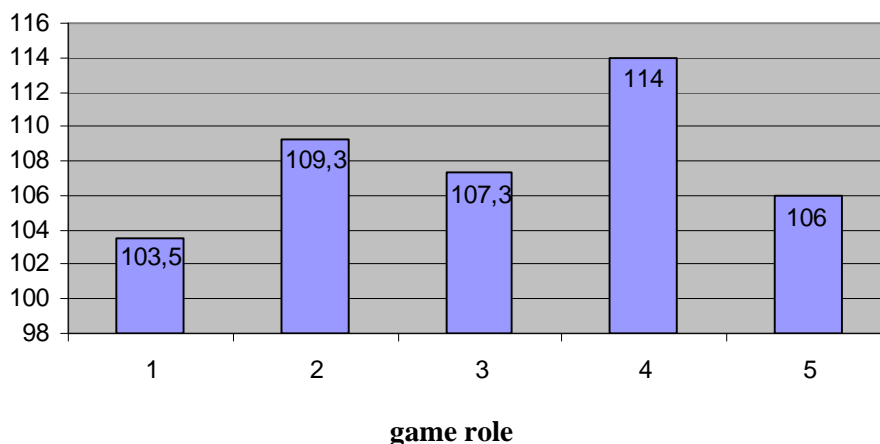
The next step in our study was to determine the coefficient of intellectual abilities according to the G. Eysenck's method. The results of testing and comparison between players with different game roles are shown on Picture 5.



Pic. 5. *Indexes of the Intelligence Coefficient of the team «Galychanka» (According to Eysenck's Method)*

During processing the results of the coefficient of intelligence according to the Eysenck's method, it was found that the highest score was received by the centre backs (132,5 points), left and right backs players and left and right wingers scored on average 124,7 points. The goalkeepers and circle runners scored the lowest amount of points (112,5).

The next step in the study was to identify intellectual abilities according to the Raven's method, in which it was necessary to choose the correct image and put it in the main matrix. The results of the study are shown on Picture 6, which are presented in points.



Pic. 6. *Indexes of Intellectual Abilities of the Handball Team «Galychanka» (According to Raven's Method)*

During processing the results of identifying the intellectual abilities according to the Raven's method, we found that the most points were scored by the centre backs (114 points), in comparison to the goalkeepers, who scored the lowest points (103,5). Players of other game roles scored on average 107,5 points.

Conclusion. In our research we used three methods: Rzhichan's test for the determination of intellectual potential, the Eysenck's test – the coefficient of intelligence and the Raven's test – the progressive matrices. They helped us to identify the intellectual abilities of high-level handball players of different game roles (goalkeepers, left and right backs, left and right wingers, circle runners and centre backs).

According to the results of the first methodology it was found, that centre backs of the team «Dniproanka» have the highest level of intellectual potential (the result is 113,3 points), while the goalkeepers had a low level of 80,3 points. The level of intellectual potential of players of other game roles did not differ significantly and on average was 107 points. According to the same method, goalkeepers of the Lviv team «Galychanka» scored the least points (98,5 points), circle runners showed a result of 110,5 points. The intellectual potential of left and right wingers, left and right backs and centre backs was on the highest level with an average of 120,2 points.

According to the second method, it was revealed that the highest level of intellectual abilities had the goalkeepers of the team «Dniproanka» (the result was 135,3 points), centre backs (130 points) and left and right wingers (125 points). The level of intellectual potential of left and right back players and circle runners was approximately 116 points. In the team «Galychanka» the center backs received the highest score (132,5 points), the left and right backs players and the left and right wingers scored 124,7 points. The lowest amount of points was scored by the goalkeepers and the circle runners, which is 112,5 points.

According to the indicators of the third method, it was found that the corner players of the handball team «Dniproanka» have the highest index of intellectual potential among the players of other game roles, which was 108,4 points. Although the level of intellectual potential of circle runners and centre backs did not differ significantly from the highest point of the left and right backs players and on average was 104 points. Left and right wingers scored less points (95,8), and the lowest result had the goalkeepers (91 points). The highest amount of points in the team «Galychanka» was scored by the centre backs (114 points), in comparison to the lowest score of the goalkeepers (103,5 points). Players in other game roles on average scored 107,5 points.

Probably, the higher level of intellectual abilities of players in both teams can be explained by the features of the game's role, which are «directors» of the game.

The prospect of further research is the comparison of intellectual abilities with the effectiveness of competitive activities of handball players of various game roles.

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Стаття надійшла до редакції 04.10.2017 р.