OBSERVATIONAL ANALYSIS OF THE TYPES OF CEREBRAL DOMINANCE ON HANDBALL PLAYERS H.C. PLOIESTI

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Abstract

This study aims to identify the level of functional dominant brain hemispheres handball players, in this respect being tested using specific psychological tests such as male athletes. The purpose was to highlight the psychological configuration of the two dominant profiles and their percentages. Also, for more extensive research were used tests to identify the level of creative attitudes and nonverbal intelligence in order to see if there are correlations with the level of cerebral dominance.

The general conclusion of this analysis drew attention to the fact that the majority of athletes have a dominant left hemisphere, something that has meaning adapted for sporting activities.

Keywords*: athletes, test, hemispherical, profile, meanings;*

INTRODUCTION

Special results are obtained in sports games in the world shows that this outstanding performance are not accessible to any individual, as well as the preparation and organized independently of the methods used in the training. At present, professional sports are practiced near the limit of human possibilities, making this level of demand to be inaccessible to those who are not sufficiently equipped and trained to do so. Athletes training requires significant efforts and financial human nature, so that preparation involves both aspects as potential aptitude and psychological self-becoming. Referring to the last, it may be said generally aimed at psychological preparation for sport performance improvement due to the peculiarities of individual psychic proper knowledge of the subjects, adapting and adopting proper training and competition, disturbance and removal of potential limiting factors in achieving desired sport and proper management of failures and victories.

The concept of dominance functional of the cerebral hemispheres indicate the specialization of these structures, meaning that under certain conditions a hemisphere may be more active in achieving a function than the other. In one synthetic approach to the concrete and the particular mode of operation of the two hemispheres can display the following characteristics [4, 6, 8, 9]:

The left hemisphere is the seat of language, speech, involves linguistic aspects of writing, is the seat of the calculation logic, numbers, reasoning, analysis and abstraction capacity. Through it, any perception translates into logical representation, semantics and phonetics. Communication with the outside is based on a logical-analytical code oriented to name objects and classes, preoccupied with details, the logical facts. Does preference relations and cause-effect analysis, has the art of sentence structure. It also seeks to have explanations for everything, is convergent thinking, algorithmic and analytical. Characteristic of the subjects of this category is convergent thinking abilities include the type: the ability to compress a number of varied brands and semantic structures in a relatively limited, the ability to form concepts based on attributes of objects and phenomena, the ability to restrain and correct name classes, relationships, the ability to discover and restore order logic in a multitude of words.

The right hemisphere is the seat of thought without language, understanding of nonverbal, recognition of forms, spatial perception. She is responsible for the tone and voice intonations, the rhythm, music, imagination, sense of color dreaming. This activation causes the person to solve the problem situations with the "help" of imagination and intuition. Thinks the overall picture, ignores the details and rules, perceive the whole. The person judge things depending on the context, undifferentiated, prefer to make as many analogies in addressing scheme of the universe, synthesizing and expressing knowledge results in images. Is predisposed to artistic activities, inclined towards spirituality, it has many passions and ideas. Characteristic of the subjects of this category is shown in probing divergent thinking by topic capacities such as generating ability as many products, the ability of combining elements to get as many variants of exploration and activation of many verbal structure .

Specialists in the field [4, 6] believe that the means of hemispheric knowledge are:

- Traditional surgical Extreme is a way that can only be used for people who have suffered a stroke, being in a position to use only parts of the cerebral hemispheres.
- Electroencephalogram (EEG). Unlike the above method, allows the study of EEG in normal subjects by placing electrodes around the head and measure

the electrical activity of the hemispheres. Alpha waves indicate a degree of rest is in register 8 to 13 hertz, and brain activity requires activation at around 40 hertz. It is known that you can not measure all outputs from the limbic system because it is located in depth.

- Electrooculogram consists of recording the electrical activity of eye movements during the completion of activities.

- Inventories & questionnaires have become reliable tools for understanding hemispheric after correlating responses from a questionnaire results from EEG. The questionnaire may only finding hemispheric dominance.

In the literature, the activity of the cerebral hemispheres in sports performance is an issue relatively less studied, most references being oriented on analysis of laterality and less for individual hemispheric type. Of great interest in this respect are the works of Beilock S. and his colleagues [1], who have shown that movement experience has the effect of significant changes in the scope of behavioral changes occurring in the neuronal processes. Experience of motor skills and watching sports activities result in improvement in the area of language (understanding) through a particular configuration of neural networks. The latter include active brain areas that are responsible for the realization of sport specific movements. Without such experience performance uninitiated (or beginners) in sport are not able to process the information correctly (internal language) about the execution of a motric act, which are active only at lower levels sensory-motor.

Other authors [2, 3, 5] divide individual sports into several categories according to the laterality influences. In the first class are found disciplines: karate, judo, wrestling, boxing and laterality effects exercised on the dosage strength, precision strike and alternate defense systems. Another category includes sports: tennis, table tennis, fencing, badminton which influences aimed at placing the individual in space, high-speed handling of objects, precision execution. Groups that include athletics and swimming sports or the use of a means of transportation (biking, boating, motorcycling, racing cars) do not seem to influence laterality due to their symmetrical on one hand, and on the other hand because it depends exclusively human potential. In light of the same criteria are analyzed and collective sports (handball, volleyball, rugby, basketball, water polo, soccer), where refers to the influence of the specific game rules, the type and shape of the balls used, the limited space of the game.

Still referring [7] to laterality is also a know it is revealed that it consisted of a right hemispheric dominance for sports where executions are carried out generally in smaller spaces, configuration right hand (handy) - left eye dominant - dominant right hemisphere offers several advantages tennis players, baseball and shooting accuracy in terms of movements and reaction time, which can add a trend towards ambidextrous among sports practitioners compared to subjects "unsportsmanlike".

MATERIAL AND METHODS

This research is a descriptive and ascertaining study about the level of cerebral dominance identified to the senior handball players (men) from the HC team Ploiesti. Athletes were interviewed were 16, aged between 18-32 years.

Battery of psychological **tests** included two questionnaires used to identify the level of hemispheric dominance and two specific tests necessary to have a more thorough psychological configuration of the athletes, as follows:

A Test to determine the level of functional cerebral hemispheres;

B.Test hemispherical personal preference;

C.Questionnaire creative attitudes;

D. Raven Progressive Matrices Test.

Description of the tests:

1. *Test to determine the level of functional cerebral hemispheres* contains 50 items. Items grouped in odd numbers refer only current left hemisphere, and those numbers appear to the right hemisphere. Response options are on the range 1-5, where 1 is disagree or agree very low, and 5 total agreement item.

2. *Test hemispherical personal preference (Richi Lindsman)* consists of 36 items, each with 3 possible answers a, b or ab. Allegations type a is corresponding to the left hemispheric predominance and b - the right hemisphere. The two relevant meetings preferably mixed responses.

3. *Questionnaire creative attitudes* contains 50 items that measure 16 attitudes: energy, concentration, orientation to new ideas argumentation, independence, nonconformity, self-confidence, moral values, orientation towards a future as distant completion risk preference - attraction to trouble difficult, diversity of interests, values, spiritual, practical values, the scale of lies. Each response is scored with points from 1 (completely untrue) to 5 (completely true). All attitudes presented (except lies scale) are objectified of 3 items each.

4. *Raven Progressive Matrices* Test contains 60 items or incremental. Each item consists of an abstract design, often in a block of figures ("matrix") which lacks a part (an element). After examining the matrix subject must decide which single figure (of 6 or 8 provided on the same board as matrix) suitable for "completion" matrix correction. Simple samples are grouped into sets of 12 matrices, the series is rated from "A" to "E". Each series develops a different theme ("A" - the

stability of the structure matrix of relationships continue, "B" - analogies between pairs of figures of matrix "C" - gradual changes in Figures matrix, "D" - permutations, ie groups figures within the matrix, "E" - decomposition matrix elements of the figures). Test m.p. (s) though comprising a single type of task, the variety of its themes can highlight, closely related to general intelligence, ability restructuring (mobility - mental rigidity) and transfer as the subject to practice their technique in solving the par ¬ flow samples. Each sample begins with an easy task (whose resolution seems "self"), followed by 11 problems increasing difficulty. Some research shows, however, that the order of difficulty of the items is not thoroughly progressive and propose reordering of items in the test. Series in order of increasing difficulty succeed degrees, which fosters real learning over the problems.

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RESULTS

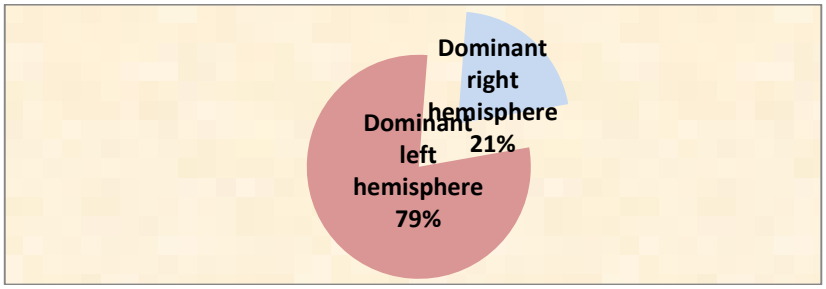

Figure 1. The share of the players on the two hemispheric dominance profiles

Tabel 1. The activation level of creative attitudes on the two profiles of cerebral dominance

Values for **LEFT** dominant profile	**Creative Attitudes**	Values for **RIGHT** dominant profile
9	Energy	10
8	Concentration	11
6	Orientation for new	8
10	Rationale ideas	10
7	Independence	13
9	Nonconformity	7
8	Confidence in their own forces	11
8	Moral values	10
7	Orientation to distant future	8
7	Shooting	12
9	Risk	9
6	Attraction for difficult problems	9
8	The diversity of interests	10
8	Spiritual values	11
11	Practical values	9
8	Scale lies	9
129	**← ∑ sum of creative attitudes →** **Δ = 28**	**157**

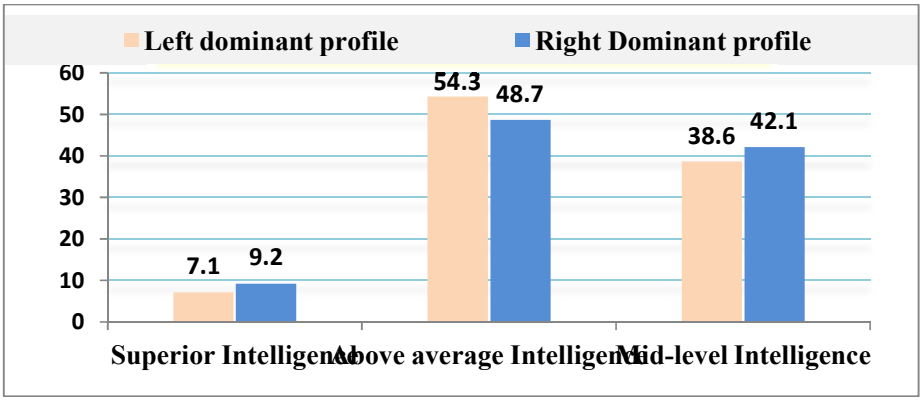

Figure 2. The nonverbal intelligence on the two profiles hemispheric dominance

From the analysis of Figure 1, it can be seen that 79% of the team's players have a dominant left hemisphere and 21% right dominant.

Observing Table 1 it is found that the dominant right-athletes have higher values on the dimension of creativity, which objectified by higher scores in investigating creative attitudes.

The values shown in Figure 2 indicates the percentage distribution of the level of superior nonverbal intelligence, above average and average.

CONCLUSIONS AND DISSCUSION

1. Adapting the general characteristics of cerebral dominance in sport correlated with the value of 79% for left dominant profile, it can be said that most of this team handball players are meant to prolonged effort, addressing training and competition seriously, are disciplined, meticulous in preparation and game solving tasks, generally use algorithms, works on the principle of "all is solved step by step, stage by stage." These athletes are well suited for typical tasks (tactical combinations, in the prior establishment of a tactical plan), do not resonate with an hostile audience or wrong decision of the arbitrator. In general, all their actions are planned, designed, prefer to communicate with coach, peers, always ask details and may have difficulty when they do not understand why they have to perform a certain task of the game.

2. 21% dominant right profile reveals that almost a quarter of the players investigated, it focuses very well on the field, it demarcate easy, "feel" and often anticipate the correct location and movement of teammates and opponents. They are not very concerned with respecting spoil a tactical level, perception matters a whole relies heavily on imagination and intuition. Are generally those players who find solutions to solve unique and surprising game situations, are created and dedicated to a goal. Not very well percept time, may delay at the training session, can be very upset when losing a match or very exuberant to victory.

3. Creative attitudes that are more pronounced in athletes with dominant right profile, give them more pronounced predisposition for innovation, an increased capacity to associate and combine items in finding solutions to problematic situations. The difference between the amounts of the two sections is 28, and comparative differences in each creative attitude enroll between 1 and 5.

4. Although the purpose of this study was not primarily aimed at identifying the level of intelligence, however the distribution of scores on the two profiles draw attention to the fact that athletes are more superior intelligence level for the dominant right and more with above average intelligence for the left profile. Also, mid-level intelligence is most significant in the dominant right profile. For each of their respective levels of intelligence found in the same order of IQ scores between 120-140, 110-119, 100-109. Comparing the two profiles athletes on the basis of nonverbal intelligence, it can be said that the dominant left with a homogeneous level of development on this component.

5. Knowing the characteristics of cerebral dominance is an advantage for coaches as he can accommodate the demands of training and playing better to individual peculiarities of the athletes and to improve communication and existing relationships between players, or coach-athletes.

6. It is indicated that this psychological testing to be performed by a competent specialist in this regard, in collaboration with sports coach. After collecting data and understanding of the significance of the results obtained will take those decisions that lead optimization sports training and finally getting notable sports performance.

7. Knowledge of specialized nature and the way of functioning synergistically

hemispheres, is a very relevant step for a more objective prediction of how the individual's particular mental operation. Action anticipation of human behavior takes on a great importance, especially when you want to obtain great results in a field, where the stakes, the desire for success and prevent the existence of variable costs that can not be controlled. Since the statement aimed especially athletic activity, the need to improve knowledge and this component becomes more acute as the global performance level is increasingly high, and finding and applying the psychological benefits of data is a secondary concern to practitioners in Romania (training is directed primarily focus on the physical, technical and tactical).

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ECONOMIC EXPEDIENCY OF MARKETING ACTIVITY OF ORGANIZING COMMITTEES FOR OLYMPIC GAMES (OCOG)

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Abstract

Marketing in Olympic Sports represents strategy and tactics of participants' behavior and, first of all, of organizational structures of the Olympic Movement within market environment, as well as the totality of managerial technologies that make it possible to ensure performance of commercial activity taking into account interests of Olympic Sports.

Features of marketing in Olympic sports derive from the principles of its organization. They include, first of all, the basic organizational principles of sports marketing with marketing in Olympic sports being one of its varieties.

Key words*: marketing activity, Olympic Games, organizing committee for the Olympic Games, arrangement and running of competitions.*

INTRODUCTION

Olympic Games are the global sports celebration. Unlike to any other international event, they attract enormous interest among various layers of the population all over the world [5]. In modern conditions, operation and further development of the Olympic Movement implies the constant search for additional sources of financing with sponsorship activity being one of them.

Today, television is still the main source of incomes during running of the Olympic Games, and this fact raises concerns within management of the International Olympic Committee (IOC). At his time, J.A. Samaranch was explaining this concern by the IOC dependence on mass-media representing possible threat for the Games to be transformed into a TV show instead of to remain an international holiday of youth. At that moment, all this has forced the IOC to pay much attention to marketing. [1,2,6,7,10,14]. Organizational structures of the Olympic Movement pay more and more attention to advertising and sponsorship activities considering them as the most promising direction of business activity development , which, with due attention,