

# STUDY REGARDING STRATEGIES OF ORIENTATION AND FOCUSING OF ATTENTION AT VOLLEYBALL PLAYERS

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**Abstract:** *The best performance of volleyball players in attention's orientation in visual field depends on using efficient strategies of orientation as against the persons who don't practice sports. This is obviously if the cerebral activities is analysed in connection with voluntary's orientation of attention on one or both visual fields. At the volleyball players this cerebral activities is fundamentally increased in case of focused attention on both visual fields. Maybe due to perception condition which are created by their sport activities volleyball players uses predominantly a wide-range attention in highly automated way. That is possible because they use an additional attentional process when it comes to focus the spotlight on the area enclosed from view field. Conversely, the person who don't practice sports usually generally adopt an attention with center more limited, using more attentional resources when it comes to pay attention simultaneously to both visual fields view.*

**Key words:** *volleyball, attention, athletes.*

## 1. Introduction

The attention in the sportiv context is considered an essential psychological premise. And still, even very often, it is not trained systematically and not subjected to some evaluation tests which the sportiv must overcome. The main cause of this lack is the fact that the term attention has multiple and different functions such as the selection of main information for the action in progress, focalization of some elaborated processes and the inhibition of others, vigilance, activation etc.

The importance of each of this function depends on the performance demands of the specific probe or the sportive discipline [11].

The so-called open-skill sportiv disciplines [6], such as fight and collective

sports are characterized permanently by variable situational conditions to which the sportiv must overcome in a rapid and precise way.

In this case the succes depends not only on the precision of the motric performance but also on the focus and the accurate and oportune planning of the relative information regardind the specific situation, meaning an adjustable control of attention in function of the situation with the purpose of having a temporally advantage towards the adversary [8].

That's why, an essential part is represented not only by one type or another of attention but, most of it, by the flexibility of attention or its 'modulation' capacity. It can be modulated the direction, the value and intensity of attention [1].

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In case of the sportive games for example the sportive must change frequently the direction of attention (towards the ball, team or adversary), to adjust the intensity of attention in function of the evolution of the game phases or to modulate their attention used resources distributing them 'on the field' or concentrating them on the limit situational marks or to perform some actions [5].

Also the flexibility of attention can be considered as being the capacity of focusing the attention and changing it towards some dimensions of the stimulus [2].

The capacity of adjust the amplexness of the attention focalization is evaluated in the sportiv context through The Test of Interpersonal Attentional Style (TAIS - Test of Attentional and Interpersonal Style) [4].

From a series of researche on the volleyball players, with the aid of a version of the test adjusted accurately, results that the experimented players has adjusted predominantly an attentional focus with ample rase, but they are, in the same time, capable of modulating the amplexness of focussing in function of the situation [3].

Nevertheless, because trough this test the attentional characteristics are estimated in a situation in which the activation of some motric responses is not necessary, it can be only be said that this evaluation reflects the attentional processes which in fact take place in motric contexts such as, more precisely, the sportiv one.

The capacity of some volleyball players of concentrating and distributing in a flexible way their attention has been confirmed also through the test of Brickenkamp [7]. But in this case the 'anticipative' aspects of focussing of visual attention in space are not considered directly.

## **2. Materials and methods**

### **2.1. Objectives**

In volleyball it is important mostly the flexibility of visual attention because it is a sportiv game in which the speed of game is very rapid and the marks usefull in decoding the situation appear simultaneously or in a tight temporally connection in different zones of the visual space, impeding often totaly or partially the sportiv to follow with the eyes the ball or the actions in curse of performing [9], [10].

In this anticipativ behaviour is framed also the orientation and flexible focalization of the attention in space. If the sportiv succed to predict the possible evolution of the game, he can orient preventively his attention there where he expects to appear some pertinent clues.

As a consequence of this 'anticipative' orientation of the attention towards a certain zone of a visual space, the information coming from the specific zone will be recepted and elaborated more efficiently, meaning more rapidly and precisely.

In this context, the main objective of the present study is that the trainers must be aware of the importance of developping and testing the attention of the volleyball players.

### **2.2. Hypothesis**

A problem later disscussed in this research is if the up-reminded attentional characteristics are registered equally at all the voleyball players despite the position occupied on the field. In fact, it is considered that playing on a certain position assumes the developpment of certain specific ways of controlling the attention.

This way we have the hypothesis according to which the time of reaction (TR) registered at the stimulus appearing in the interior of a signal (reduced or big)

### 2.3. Research methods used

On a screen, it was presented to the subject three stimulus, in order: a central cross, which aware with the start of the test, an awarning signal in the peripheric

is different in function of the position on the field and direct proportional with the complexity of the attributions of the game.

visual zone which indicates the most probable zone in which will appear the third stimulus, a command signal to which the subject had to respond pushing a button (figure 1):

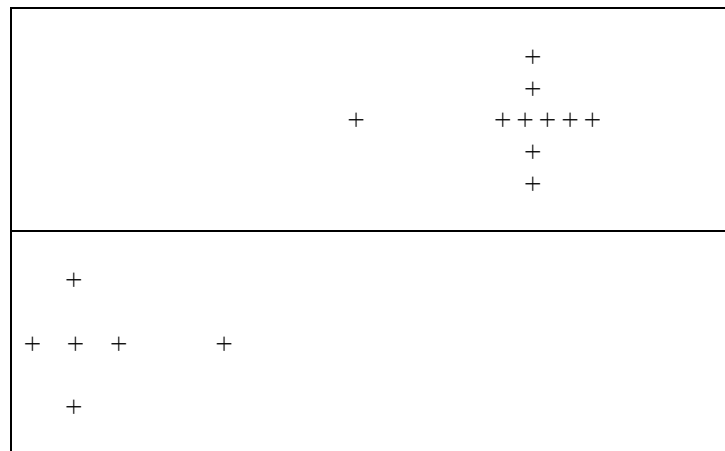


Fig. 1. *The schematic representation of the used stimulus*

The principles on which it is based the paradigm are the following. To study the effects of orienting the attention towards a single visual semizone comparing with the effects of a distributed attention in both semizones, the awarning signal, the awarning signal could appear on a single side or on the both sides of the central cross: in the first case, the command signal appears always on the marked semifield and that's why the subject could concentrate his attention only on this one. In the second case, the command signal could appear with equal probability in each of the semifields and for that the subject had to orient his attention towards both semifields.

To study the effects of focussing the attention towards certain zones of the visual field of different size has been used as awarning signals big and small squares.

In the majority of cases (75%), the command signal appeared in the interior of the square to determine the subject to adjust the ampleness of focussing attention in function of the size of the square. The command signal could appear with reduced probability outside the square (25%), but always in a delimited zone around it.

The purpose was that to verify if it were available 'residual' attentional resources outside the attention centre according to its size.

A last important factor is the time between the appearance of the awarning signal and the command one. Its importance consist in the fact that the stimulus which appear unexpectedly at the peripheral visual field (exactly as in our case the awarning signal) is starting an involuntary orienting of attention, immediatly or for a short time in their direction.

## 2.4. Subjects

The present study has been made by the National Volleyball Lot of Germany, masculin, in the year 2008 (Table 1):

*Sample of subjects*

Table 1

Name	Age	Position of the field
W.A.	26	Setter player
T.B.	24	Setter player
M.K.	28	Libero player
M.S.	19	Libero player
K.A.	21	Attak player
T.B.	24	Attak player

## 3. Results

*The registered results*

Table 2

player shooter		player libero		player coordonator	
TR-SA reduced	TR-SA big	TR-SA reduced	TR-SA big	TR-SA reduced	TR-SA big
320 msec.	340 msec.	310 msec.	330 msec.	303 msec.	320 msec.
345 msec.	349 msec.	320 msec.	329 msec.	309 msec.	302 msec.

### Legend:

TR-SA reduced – the time of reaction at stimulus which appear in the interior of the reduced awarning signal;

TR-SA big –the time of reaction of the stimulus which appear in the interior of the big awarning signal.

## 4. Discussions

The differences from the mode of focussing the attention in space had appeared in function of the position of the players on the field. Performing some experiments that are taking into account these differences can lead in obtaining some interesting results. For example, for the attackers who can be less specialized than the others players in the control of

spatial attention we can talk about the following problem. If a direct training of this capacity can be efficient in term of performance.

For the coordonators and libero players it would be interesting to verify if reducing the focuss of attention which in lab are able to execute it precisely, but with an excessively time consume, in the field can result instead the more complex differences demanded by some game

situations and this can be optimized performing a specific training. Besides these problems remains the fact that the research made on high performers sportiv, it can be assumed that the specific attentional characteristics registered represents a premise of adequate performance for their sportiv discipline.

In other words, the specific attentional capacities registered, specially the capacity of using a large rase of attention-can be used as criteria in evaluation of the developpment of attentional capacities at sportiv with less experience or as objective for an accomplished training.

#### 4. Conclusions

The differences between the players having different positions on the field resulted only when the task has become difficult due to the fact that the attention had to be focused on both visual semifields (double awarnning signal). And only when the attention could be controled voluntary (long interval between the awarnning signal and the command one).

In change, significative are the differences at speed level of reaction which registered for each position in the game in function of the experimental conditions reflects the typical ways of focussing the attention in space according to the role on the field.

The time of reaction at the stimulus which appear in the interior of the big awarnning signal is significantly much higher than the time of reaction at the stimulus which appear in the interior of the reduced awarnning signal, the fact that makes us concluding that the reaction at different stimulus is directly proportional with the durate of the emitent signal.

The time of reaction at different stimulus is different in function of the position

occupied in the field. So that in raising order of the rapidity of the executions there are the coordonators followed by the libero players and finally the shooters, starters. This thing reflects the complexity and the importance of the occupied position in the field, the coordonators having the role of leading the entire tactical context of the team.

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