49 - COMPARISON OF THE TIME OF SIMPLE REACTION BETWEEN CENTRAL ATTACKERS AND OPPOSITE ATTACKERS OF MASCULINE ADULT VOLLEYBALL

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INTRODUCTION:

The volleyball, from creation, is going by changes impelled by the alterations of the rules and for the natural technical evolution of the sports (ANFILO, 2003). One of the characteristics that more marks these modifications is the adoption of game systems us which the athletes have pré-certain specific functions.

Game system can be defined as the combination of patterns for the available players' appropriate use, taking advantage to the maximum the quality of each one for a better acting of the team (BROOK, 2004). Already Bizzocchi (2004) affirms that the game system represents the structural organization and the form as the functions are distributed among the players in the block.

The definition of the system that will be used by the team depends on the players' technical level, being important that the trainers have the sensibility of distributing in a competent and harmonic way the athletes in block (ANFILO, 2003). Most of the teams of volleyball of high level adopts the game system 5 x 1 (BOJIKIAN, 2005).

The system 5 x 1 can be understood concisely as a system that counts on a lifter and five attackers (BIZZOCHI, 2004). However, it is not that simple. This system excels for the athletes' specialization, with the attackers tends obligations and differentiated characteristics, relative to the function that exercise. Like this, these attackers become separated in: an opposite; two central and two pointers. Most of the teams uses a libero, that is a player with special characteristics that can only act in the defensive area of the block.

In this division of responsibilities inside of the team, the central attackers and the opposed attackers if they characterize for they be considered of great importance for the execution of the blockade and of the attack. Another particularity is that the athletes that execute these functions don't usually participate in the system of reception of the team (LIROLA, 2006). Like this, they are functions that has similarities amongst themselves and differences in relation to the other functions of the team.

The fact of not participating in the reception has as foundation offers a larger freedom so that these athletes just worry about the attack, when the team is accomplishing offensive system. To this respect, there is an important difference in the accomplishment of the athletes' of these functions attacks: the central attackers attack the fastest balls in the center of the block and they participate, through feints, of the combinations of offensive plays done with objective of deceiving the opponents. Already the opposed attackers act most of the time in the extremities, mainly in the position two, when they are in the offensive area, being considered the attackers of safety of the teams. The opposite is still responsible for attacking systematically when it is in the defensive area of the block (CAESAR and MOSQUE, 2006).

The specificity of the functions demands that the athletes have suitable physical capacities with their responsibilities in block. Among the several necessary qualities a good volleyball player's formation, the time of reaction is one of the variables that has been discussed thoroughly and valued by the Professionals of the area (MORALES et al., 2009a; BARCELOS et al., 2009; MORALES et al, 2009b).

The time of reaction can be defined as the temporary lapse between the presentation of an incentive and the beginning of a motive answer (SCHMIDT and WRISBERG, 2001). It is directly related to the speed and effectiveness regarding the socket of an individual's decision (BROOK and ALMEIDA, 2005).

The time of reaction can be classified as simple, of choice and of discrimination. Of these, the time of simple reaction is the fastest than a human being can present, for just presenting an incentive, that will only be able to unchain an answer (MAGGIL, 2000). The time of reaction results of three moments: 1st. The individual will notice the appearance of an incentive; after the perception there will be the selection of the answer that the subject to judge more convenient to that situation; the 3rd. Moment will be the effective of the answer (SCHMIDT and WRISBERG, 2001).

Being like this, this study looked for to quantify the time of central and opposite attackers' of masculine adult volleyball simple reaction, so that possible differences among athletes of those functions can be identified.

SAMPLE:

The sample of the present study was constituted of 18 athletes of masculine adult volleyball, being 10 central attackers (mean of age = 23±2,62 years) and 8 opposed attackers (mean of age 25,7±7,57). All athletes participated in the final phase of the Games Open of the Interior (JAI) accomplished in Campos of Goytacazes, RJ.

METHODOLOGY:

The collection of data was accomplished before the first departure of the competition. Just an athlete and an appraiser stayed at the room, to avoid any interference type on him testing. After arriving to the place of the test, the athlete was guided on the procedure of the same, only beginning accomplishment when didn't have more any doubt on the procedure.

The athlete was guided to be seating in a chair in front of the table in that the lap top was positioned. It was requested that the individual maintained the index finger of hand preferably slightly leaning on the key space, that it was the suitable for the answer.

It was measured the time of simple reaction. The test consisted of the appearance of circular illustrations (true objectives) in the center of the screen of the computer. The time among the appearances was determined by the own software. It was requested that the athlete answered the more quickly possible to the appearance of the objective each athlete the was submitted a battery of 50 incentives.

For the collection of the scores of motor reaction, a Software MATLAB 5.3 was used (The MathWorks, Inc.) installed in a lap top (Acer® processor Intel Celeron®, composed by a screen of 14.1").

STATISTICAL ANALYSIS:

The scores obtained in the study were analyzed through the program SPSS® Statistics 17.0 for Windows. The tools descriptive mean and standard deviation were used. All the data were considered parametric, for the test Shapiro-Wilk. In agreement with the results obtained in the normality test, opted for the parametric instrument through the test "t" for independent samples. Was the level of adopted significance of $p \leq 0,05$.

RESULTS:

The TABLE 1 presents the mean values, with their respective ones (DP) Deviation-Pattern, of the scores of time of simple reaction obtained in a battery of 50 incentives by each one of the functions.

Table 1 - Mean values of the scores of motor reaction and DP for specific function.

Functions	Numbers of athletes	Mean (ts)	DP
Central	10	269,06	54,76
Opposite	8	285,48	82,36
Amount	18		

(ts) thousandth of seconds

In the TABLE 2 it presents the data inferences that can be done relative to the test of motive reaction of the athletes' two functions.

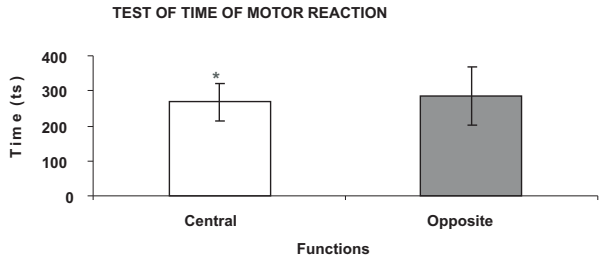
Table 2 - Statistics inferential through the Test "t": independent samples.

	Time of Simple Reaction (TSR)	Time of Simple Reaction (TSR)
	Function: Central	Function: Opposite
N=	10	8
Mean =	269,06	285,48
t=	-2.7249	
Degrees of freedom=	8	
p (unicaudal) =	0.031*	
p (bicaudal) =	0.000*	

*($p \leq 0,05$)

For the inference done accomplish in the test of simple reaction among the two functions in the volleyball, what is concluded there were a difference significant unicaudal and bicaudal ($p \leq 0,05$).

Figure 1 - Comparison of the mean of the time of reaction for function.



*Significantly smaller than Opposite ($p \leq 0,05$).

DISCUSSION:

The time of reaction is a variable that can contribute in the acting of several sports, especially in those in that it prevails the nature open of most of the actions, as it is the case of the volleyball (BOMPA, 2004; WEINECK, 2003). In reason of the characteristic speed of the actions of the game, allied the unpredictability of the atmosphere, becomes important to look for to develop capacities as the perception, the anticipation and the differentiation of the practical situations for the athlete (BOJIKIAN, 2002).

The time of reaction represents the time that is necessary for the athlete to notice the incentives, make decisions and begin compatible actions with the presented context, being an indicative parameter of the speed of processing of information, the one that makes possible do inferences on the underlying mechanisms involved in the task (PORTELA, 2005; MAGGIL, 2000).

The results found in the present study appear for a better acting of the central attackers (269,06±54,76 ts) when compared to the opposed attackers (285,48±82,36 ts).

One of the possible explanations for this difference lives in the different demands the one that the athletes of these functions are submitted. Due to the characteristics of function, the central attackers owe if it worries mainly with the demarcation of the blockade in all of the sections of the net, tends to do a fast reading of the intention of preparation of his/her opponent's attack to try to neutralize her (BIZZOCCHI, 2004). Rodrigues et al. (2008) they corroborate the exposed above to the they affirm that the ability in analyzing the atmosphere in that happen the actions, discovering the problems or you varied the they be faced, it is one of the determinant for the individual's efficient acting in the accomplishment of their activities.

The athletes that act as central attackers are still responsible for the attack of the fastest ball of the team. This attack type demands a great movement speed, besides a ready identification of the factors that precede the attack, as the quality of the reception and the movement of the lifter. These aspects probably also contribute to the development of the time of the athlete's reaction (ROCK and BARBANTI, 2007; RAMOS et al., 2004).

On the other hand, the opposite attacker now is characterized by being the player of safety of the team, being responsible for attacking a great number of balls, a lot of times in extremely difficult situations. Like this, they are usually tall athletes and that it acts in a more restricted section of the block, not being considered indispensable for that function a speed of such high reaction (CAESAR and MOSQUE, 2006; SALEM and ZARY, 2004). His performance in blocking also occurs in an area where the court is not necessary to do a very movement. Because of these characteristics, there is a tendency to use the taller

athletes to perform this function.

CONCLUSION:

The more an athlete experiences certain situations throughout his sporting life, the greater will be the development of selective attention, facilitating the identification of the tips you care among the various stimuli, which will support the realization of appropriate response. The higher the analytical capacity of the athlete, the greater the possibility of responding promptly and accurately. Schmidt and Wrisberg (2001) state that the athlete gets a higher intelligence as sports and experience a wide variety of stimuli during their sporting career, being able to build an individualized interpretation of the concepts of space, time and motion.

The results of this experiment indicate the existence of a direct relationship between reaction time and the function performed by the athlete on the team. Thus, the functions that have the possibility of a greater number of responses to the opponent's action seem to favor the individual's ability to draw up more quickly. This fact is probably related to the particular functions, which provides different requirements in the daily training of the athlete, making the physical valences develop differently.

Thus, in this study that the attackers play the role of nuclear power are the best reaction time presented, which seems entirely consistent with the requirements which are submitted in daily practice and games. However that more studies should be made to such statements can be confirmed.

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COMPARISON OF THE TIME OF SIMPLE REACTION BETWEEN CENTRAL ATTACKERS AND OPPOSITE ATTACKERS OF MASCULINE ADULT VOLLEYBALL

ABSTRACT:

The volleyball can be defined as a sport situational, for requesting great adaptation capacity to the variables that modify continually. In agreement with the specificity related to it responsibility, during the own technical training the athlete is constantly submitted to situations that can help you to obtain faster answers. The objective of this study was of comparing the

scores of the time of simple reaction among players of masculine volleyball, who are responsible for the execution of different functions inside of the team. N=18 athletes were analyzed, being: 10 central attackers (mean of age = 23±2,62 years) and 8 opposed attackers (mean age 25,7±7,57 years). All of the athletes participated in the final phase of JAI (Games Open of the Interior), accomplished in Campos of Goytacazes-Rj. As result, was obtained the descriptive statistics and the inferential through the test "t" for independent samples: Central attackers: 269,06±54,76 ts; Opposed Attackers: 285,48±82,36 ts. We found a significant difference between groups p=0,00 (p <0,05). It is based on this study, that the central attackers were faster significantly than the opposed attackers. It is believed that the different motor experience, due to the characteristics of the functions, be responsible for the development of a larger capacity of answering more quickly for the central attackers, since this function demands a larger ability in analyzing several present variables in the context of the game.

KEY WORDS: Volleyball, Reaction of Time and Specificity.

COMPARAISON DES TEMPS DE RÉACTION SIMPLE ATTAQUANTS ENTRE LE CENTRE ET LES ATTAQUANTS FACE DE VOLLEY-BALL MASCULIN DES ADULTES

RESUME:

Le volley-ball peut être défini comme un sport de situation, de demander grande capacité d'adaptation aux variables qui modifient sans cesse. En accord avec la spécificité liée à elle la responsabilité, au cours de la formation technique propre à l'athlète est constamment soumis à des situations qui peuvent vous aider à obtenir des réponses plus rapides. L'objectif de cette étude était de comparer les scores des temps de réaction simple chez les joueurs de volley-ball masculin, qui sont responsables de l'exécution des différentes fonctions à l'intérieur de l'équipe. N = 18 athlètes ont été analysés, soit: 10 attaquants centrale (moyenne d'âge = 23 ± 2,62 ans) et 8 attaquants opposition (âge moyen 25,7 ± 7,57 ans). Tous les athlètes ont participé à la phase finale de JAI (ouverture des Jeux de l'Intérieur), accomplie à Campos de Goytacazes-RJ. Comme résultat, a été obtenu les statistiques descriptives et l'inférence grâce au test de "t" pour échantillons indépendants: les attaquants Central: 269,06 ± 54,76 ms; Opposé Attaquants: 285,48 ± 82,36 ms. Nous avons trouvé une différence significative entre les groupes p = 0,00 (p <0,05). Il est basé sur cette étude, que les attaquants centraux ont été sensiblement plus rapide que les assaillants sont opposés. On croit que l'expérience différentes de moteur, en raison des caractéristiques des fonctions, est responsable de l'élaboration d'une plus grande capacité de répondre plus rapidement aux attaquants centraux, puisque cette fonction exige une capacité plus importante dans l'analyse de plusieurs variables présentes dans le contexte de la partie.

MOTS CLÉS: Volley-ball, Réaction de Time et Spécificité.

COMPARACIÓN DEL TIEMPO DE SIMPLE REACCIÓN ENTRE ATACANTES CENTRAL Y LOS ATACANTES OPUESTA DE VOLEIBOL MASCULINO DE ADULTOS

RESUMEN:

El voleibol se puede definir como un deporte de situación, para solicitar la gran capacidad de adaptación a las variables que modifican continuamente. De acuerdo con la especificidad vinculada a la responsabilidad que, durante la formación técnica propia del atleta está sometido constantemente a situaciones que pueden ayudarle a obtener respuestas más rápidamente. El objetivo de este estudio fue comparar los resultados del tiempo de reacción simple entre los jugadores de voleibol masculino, que son responsables de la ejecución de diferentes funciones dentro del equipo. N = 18 atletas fueron analizados, a saber: 10 atacantes central (media de edad = 23 ± 2,62 años) y 8 de los atacantes se opuso (edad media de 25,7 ± 7,57 años). Todos los atletas participaron en la fase final de JAI (Juegos abierta del Interior), llevada a cabo en Campos de los Goytacazes-RJ. Como resultado, se obtuvo la estadística descriptiva y la inferencial a través de la prueba de "t" para muestras independientes: los atacantes Central: 269,06 ± 54,76 ms; atacantes impugnada: 285,48 ± 82,36 ms. Se encontró una diferencia significativa entre los grupos p = 0,00 (p <0,05). Se basa en este estudio, que los atacantes centrales fueron significativamente más rápido que los atacantes se opuso. Se cree que la experiencia de motor diferentes, debido a las características de las funciones, será responsable de la elaboración de una mayor capacidad de responder más rápidamente a los atacantes central, ya que esta función requiere una mayor capacidad en el análisis de diversas variables presentes en el contexto del juego.

PALABRAS CABLES: El voleibol, la Reacción de Time y Especificidad.

COMPARAÇÃO DO TEMPO DE REAÇÃO SIMPLES ENTRE ATACANTES CENTRAIS E ATACANTES OPOSTOS DE VOLEIBOL ADULTO MASCULINO

RESUMO:

O voleibol pode ser definido como um desporto situacional, por requerer grande capacidade de adaptação às variáveis que se modificam continuamente. A capacidade de responder prontamente a um estímulo torna-se vital para o sucesso de um atleta em desportos com características como as do voleibol. De acordo com a especificidade relacionada à sua responsabilidade, durante o próprio treinamento técnico o atleta é constantemente submetido a situações que podem ajudá-lo a obter respostas mais rápidas. O objetivo deste estudo foi de comparar os escores do tempo de reação simples entre jogadores de voleibol masculino, que são responsáveis pela execução de diferentes funções dentro da equipe. Foram analisados n=18 atletas, sendo: 10 atacantes centrais (média de idade= 23±2,62 anos) e 8 atacantes opostos (média de idade 25,7±7,57). Todos os atletas participaram da fase final do JAI (Jogos Abertos do Interior), realizado em Campos dos Goytacazes-Rj. Como resultado, obteve-se a estatística descritiva e a inferêncial através do teste “t” para amostras independentes: Atacantes Centrais: 269,06±54,76ms; Atacantes Opostos: 285,48±82,36ms. Encontrou-se diferença significativa na comparação entre os grupos p=0,00 (p<0,05). Conclui-se, com base neste estudo, que os atacantes centrais foram significantemente mais rápidos do que os atacantes opostos. Acredita-se que as diferentes vivências motoras, devido às características das funções, sejam responsáveis pelo desenvolvimento de uma maior capacidade de responder mais prontamente pelos atacantes centrais, já que esta função exige uma maior habilidade em analisar diversas variáveis presentes no contexto do jogo.

PALAVRAS-CHAVES: Voleibol, Tempo de Reação e Especificidade.

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