

# PODIUM

Journal of Science and Technology in Physical Culture

EDITORIAL LIBERCIENCIA

Volume 18  
Issue 2

2023

University of Pinar del Río "Hermanos Saíz Montes de Oca"

Director: Fernando Emilio Valladares Fuente

Email: [fernando.valladares@upr.edu.cu](mailto:fernando.valladares@upr.edu.cu)

*Translated from the original in spanish*

**Original article**

## ***Behavioral analysis of the libero in the male youth volleyball category***

### ***Análisis comportamental del líbero en la categoría juvenil masculino de voleibol***

### ***Análise comportamental do líbero no vôlei masculino júnior***

Mario Raúl Izquierdo Pérez<sup>1\*</sup>  , Tania Rosa García Hernández<sup>2</sup> 

<sup>2</sup>INDER Provincial of Pinar del Río. EIDE " Ormani Arenado". Pinar del Río, Cuba

<sup>1</sup>University of Pinar del Río "Hermanos Saíz Montes de Oca", Faculty of Physical Culture "Nancy Uranga Romagoza ". Pinar del Río, Cuba.

\*Corresponding author: mariol.izquierdo@upr.edu.cu

*Received:2022-12-10.*

*Approved:2023-02-18.*

---

#### **ABSTRACT**

Among the innumerable changes that have occurred in contemporary volleyball, is the appearance of the libero player. He is a purely defensive player who can continuously enter and leave the field and replace any of the other players when they are in defense due to rotation. The research presented aims to assess the technical-tactical behavior of the libero player in the male youth volleyball category; for this, scientific methods of the theoretical level such as, historical -logical and inductive-deductive, as well as documentary review, observation and interview of the empirical level were



---

used, which guaranteed the study of the 16 wolves athletes who participated in the 2022 national youth championship. The results obtained offer a series of important data on the individual and collective particularities of the athletes studied, to direct the training schedule.

**Keywords:** libero player, technical-tactical preparation, volleyball.

---

## RESUMEN

Entre los innumerables cambios ocurridos en el voleibol contemporáneo, se encuentra la aparición del jugador líbero. Se trata de un jugador meramente defensivo que puede entrar y salir continuamente del campo y sustituir a cualquiera de los otros jugadores cuando por rotación se encuentran en defensa. La investigación que se presenta tiene como objetivo valorar el comportamiento técnico-táctico del jugador líbero en la categoría juvenil masculino de voleibol; para ello, se utilizaron métodos científicos del nivel teórico y empírico como la revisión documental, la observación y la entrevista que garantizaron el estudio de los 16 atletas loberos que participaron en el campeonato nacional juvenil 2022. Los resultados obtenidos ofrecen una serie de datos importantes sobre las particularidades individuales y colectivas de los atletas estudiados, para direccionar la programación del entrenamiento.

**Palabras clave:** Jugador líbero, preparación técnico-táctica, voleibol.

---

## RESUMO

Entre as inúmeras mudanças que ocorreram no vôlei contemporâneo está o surgimento do jogador líbero. Trata-se de um jogador puramente defensivo que pode entrar e sair continuamente da quadra e substituir qualquer um dos outros jogadores quando estes estiverem na defesa em rodízio. A pesquisa aqui apresentada tem como objetivo avaliar o comportamento técnico-tático do jogador líbero na categoria juvenil masculina de voleibol; para isso, foram utilizados métodos científicos de nível teórico e empírico como a revisão documental, a observação e a entrevista que garantiram o estudo dos 16 atletas líberos que participaram do campeonato nacional juvenil de 2022. Os resultados obtidos oferecem uma série de dados importantes sobre as particularidades individuais e coletivas dos atletas estudados, para direcionar a programação do treinamento.



---

**Palabras-chave:** jugador líbero, preparación técnico-táctica, voleibol.

---

## INTRODUCTION

Among the significant changes that have occurred in volleyball over the last 20 years, is the incorporation of a specialized figure in reception and defense called the libero. He is a purely defensive player who can continually enter and leave the field and replaces any of the other players who are in defense by rotation.

Hence, this player is introduced to unbalance the superiority of the attack against the defense and his main role is to give quality to the first contact; however, when put into practice, many teams use him not only in defense, but also in reception, so his inclusion in the game could have an effect contrary to that initially pursued.

Because of this, Rentero *et al.* (2015) state that there have been various studies developed with the intention of analyzing the intervention and influence of the libero in reception or defense. The results of these studies, even in the analysis of the same reception or defense game action, are sometimes not the same.

This position was introduced in 1998 by the International Volleyball Federation with the idea of giving points more duration, through defense and generating attractiveness in the sport by incorporating shorter people. In Cuba, where the average height is between 1.85 and 1.95 meters, the position of the libero has come to offer the possibility of showing the skills and development in this sport to short athletes.

These arguments, plus the experience of more than 20 years of work as a coach, five of them in the national volleyball team, have allowed to study the performance behavior of the male libero player in Cuba, which reveals great concern about technical-tactic preparation and its incidence in reaching the forecasts in projected events, mainly due to the insufficient amplitude in the movements for positioning behind the ball, poor reading of the trajectory of the ball since it is sent by the opponent, as well as fouls in reception of the serve



In the studies by Paulo *et al.* (2016) it was found that the position of the receiver, together with his receiving movements, were the factors that most influenced the selection of the pass and the effectiveness of the serve-reception.

Based on the responsibility assumed by the author as a coach and the fact of attending the youth category 16-18 years, the first steps are taken in the analysis of the athlete's preparation presented by the group of teachers, where the main problems can be resolved from the field of the technical-tactical preparation, which reinforces the motivation for the research that is presented.

From an exploratory study carried out through document analysis, competition observation and interview, it was possible to verify irregularities in the methodological treatment used for the development of said preparation, which affects the quality of the training process of the libero player and negatively affects the fulfillment of the social order to which it is committed and is manifested in the modes of action.

Among these irregularities, an insufficient methodological articulation was revealed between the didactic components in the preparation of the volleyball player and the integral development of this athlete; limitations in the interpretation of teachers about the real possibilities of athletes, according to the demands of the programmed strategic plan and deficiencies to establish the relationship between the programmed tasks in each mesocycle and the objectives set for the methodological treatment of sports preparation.

Based on the above, theoretical-practical deficiencies are verified that lead to mistakes in the practice of the libero athlete and demonstrate that the preparation carried out does not develop all the potentialities to respond to the action set during the game; In this way, the realization of a preparation process that is not very organic and decontextualized is manifested, with a deficient relationship with the sciences that come together in the process of sports training.

Silva *et al.* (2016) state that it is important to optimize the performance of the team in relation to the opponent and discover what allows to improve and win. The current competitive dynamics from the incessant increase in the number of competitions, the significant and constant changes in sports regulations and the spectacle character that they assume nowadays, among other aspects, calls for athletes to be more competent and competitive who face challenges and can transform the pedagogical reality in which they participate (García *et at*, 2019).



The sports training process is understood as a scientific-pedagogical process that allows the transformation of the athlete's body from different dimensions, through the application of training loads; These must be duly planned to comply with the different preparations that, as a whole, an athlete must receive for their preparation in the sport they practice (Candente *et al.*, 2020).

It is noted that the preparation of the studied athletes still does not meet the demands of the sports practice of the libero and shows insufficient preparation in the training of this athlete that limits defensive activity and the need to improve the position, from the demands of modern volleyball, so it is formulated as an objective to assess the technical-tactical behavior of the libero player in the youth male volleyball category.

## MATERIALS AND METHODS

### *Context and participants*

The participants correspond to 15 male players, from the libero position of the youth category who participated in the national championship in 2022. These players have personalized, physical, technical, tactical, psychological characteristics and of the defensive responsibility in the game.

### *Methodology*

Scientific methods were applied in the research development; in the case of the theoretical ones, the induction-deduction allowed to do inferences and generalizations from the singularity of libero player activity, as well as the integration and interpretation of the study obtained data, from general to particular. Also, the historical-logical method was used, which application allowed tendency analysis of the libero player from his appearance to the present day, in his evolution and development, which permits establishing landmarks for the characterization of his specificity in the training process.

The observation method was applied with the use of a registration form used by the Cuban Volleyball Federation that allowed the registration of the influential variables of the technical-tactical performance of the volleyball player and from this, the established symbols were assigned to evaluate the actions of the technical-tactical fundamentals of volleyball. On this occasion, it was used to study the libero player.



The interview was applied to ten coaches with more than ten years of experience in the sport that led the teams in the championship, with the aim of knowing how the libero preparation is faced in the male youth category, as well as a documentary review of the Comprehensive Athlete Preparation Program (volleyball) in the last four versions.

## RESULTS

In order to know the technical-tactical behavior of the male youth category libero, it was necessary to characterize the population that was studied, as shown in Table 1, regarding the athletes of this position who participated in the 2022 youth national championship (Table 1).

*Table 1. - Characterization of youth libero players*

Athlete	chronological age	Size (M)	Weight (kg)	30 meters flyers	Player experience (years)	Experience in the position (years)
PR	17	1.75	67	4.65	6	1
Art	16	1.70	72	4.58	4	1
May	16	1.73	70	4.40	3	1
room	18	1.80	75	4.03	6	2
mtz	16	1.79	74	4.73	2	1
CF	16	1.81	76	4.65	3	1
VC	16	1.72	66	4.76	1	1
H.H	16	1.74	64	4.89	3	1
CMG	16	1.74	71	4.82	3	1
Hg	17	1.75	69	4.79	4	1
LT	16	1.71	64	4.66	2	1
AC	16	1.70	70	4.45	3	1
GRM	16	1.75	73	4.98	2	1
SC	16	1.79	70	4.54	3	1
GTM	16	1.76	71	4.63	2	1
GTM	16	1.76	71	4.63	2	1

As the table refers to, only 6.6 % have more than one year of experience in the playing position, with an average of 4.63 years of experience as a volleyball player and an average height of 1.74 cm.

To study the behavior in the game, the reception of the serve and the defense of the field were valued as indicators and by using the method of scientific observation, the following results were revealed (Table 2):

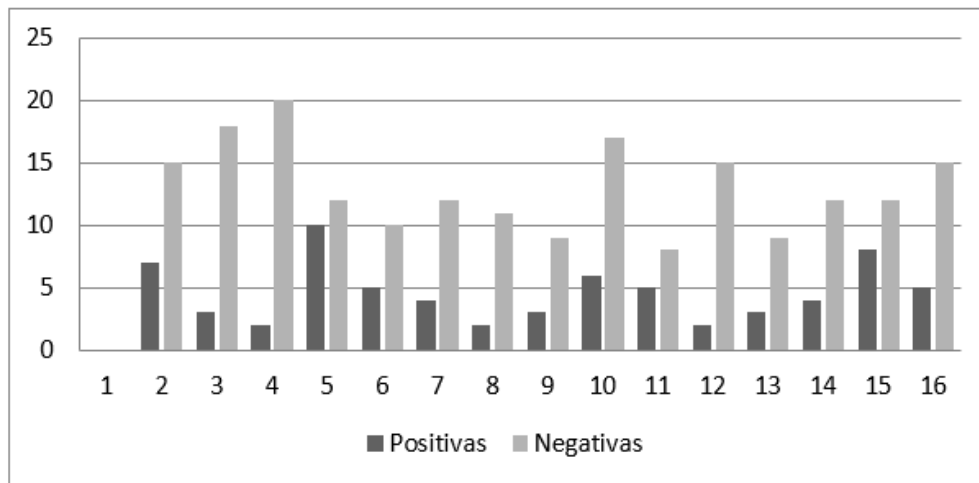


*Table 2. - Behavior of the reception of the serve*

For the analysis of this information, it was necessary to know that:

- 0 (Positive reception in zone 3-2).
- 1 (Medium reception, outside the zone 3-2, but can make a pass to attack).
- 2 (Reception outside zone 3-2, also called zone 8 or outside it and the pass is mandatory to a certain zone).
- 3 (Negative reception or direct point of the opponent to serve).

The values with the highest incidence were two and three, which prevented a better occurrence of the pass in game situations and showed that in a total of six games, 13.9 % of failures in receiving the serve corresponded to the libero player. In this same order, the quality of the defense of the field was valued (Figure 1).



*Fig. 1. - Behavior of the defense of the field.*

In this indicator, a total of 264 defense actions were executed, of which 195 were negative, for 73.86%. Among the main irregularities, it can be mentioned that the movements did not have the amplitude required to reach the position behind the ball, the correct reading of the trajectory of the ball was not achieved from the moment the opponent's shipment left, in addition to the low quality of the ball take out on the team.





In an interview conducted with experienced coaches, it was found that there were difficulties in the methodological treatment used for the development of said preparation, which caused failures in the progression of the libero athletes, from an insufficient methodological articulation between the didactic components in the preparation of the volleyball player, which had an impact on the integral development of this athlete.

Insufficiencies were also detected, on the part of the teachers, in the interpretation of the real possibilities of the athletes, according to the demands of the programmed strategic plan and the articulation between the programmed tasks in each mesocycle and the objectives set for the methodological treatment of sports preparation. The causes of the aforementioned weaknesses were determined to be the presence of cognitive failures in terms of theoretical-practical understanding, which lead to mistakes in the practice of the libero athlete.

The information obtained demands a review of the Training Programs and Plans that do not include personalized attention to the figure of the libero as a defensive player within the training schedule and that empiricism predominates to carry out its development in the different stages by where he transits as an athlete.

## *DISCUSSION*

The need for a correct direction and planning of the activity of the libero as a defensive player within the game of volleyball forces to think about how to face the preparation of these youth volleyball players in a rational and planned way to guarantee their quality and sporting success. It is agreed with Castañeda and García (2020) when they state that game actions are generally of medium to high intensity, followed by incomplete, complete and fully recuperative breaks. These indicators are also revealed in the preparation of the study population.

Feraud and García (2019) make it clear that the libero is a highly specialized volleyball player and they require training strategies that prioritize the principles of specialization and specificity to enhance their technical-tactical performance. Therefore, it is emphasized that reception and defense training are essential components to increase their effectiveness.



In this same direction, Renteroet *et al.* (2015) emphasize the two technical-tactical fundamentals that the player specifically develops in the game, service reception and field defense. From that point, such statements are shared and accepted; however, they do not make it clear how to prosecute said work from the methodological approach of preparation.

As Osorio *et al.* (2022) rightly refer, the planning and programming of sports training must be considered from various components that allow understanding the internal logic of each sport as a whole, complex and systemic.

The logic of the libero's activity must be accompanied by an adequate physical preparation that allows guaranteeing the fluidity and speed of his defensive movements, Michel and Álvarez (2013) argue the importance of physical preparation and the top place it occupies in the Libero preparation.

The study carried out shows that the scientific researches that address the activity of the libero player in volleyball are still insufficient, as Cartagena and Buitrago (2019) rightly state. It is considered opportune to deepen this subject with the purpose of providing theoretical knowledge about the formation of the libero and the volleyball game systems in general.

## CONCLUSIONS

The work presented covered the need to design specialized actions to enhance the sports performance of the libero player, actions that have their output from a methodology that applies the relationship between theory and practice with the implementation of various physical exercises, study and analysis. of the technical-tactical preparation of the libero player in volleyball.

## REFERENCES

- Cardentey Figueroa, Y., García Hernández, T. R., y Arencibia Moreno, A. (2020). Análisis de la calidad de ejecución técnica de los golpes de mano alta, en atletas de bádmiton categoría escolar. PODIUM - Revista de Ciencia y Tecnología en la Cultura Física, 15(3).  
<https://podium.upr.edu.cu/index.php/podium/article/view/963>



- Castañeda Duarte, D., y García Hernández, T. R. (2020). Estudio del comportamiento del salto en atletas juveniles de voleibol de playa. *PODIUM - Revista de Ciencia y Tecnología en la Cultura Física*, 15(3). <https://podium.upr.edu.cu/index.php/podium/article/view/953>
- Cartagena Durán, E. y Buitrago Espitia, J. E. (2019). Influencia del líbero en el voleibol de alto rendimiento. *Revista Digital: Actividad Física Y Deporte*, 6(1), pp. 43-57. <https://doi.org/10.31910/rdafd.v6.n1.2020.1424>
- Feraud Cañizares, R. A., y García Vélez, W. R. (2019). Estrategia para mejorar la recepción y defensa del líbero de la selección de la ESPOL. *Lecturas: Educación física y deportes*, 23(250), 9. <https://dialnet.unirioja.es/servlet/articulo?codigo=7272931>
- García Hernández, T. R., Moreno Iglesias, M., y Cuesta Martínez, L. A. (2019). Estudio sobre la superación profesional de los profesores de voleibol de la EIDE de Pinar del Río. *Ciencia y Deporte*, 4(1), 19-32. <https://dialnet.unirioja.es/servlet/articulo?codigo=8106608>
- Michel Torres, M.T y Álvarez Traba, K.O. (2013). Importancia de la preparación del líbero en el voleibol teniendo en cuenta los periodos sensitivos y la edad óptima, partiendo de las capacidades físicas fundamentales para su desempeño. *EFDeportes.com, Revista Digital. Buenos Aires* 18(180). <https://www.efdeportes.com/efd180/la-preparacion-del-libero-en-el-voleibol.htm>
- Osorio García, O. A., García Vargas, J., Marulanda Casas, K., Cardona, S., & Nanclares Montoya, Y. B. (2022). Vista de Efecto de una intervención coordinativa en la técnica y la coordinación en deportistas de fútbol, tenis y voleibol. *Viref Revista de Educación Física*, 11(3). <https://revistas.udea.edu.co/index.php/viref/article/view/351869/20809769>
- Paulo, A., Zaal, F. T. J. M., Fonseca, S., y Araújo, D. (2016). Predicting Volleyball Serve-Reception. *Frontiers in Psychology*, 7(2). <https://doi.org/10.3389/fpsyg.2016.01694>
- Rentero, L., João, P. V., y Moreno, M. P. (2015). Análisis de la influencia del líbero en diferentes fases del juego en voleibol. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte*, 60, Art. 60. <https://doi.org/10.15366/rimcafd2015.60.008>
- Silva, M., Marcelino, R., Lacerda, D., y João, P. (2016). Match Analysis in Volleyball: A systematic review. *Montenegrin Journal of Sports Science and Medicine*, 5(1), 35-46.



[https://www.researchgate.net/publication/294890424\\_Match\\_Analysis\\_in\\_Volleyball\\_a\\_systematic\\_review](https://www.researchgate.net/publication/294890424_Match_Analysis_in_Volleyball_a_systematic_review)

**Conflict of interests:**

The authors declare not to have any interest conflicts.

**Authors' contribution:**

The authors have participated in the writing of the work and analysis of the documents



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International  
license

Copyright (c) 2023 Mario Raúl Izquierdo Pérez, Tania Rosa García Hernández.

