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WHAT ARE THE REASONS FOR THE START AND PERMANENCE AND THE DIFFICULTIES IN THE ARBITRATION OF THE BOLO-PALMA REFEREES?

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Abstract. The study's purpose was to determine the reasons why referees of Bolo-Palma (bowling from hereon) decided to take on the job and the reasons they have stayed refereeing, as well as study the characteristics of said bowling referees and the difficulties they encounter during their refereeing work. A questionnaire was applied that had already been used in samples of other sports officials in a sample of 51 bowling referees from different categories, between the ages of 21 and 76 years, and with different years of experience in refereeing. The results suggest that bowling referees have a number of difficulties in performing their arbitration work and that some of them are linked to age and experience; such as the need for good physical preparation, communication skills, mental control, the need for training, knowledge of its regulation, and arbitration as a hobby or for recreation. Other difficulties do not have to do with arbitration and its environment: such as the pressure that players, the public and company directors impose over the referees.

Keywords: Referee, characteristics, reasons, difficulties

¿CUALES SON LOS MOTIVOS DE COMIENZO Y PERMANENCIA Y LAS DIFICULTADES DEL ARBITRAJE DE LOS ARBITROS DE BOLO-PALMA?

Resumen. El propósito del trabajo es conocer los motivos por los que los árbitros de bolo-palma (en adelante bolos) decidieron serlo y las razones por las que siguen manteniéndose en el arbitraje, así como estudiar cuáles son las características que presentan los árbitros de bolos y las dificultades que encuentran en su labor de arbitrar. Para ello se aplicó un cuestionario utilizado en trabajos sobre árbitros de otras modalidades deportivas en una muestra de 51 árbitros de bolos de distintas categorías, de entre 21 y 76 años y con diferente tiempo de experiencia en el arbitraje. Los resultados indican que los árbitros de bolos tienen una serie de dificultades a la hora de realizar su labor arbitral y que alguna de ellas están vinculadas a situaciones personales de los árbitros a la edad y la experiencia; como son la necesidad de una buena preparación física, las habilidades de comunicación, el control de los pensamientos, la necesidad de formación y el conocimiento del reglamento y el arbitraje como *hobby* o diversión. Otras dificultades son externas al propio árbitro y del entorno: como la presión que ejercen sobre los árbitros los propios jugadores, el público y los directivos de las peñas.

Palabras clave: Arbitro, características, motivos, dificultades

Introduction

The referees in courts, tracks, in sports fields, in bowling alleys embody the law. They are the people who serve justice, who enforce or interpret sports regulations. Referees enable a fair competition. They prevent deceptions and players from win by cheating. Sports are conducted on an equal footing for all athletes, players and teams with their involvement. Without referees, fair competition would be practically impossible.

Refereeing has a far-reaching importance that, on countless occasions, surpasses what is merely sport-oriented. However, notwithstanding their very important role in sports, referees are often denigrated by players as well as by fans, coaches, managers, the media and other sport agents. It seems they are the only athletes who cannot make mistakes. For these reasons, refereeing is a complex task that requires knowledge, physical and mental preparation and various psychological skills to cope with the many situations that sports competitions entail.

From Sport Psychology, the topic of refereeing has been approached from different fields, However, despite the transcendence of the referee figure and the importance of their task, the number of works on the psychology of referees is scarce and far from what can be found in other sports-related fields. More specifically, in the last two national congresses of the Spanish Federation of Sports Psychology (Spanish acronym FEPS) only three papers were presented on different psychological situations regarding the task of refereeing in football and basketball.

However, there is much research that has focused on looking into the figure of the referee and the concept of sports judgment from different angles, fields and challenges. Decision-making in refereeing is one of the areas in which research has been carried out in different sports modalities. Personality is also another topic that appears in papers on referees; stress in refereeing and motivation. The educational and training

aspects of referees have also been addressed from different perspectives by different authors, as well as psychological mediation and counseling.

This work is part of a line of research that seeks to study the most relevant skills that referees from different sports should have, and the difficulties they encounter in their jobs, which began in our country.

In this first approximation to referee psychology and refereeing in bowling we aim to determine the referees' motivations, the persistence in their task of refereeing, bowling referees' general characteristics and the difficulties of the refereeing task in this modality.

As in other sports modalities, the job of the referee in bowling is paramount. Even though refereeing in bowling does not have the transcendence it may have in other sports modalities, which are showier and more socially transcendent, it does comprise the general conditions of every sport refereeing. According to Díaz (2003), the presence of the referee in during bowling is very visible and very close. Their presence and decisions have an impact in the players' psychological behavior. Concerning the referee's importance and transcendence in the bowling modality, we can highlight the rules that regulate and specify every action from them during the competition, dictated by the Regional Committee of Linesmen and Referees (*Comité Regional de Jueces-Árbitros*) of the Spanish and Cantabrian Bowling Federations (*Federaciones Española y Cántabra de Bolos*), and which we consider to have a greater importance for this paper's aim.

The referee's job in bowling, beyond penalizing regulation infringement, will consist of warning about said regulation and protecting its compliance and, thus, every player participating in the competition. The referee must intervene with neutrality at all times, avoiding favoring or disfavoring any player or peña (team). It is a job inevitably subject to the audience's criticism, which they cannot and must not tackle. The referee is the only person with authority in delaying or cancelling competitions. They will not publicly declare when their interventions have caused any kind of controversy, problem or incident. The referee's seriousness shall be evident at all times during their intervention.

In addition to these general principles, referees must follow a certain regulation that will assist their job during competitions, some of which are as follows; caution with their comments, statements and declarations in all sport environment, such as the workplace, media, social networks, etc.

Taking care of their physical appearance, uniform and physical condition. Timeliness and control of the physical and technical features of bowling. Assisting players and teams during warm-up exercises.

Complete focus during the game, paying special attention to the shots and lines. Keeping track of the scores in bowling, bad balls and the persons in charge of setting up the pins and balls.

Be fast. Have a proper treatment with players. Avoid challenging gestures and attitudes, threats and humiliations. Keeping their opinions to themselves and be correct in verbal warnings. Be restrained with gestures.

Be flexible in the application of the rules and treating all players and teams equally, avoiding prejudices and stereotypes.

Validating their authority in case of conflict and avoiding pressure from players and managers. In this respect, Diaz (2003) indicates that during the last season, there have been tensions in bowling, with major impacts in the sport and the mental behavior of players and fans due to the application and interpretation by the referees of some aspects of the rules and regulations.

Therefore, the results of this study would lead to a greater knowledge of the multiple psychological aspects involved in refereeing and in the better training of referees by providing these facts with a better understanding of the psychological conditions that referees should have in order to do their work more efficiently and with the lowest possible psychological and personal costs.

Method

Objectives

In this paper, we wanted to determine the reasons present when they made their decisions to become referees based on the importance it had for them. We also attempted to know the reasons for which they are still refereeing according to their age and experience.

We intend to know the characteristics that referees consider most important in enhancing their refereeing work and what they considered as the main difficulties in their work.

Participants

We have collected a total sample of 51 bowling referees: 49 men and 2 women. Their ages range from 21 years to 76 years and have been refereeing in different categories between 1 year and 36 years. (Table 1)

Table 1
Sample distribution by sex, age, experience and category

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	Men	49	96.1	96.1	96.1
	Women	2	3.9	3.9	100.0
	Total	51	100.0	100.0	

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	Between 21-45 years	11	21.6	23.9	23.9
	Between 46-65 years	25	49.0	54.3	78.3
	Between 66-76 years	10	19.6	21.7	100.0
	Total	46	90.2	100.0	

Lost	System	5	9.8
	Total	51	100.0

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	Between 1-10 years	17	33.3	38.6	38.6
	Between 11-20 years	13	25.5	29.5	68.2
	Between 21-37 years	14	27.5	31.8	100.0
	Total	44	86.3	100.0	
Lost	Sytem	7	13.7		
	Total	51	100.0		

		Frequency	Percentage	Valid percentage	Accumulated percentage
Valid	First and honors division	34	66.7	66.7	66.7
	Other categories	17	33.3	33.3	100.0
	Total	51	100.0	100.0	

Instrument

An adaptation of the questionnaire used by Guillen and Jiménez (2001) for their work on the desirable characteristics in refereeing and sports judging was applied.

In order to know the motivations for beginning their path into refereeing and their permanence carrying it out, they were asked to provide a score from 1 to 6 according to the importance that the proposed aspects had for them, in which 1 was the *least important* aspect and 6 *the most important*. In each of the paragraphs there was an open-ended question under the heading; *others, indicate which of them*.

In the sections about the characteristics that bowling referees should have, 28 characteristics were proposed for them which they could score: where 1, *not very important or not important at all*; 2, *important* and 3, *very important*.

In the section on the main difficulties encountered in the refereeing task, 14 situations were proposed, situations that could be assessed in the same way as in the previous section: 1, *Not very important or not important at all*, 2, *important* and 3, *very important*.

Procedure

The questionnaire was administered by one of the authors of the work during a training day for referees organized by the Spanish and Cantabrian Bowling Federations (*Federación Cántabra de Bolos* and the *Federación Española de Bolos*). They were informed about the purposes of the study. Participation was voluntary, anonymous and consensual, and was administered collectively, indicating that their responses would be treated statistically and in compliance with the principle of confidentiality.

Data analysis

Using the SPSS statistical package, we have analyzed the differences according to the referees' age, their time of experience and the category to which they belong regarding the aspects included in the four groups of variables studied in the previous section.

For the sections "Aspects that influenced your decision to be a referee" and "Reasons why you stayed referring" we used non-parametric calculations, since the sample that answered the questions in these sections were 20. We have included three groups to specifically look for differences depending on the referees' age and their experience, and so have used the Kruskal-Wallis H test, established for K independent samples. In the case of the refereeing category, since we are dealing with two groups, we have applied the Mann-Whitney U test.

In the case of the "Characteristics that a bowling referee should have" and the "Difficulties of the bowling referee's task", the samples include 50 subjects, also having applied parametric tests.

In order to study the differences according to age and experience, we have carried out an analysis of variance (ANOVA); prior to the approach of each ANOVA, we have studied whether the data reflects the characteristic homogeneity of variances or equality of variances in the data from the dependent variable between the levels of the factors by using Levene's test. Regarding the differences if belonging to the refereeing category, we have applied the Student's T-test when considering two groups.

We have established a statistical significance level of at least 0.95 % in all of the contrasts performed, where the independent variables were: the referee's age, their experience and the refereeing category, while the results obtained in the specific questions of the questionnaire are the dependent variables.

Results

The following presents two types of results: descriptive and statistical contrasts; both depending on the referee's age, their length of experience as a referee and the refereeing category.

Descriptive data

Reasons for being a referee

The relationship with the sport is the main reason that prevailed in the decision for being a referee. The two situations that get a higher average are: "Staying involved in the sport" and "Doing the sport". Other situations such as: "Trying something new" and "Making money", got the lowest scores. Between the two types of situations are those that have to do with social relationships such as: "Recreation" and "Being with my friends".

Reasons for remaining refereeing

Refereeing in itself is what motivates the respondents the most, with the first choice being: "I find refereeing exciting" and "I like delving deeper into the technical aspects of refereeing". Below are other options related to refereeing as a "Hobby". The option least chosen by the referees was "I like to continue even if I am criticized".

Characteristics that a bowling referee should have

Of the 28 aspects presented to the referees related to the characteristics that a bowling referee should have, the ones that obtained the most points were: "Seriousness", "Punctuality", "Equal treatment of players", "Impartiality" and "Knowing the rules and how to apply them". On the contrary, the five aspects that obtained the lowest score were: "Open to dialogue", "Diplomacy", "Physical preparation", "Being flexible" and finally, "Leadership ability/charisma".

Difficulties for bowling referees.

In this section, 14 possibilities were presented to the surveyed referees. Their preferences can be easily divided into two groups. Those that are directly related to the referee, such as: "Not knowing the rules well", "Making difficult decisions", "Being too distracted", "Not having good training", "Having little self-confidence", "Thinking too much about mistakes". And, secondly, the difficulties that have to do with the referee's relationship with others, such as: "Feeling pressure from players", "Unable to interpret the players' gestures", "Feeling pressure from the public", "Protests from the players" and "Being influenced by managers".

Statistical contrasts

Circumstances that were in your decision to be a referee.

In the circumstances for deciding to be a referee, no statistically significant differences appeared in any item. Nevertheless, we observed the following when studying the averages.

In the **age** section, we find that the younger the referee is, the greater importance they give to recreation sections: "being with my friends" (or making new friends) and "earning money". On the other hand, the older the referee is, the more importance they give to "doing sports".

The less **experience** the referee has, the higher they give a score to "recreation" and "being with my friends" (or making new friends).

Lastly, in the refereeing **category** variable, referees in the Honorary Division and first-rate ones gave a higher score than the other categories in "doing sports" and "Staying involved in the sport". It is the other way around with the rest of the aspects, overcoming the other categories within the Honorary Division and *Primera* (first division).

Situations which keep you motivated to continue refereeing.

Statistically significant differences in the experience variable as a referee have shown up, in the sense that the following sentence is more important with increased experience: "Refereeing is my favorite hobby".

By studying the average results in the rest of the variables in these sections, we find that in **age**, the younger that the referees are, the greater the average for "I like to continue even if I am criticized". Older referees have a greater average in the variable "When I referee, I forget about my everyday problems". However, the referees with less experience are the ones who value this aspect the most.

Lastly, in the refereeing **category** variable, referees in the Honorary Division and *Primera* (first division) overcome the ones in other categories in "Refereeing is exciting

for me”, “Refereeing is my favorite hobby” and “When I referee, I forget about my everyday problems”.

Characteristics that a bowling referee should have.

First of all, statistically significant differences depending on **age** in “Being communicative”, “Humility” and “Physical training” have been found. The first one means that the older the referee is, the more importance they grant this situation. The “Humility” variable is less valued by younger referees. The importance that referees give to “Physical training” increases with age.

Analyzing the other variables, although without statistically significant differences, we have verified that a number of variables increase with age, the following in particular: “Punctuality”, “Equal treatment of players”, “Serenity”, “Diplomacy”, “Knowing the rules and how to apply them”, “Knowing to rectify”, “Being well placed in space”, “Leadership capacity/charisma”, “Authority”, “Personality and character”, “Being flexible”, “Self-confidence/conviction”, “Objectivity in opinions” and “Having experience”. We have not found in any variable that importance gets reduced with age, at least in the others, the age bracket to which more importance is given is the central one: from 46 to 65 years old.

In the **experience** section in refereeing, statistically significant differences have been found in two variables: the one that has just been commented, “Physical preparation”, and “Having experience”. The first of these increases as experience in refereeing increases.

Without reaching statistically significant differences, we have found that the following variables increase as the referee’s experience increases: “Ability to concentrate”, “Serenity”, “Being communicative”, “Good character and kindness”, “Impartial”, “Physical preparation”, “Objectivity in opinions”. On the contrary, the variable “Knowing the rules and how to apply them” is more important when the referee has less experience. Most of the variables are valued with higher averages by referees with intermediate experience: between 11-20 years.

No statistically significant differences have been found in any aspect related to the refereeing **category**. In general, it is usual for the referees from the Honor Division and *Primera* (first division) to value the same aspects with lower averages than those referees from other categories.

Difficulties that referees may encounter.

Statistically significant differences depending on **age** were found in three variables: “Thinking too much about mistakes”, “Not knowing the rules well”, and “Not having good training”. The difficulties encountered by referees in the first of them increases with age. The intermediate age group, between 46-65 years old, gives more importance in terms of difficulty to the refereeing variable of “Not knowing the rules well”. This group is also the one that gives more importance in terms of difficulty in refereeing to the variable “Not having good training”.

Without reaching statistically significant differences, the importance given by referees increases as age increases in only two variables: “Being influenced by managers” and “Protests from players”. In most variables, the intermediate age group, between 46-65 years old, give this one a higher score.

In terms of *experience* in refereeing, the more experience a referee has, the more importance they give to the variables “Thinking too much about mistakes” and “Feeling pressure from the public”. On the contrary, the importance that referees give to the variable “Having little self-confidence” decreases as age increases. In the rest of the variables, the highest average appears in the intermediate experience group.

No statistically significant differences depending on the refereeing *category* have been found. In most of the variables, the group of referees from other categories finds more difficulties and therefore appears with a higher average than the group of referees from the Honors Division and *Primera*.

Discussion

Coinciding with the works from football referees of Brandao, Serpa et al. (2011) and Alonso and Albiol et al. (2008), there is a tendency to remain involved in bowling as one of the reasons for both refereeing and remaining in it. Being with friends and for recreational are the reasons why they decided to become referees.

The older the referees, the more they like refereeing and it becomes their favorite hobby. For many older referees, bowling has been a deeply rooted hobby since childhood. Many have been players for many years and it has been the sport of their entire lives. To continue refereeing in spite of an advanced age, keeps them active in the sport. It is a great motivational force. Likewise, the works of Vallerand, Rousseau et al. (2006), confirm the results obtained in this study with bowling referees. Individuals who like what they do feel alive and active despite their age and task setbacks: criticisms, tensions.

Having fun and being with friends are also reasons for becoming a bowling referee. Earning money is far from the reasons to referee and to remain refereeing, coinciding with the studies of Alonso-Arbiol et al. (2008) and Regina Brandao et al. (2011) in football referees. Bowling referees are not professionals, and they receive a small financial compensation for each refereed competition. They usually do have another profession or are retired individuals. The compensation for continuing to referee is always the satisfaction of staying involved to an activity that has been an important part of their lives.

The referees surveyed gave the highest scores to: seriousness, punctuality, equal treatment of players, impartiality and knowing the rules and how to apply them.

The lower scores are features of being open to dialogue, diplomatic, physically prepared, flexible and possessing leadership ability. The results of our work coincide to a great extent with the work carried out by Guillen and Jiménez (2001) with referees and judges from different sports modalities.

The lower scores obtained for the need for physical preparation are motivated by the task itself which requires little physical effort as occurs in other sports, although it does require other skills related to the need to maintaining attention-concentration and withstanding mental fatigue, which are valued in another section of this work.

Being open to dialogue, tactful or flexible, which seem to be interesting characteristics for a referee, although they are considered important, are not the most

valued by bowling referees, and perhaps consider flexibility and dialogue as weaknesses before the most shining and important figure for players, the true idols of bowling.

In the category of difficulties in refereeing, bowling referees highlighted two clearly differentiated sections. In the first part, they give high scores to difficulties that come from the referee himself. The main difficulties mentioned by referees are: "Not knowing the rules well", "Making difficult decisions", "Being too distracted", "Not having good training", "Having little self-confidence" and "Thinking too much about mistakes".

In the second part, the bowling referees mentioned difficulties that come from the environment, external factors. "Feeling pressured by players", "Inability to interpret player gestures", "Pressure from the public", "Protests from players", and "Being influenced by managers" are the behaviors that disrupt the work of a bowling referee. The studies of González - Oya and Dosil (2004), with football referees obtained similar results as for the pressure or lack of recognition of managers.

No statistically significant differences were detected in the reasons for being referees by age, experience or category. However, younger people tend to referee for fun, to be with friends and of course, to earn money. The older the referee and the higher level of refereeing, the higher the score for "Doing the sport" and "Staying involved in the sport".

Focusing on the reasons for keeping refereeing, statistically significant differences were found between older and experienced referees and younger referees. The older and more experienced remain in refereeing despite their age because; "Refereeing is my favorite hobby" the younger ones persist; " I like to continue even if I am criticized ".

Younger referees, perhaps because of the evolution of the sport itself, are more sensitive to criticism, but they have no reason to give up. The older experienced and in higher categories, superimpose their passion for refereeing to criticism, which is perhaps related to the evolution of bowling in recent times, requiring more rigid refereeing in the application of some of its rules.

We have also found statistically significant differences between the age and the characteristics that they must possess in order to perform their referee work. Thus, for older referees the most valued and meaningful characteristics are: "Humility", "Being communicative" and "Being physical prepared". These characteristics increase with age. Humility on the other hand is the least scored characteristic in younger respondents.

Although, without statistically significant differences, all the characteristics that have been surveyed tend to get higher scores in the older referees, between 46-65. The older the referees, the more importance they place on preparation and experience in refereeing. The most experienced referees, with 11-20 years of experience, give higher scores to the ability to "Knowing and applying the rules".

As for the difficulties that referees may face, we have found statically significant differences in terms of age. The difficulties that increase with age, specifically in the 46-60 age group, are "Thinking a lot about mistakes", "Not knowing the rules well" and "Not having good training".

Practical applications

This work reveals to us that, just like the referees of other modalities, bowling referees present many similarities with what is reflected by the refereeing collectives from other sports.

One of the clearest differences between bowling and other modalities is that bowling referees remain in refereeing until considerably later ages than their colleagues in other sports modalities. This condition confers differential aspects and is of interest for the psychological training of bowling referees.

The reasons for starting and staying refereeing are the same as they seem in the studies of the referenced works.

There is also a coincidence in the skills that bowling referees must have, both within the technical and personal aspects, although some are specific to bowling refereeing.

As for the difficulties in bowling refereeing, we highlight those that come from the referee them self, from their personality as well as from their training, and those difficulties that come from the environment. This important conclusion discovers an interesting contribution for differentiating the aspects that must be dealt with during referee training. The skills that they must develop and the skills that they must learn in order to be able to tackle those that refer to the more personal ones, as well as to external difficulties.

The significant statistical differences between the characteristics and the difficulties that have come about mainly from age, also opens up another line of work for the permanent training of those older and younger referees for a better adaptation of the continuous change that occurs in this modality.

The continued training of the referee community and the improvement of the content in their psychological training is one of the contributions of this work, which should incorporate providing referees with the tools and psychological support to help withstand pressures from the players, the public and managers, as well as improving the psychological aspects of refereeing. This training improvement will provide a greater assessment of the task, which would bring about a greater consideration that may attract younger people into refereeing, something that is current a need for the collective; its rejuvenation.

Apart from this training improvement, we should deepen into further studies on the possibility of having different referees depending on their ages and those of the players in the different categories and competitive levels, so that referees, players and managers feel more comfortable.

A new line of work would be to deepen or insist on those aspects and issues worked in this study to obtain suitable referee profiles.

References

- Alker, H. A., & Poppen, P. J. (1973). Personality and ideology in university students 1. *Journal of Personality*, 41(4), 653-671. doi: 10.1111/j.1467-6494.1973.tb00116.x

- Alonso-Arbiol, I., Arratibel, N., y Gómez, E. (2008). La motivación del colectivo arbitral en fútbol: un estudio cualitativo. *Revista de psicología del deporte*, 17(2). Retrieved from <https://www.rpd-online.com/article/view/11>
- Antonelli, F., y Salvini, A. (1982). *Psicología del deporte: I*. Valladolid: Miñón.
- Aresu, M., Bucarelli, A., y Marongiu, P. (1979). Preliminary Investigation of the Authoritarian Tendencies in a Group of Sports Referees. *International Journal of sport psychology*, 10(1), 42-51. Retrieved from <http://bibliotecadigital.fgv.br/ojs/index.php/abp/article/view/18365>
- Balch, M. J., & Scott, D. (2007). Contrary to popular belief, refs are people too! Personality and perceptions of officials. *Journal of Sport Behavior*, 30(1), 3. Retrieved from <http://psycnet.apa.org/record/2007-02786-001>
- Benedicto, L. V., y Garcés, E. (2003). Formación en árbitros y jueces deportivos: mejora de las competencias y habilidades psicológicas del árbitro. In *Psicología del arbitraje y el juicio deportivo* (pp. 161-186). INDE Publicaciones. Retrieved from <https://dialnet.unirioja.es/servlet/libro?codigo=4014>
- Betancor, M. A. (1999). *Bases para la formación del árbitro de baloncesto* (Doctoral dissertation, Tesis doctoral. Las Palmas de Gran Canaria: Universidad de Las Palmas de Gran Canaria).
- Blasco, T. (2007). Competencia personal, autoeficacia y estrés en árbitros de ciclismo. *Revista de psicología del deporte*, 8(2). Retrieved from <https://www.rpd-online.com/article/view/72>
- Brandao, R., Serpa, S., Krebs, R., Aruajo, D., Machado, A.(2011) El significado de arbitrar: percepción de jueces de futbol profesional. *Revista de Psicología del Deporte*. 20(2) 275-286 Retrieved from <https://www.rpd-online.com/article/view/682>
- Calvo Gómez, F. (1993). *Técnicas Estadísticas Multivariantes*. Bilbao: Universidad de Deusto.
- Cantón, E., Gistain, C., Checa, I. y León, E. (2011) Programa de mediación psicológica en árbitros de fútbol. *Revista Internacional de Ciencias Sociales y Humanidades, SOCIOTAM*, 21(2), 27-38. Retrieved from <http://www.redalyc.org/articulo.oa?id=65423606004>
- Caracuel, J. C., Andreu, R., & Pérez, E. (1995). Análisis psicológico del arbitraje y juicio deportivos. Una aproximación desde el modelo interconductual. *Motricidad*, 1, 5-24. Retrieved fom: <https://recyt.fecyt.es/index.php/ejhm/article/view/56084/33860>
- Casal, H. M. V., & Brandao, M. R. F. (2003). La personalidad de los árbitros y jueces. In *Psicología del arbitraje y el juicio deportivo* (39-54). INDE Publicaciones. Retrieved from: https://www.researchgate.net/publication/288316452_Referee_personal_meaning_Perception_of_football_officials
- Catteeuw, P., Helsen, W., Gilis, B., & Wagemans, J. (2009). Decision-making skills, role specificity, and deliberate practice in association football refereeing. *Journal of Sports Sciences*, 27(11), 1125-1136. Retrieved from:

<https://www.tandfonline.com/doi/abs/10.1080/02640410903079179?journalCode=rjsp20>

- Comité Regional de Jueces-Árbitros (2015) Normas de actuación y de obligado cumplimiento. Federación Cántabra de Bolos
- Cruz, J. (1997). Asesoramiento psicológico en el arbitraje y juicio deportivos. *Psicología del deporte*, 245-269. Retrieved from: <https://dialnet.unirioja.es/servlet/articulo?codigo=1014793>
- Díaz, J.(2003) *Psicología de los Bolos*. Federación Cántabra de Bolos. Santander
- Downward, P., & Jones, M. (2007). Effects of crowd size on referee decisions: Analysis of the FA Cup. *Journal of sports sciences*, 25(14), 1541-1545. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/17852675>
- Garcés, E., Vives, L. (2003) Formación en árbitros y jueces deportivos: mejora de las competencias y habilidades psicológicas del árbitro, en Guillen, F (Dir.) *Psicología del arbitraje y el juicio deportivo*. Barcelona. INDE. 161-186 Retrieved from <https://dialnet.unirioja.es/servlet/libro?codigo=4014>
- Gimeno, F., Sanz, G., Lahoz, D., & Buceta, J. M. (1998). Evaluación del proceso de toma de decisiones en el contexto del arbitraje deportivo: Propiedades psicométricas de la adaptación española del cuestionario DMQ II en árbitros de Balonmano. *Revista de psicología del deporte*, 7(1), 249-258. Retrieved from: <https://www.rpd-online.com/article/view/454>
- Gimeno, N., y Cantón, E. (2008). *Aplicación de la evaluación conductual con entrenadores de futbol noveles y expertos. Visión actual de la psicología del deporte*. Sevilla: Editorial Wanceulen
- Goldsmith, P. A., & Williams, J. M. (1992). Perceived stressors for football and volleyball officials from three rating levels. *Journal of Sport Behavior*, 15(2), 106. Retrieved from <https://www.cabdirect.org/cabdirect/abstract/19921896435>
- González-Oya, J.L. y Dosil, J. (2004) Características psicológicas de los árbitros de fútbol de la Comunidad Autónoma Gallega. *Cuadernos de psicología del deporte*, 2004 4 (1-2) 53-66 Retrieved from <http://revistas.um.es/cpd/article/view/112451>
- González-Oya, J., y Dosil, J. (2007). *La psicología del árbitro de fútbol*. Galicia: Toxosoutos.
- Guillén García, F. (2003). *Psicología del arbitraje y el juicio deportivo*. Barcelona. INDE Publicaciones.
- Guillén, F., y Jiménez, H. (2001). Características deseables en el arbitraje y el juicio deportivo. *Revista de psicología del Deporte*, 10(1), 23-34. Retrieved from <https://www.rpd-online.com/article/view/148>
- Guillén, F., Jiménez, H., y Pérez, A. (1999). Diferencias entre árbitros y jueces deportivos: análisis de las características percibidas positivamente. In *Actas del VII Congreso Nacional de Psicología de la Actividad Física y del Deporte* (pp. 571-585).
- Guillen, F.; Moran, M. y Castro, J.J. (1997). Consideraciones de carácter psicosocial sobre el arbitraje y el juicio deportivo. En F. Guillen (Ed) *La Psicología del*

- deporte en España al final del Milenio*. Las Palmas de Gran Canaria: Servicio de Publicaciones de la Universidad de Las Palmas de Gran Canaria Retrieved from <https://dialnet.unirioja.es/servlet/autor?codigo=53165>
- Ittenbach, R. F., & Eller, B. F. (1988). A personality profile of southeastern conference football officials. *Journal of Sport Behavior*, 11(3), 115. Retrieved from <http://psycnet.apa.org/record/1989-20981-001>
- Jaenes, J. C., Bohórquez, M. R., Caracuel, J. C., y López, A. M. (2012). Estado emocional y situaciones de estrés en árbitros de baloncesto. *Cuadernos de Psicología del Deporte*, 12(2), 17-24. Retrieved from <http://revistas.um.es/cpd/article/view/170291>
- Kaissidis-Rodafinos, A., Anshel, M. H., & Porter, A. (1997). Personal and situational factors that predict coping strategies for acute stress among basketball referees. *Journal of Sports Sciences*, 15(4), 427-436. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/9293419>
- López, M., & Fernández, J. (1999). El informe de la actuación arbitral en el árbitro asistente de fútbol: Aspectos psicológicos. En *VII Congreso Nacional de Psicología de la Actividad Física y el Deporte*.
- López, M., Fernández, J. A., & Cantón, E. (1999). Factores psicológicos implicados en la actuación del árbitro asistente de fútbol. In *Psicología de la Actividad Física y el Deporte: Areas de Investigación y Aplicación. VIII Congreso Nacional de Psicología de la Actividad Física y el Deporte* (pp. 565-570).
- Luis, V., Canelo, A., Morenas, J., Gómez-Valadés, J. M., & Gómez, J. S. (2015). Comportamiento visual de árbitros de futbol en situaciones de fuera de juego/Referees' Visual Behaviour During Offside Situations In Football. pp. 325-338. *Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte*, (58). Retrieved from <http://cdeporte.rediris.es/revista/revista58/artcomportamiento571.htm>
- Mallo, J., Navarro, E., Aranda, J. M. G., & Helsen, W. F. (2009). Activity profile of top-class association football referees in relation to fitness-test performance and match standard. *Journal of Sports Sciences*, 27(1), 9-17. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/18979338>
- Marrero Rodríguez, G., y Gutiérrez Ascanio, C. (2002). Las motivaciones de los árbitros de fútbol. *Revista de psicología del deporte*, 11(1), 0069-82. Retrieved from <https://www.rpd-online.com/article/view/142>
- Oudejans, R. R., Verheijen, R., Bakker, F. C., Gerrits, J. C., Steinbrückner, M., & Beek, P. J. (2000). Errors in judging 'offside' in football. *Nature*, 404(6773), 33-33. Retrieved from <https://www.nature.com/articles/35003639>
- Pla-Cortés, J., Freixanet, M. G., & Antón, O. A. (2015). Perfil de personalidad de los árbitros de baloncesto españoles en comparación con la población general. *Cuadernos de Psicología del Deporte*, 15(2), 87-94. Retrieved from: <http://revistas.um.es/cpd/article/view/233851>
- Ramírez, A., López, M., Alonso-Arbiol, I., y Falcó, F. (2006). Programa de intervención psicológica con árbitros de fútbol. *Revista de Psicología del Deporte*, 15(2), 0311-325. Retrieved from <http://www.redalyc.org/articulo.oa?id=235119208009>

- Vallerand, R. J., Rousseau, F. L., Grouzet, F. M., Dumais, A., Grenier, S., y Blanchard, C. M. (2006). Passion in sport: A look at determinants and affective experiences. *Journal of Sport and Exercise Psychology*, 28(4), 454. Retrieved from <https://journals.humankinetics.com/doi/10.1123/jsep.28.4.454>
- Vila-Maldonado, S., García, L. M., & Contreras, O. R. (2012). La investigación del comportamiento visual, desde el enfoque perceptivo-cognitivo y la toma de decisiones en el deporte. *Journal of Sport and Health Research*, 4(2), 137-156. Retrieved from https://www.redib.org/recursos/Record/oai_articulo110358

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