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ORIGINAL

ANALYSIS OF THE TECHNICAL-TACTICAL BALL OFFENSIVE OF THE SPANISH TEAM OF FUTSAL

ANÁLISIS TÉCNICO-TÁCTICO OFENSIVO CON BALÓN DE LA SELECCIÓN ESPAÑOLA DE FÚTBOL SALA

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ABSTRACT

The objectives of this research were described to describe the technical-tactical offensive technical and tactical with-ball fundamentals of the Spanish futsal team, the contact surfaces and field areas where each fundamental begins, as well as to examine the associative relation between given these fundamentals and the other two criteria. The Observational methodology was has been used. Ball passing and control, the use of the instep, foot inside and sole predominate as well as A predominance of passing and ball controlling is observed, together with the foot's instep, inside, and sole, besides the beginning of the fundamentals on the rivals' field. Likewise, it was found that a significantly higher realization of ball control with the sole, ball passing with the inside, ball handling with the instep, dribbling combining different surfaces, and ball shooting with the instep stands out. Finally, it is important to highlight the it also stands out that there is a significantly higher greater performance realization of

ball control and passing from the own field, and dribbling and shooting from the rival's field.

KEY WORDS: Futsal. Technical-tactical offensive techniques. Contact surfaces. Playing field areas.

RESUMEN

Los objetivos de este estudio fueron describir los fundamentos técnicos-tácticos ofensivos con balón de la selección española de fútbol sala, las superficies de contacto y las zonas del terreno de juego donde se inicia cada fundamento, así como examinar la relación asociativa entre dichos fundamentos y los otros dos criterios. Se empleó la metodología observacional. Predomina el pase y control del balón, así como el empeine, interior y planta del pie, además del inicio de los fundamentos en zonas del campo rival. Asimismo, destaca la realización significativamente mayor del control del balón con la planta del pie, manejo del balón combinando diferentes superficies de contacto, pase con el interior del pie, conducción con el empeine del pie, regate combinando distintas superficies de contacto y tiro también con el empeine. Por último, resalta la realización significativamente mayor del control y pase desde campo propio y regate y tiro desde campo rival.

PALABRAS CLAVE: Fútbol sala. Fundamentos técnico-tácticos ofensivos. Superficies de contacto. Zonas del terreno de juego.

1. INTRODUCTION

The technical-tactical techniques are essential in collective sports, becoming more relevant when the game dimensions are reduced (Silva et al., 2014). In this context, futsal is characterised by high-intensity technical-tactical techniques with reduced periods of recovery (Castagna, D'ottavio, Granda and Barbero, 2009): fifteen seconds between two fast actions (Caetano et al., 2015). However, the researches carried out in this regard have focused mainly on some technical-tactical techniques with a specific ball (De Bortoli, A., De Bortoli, R. and Márquez, 2001, Camargo, Caniçali, De Bortoli, A. and De Bortoli , R., 2003, Amaral and Garganta, 2005, Juárez and Navarro, 2006, Barbieri and Gobbi, 2009, Lapresa, Álvarez, Arana, Garzón and Caballero, 2013, Vilar, Araújo, Davids, Correia and Esteves, 2013; Hakim, 2014, Mohammed, Shafizadeh and Platt, 2014, Vilar et al., 2014, Gómez and Moral and Lago-peñas, 2015, Corrêa et al., 2016, Naser and Ali, 2016, Sarmento et al., 2016), prioritising the shot, which, due to its importance in the final result of a game, has been the subject matter of study (De Bortoli, A. et al., 2001, Camargo et al., 2003, Juárez and Navarro, 2006, Barbieri and Gobbi , 2009, Lapresa et al., 2013, Vilar et al., 2013, Abdel-Hakim, 2014, Naser and Ali, 2016, Sarmento et al., 2016, Álvarez Medina, Murillo Lorente, García Felipe and Parra Artal, 2018). There are few studies related to the analysis of the game as a whole (Agras, Ferragut and Abraldes, 2016) and less related to the futsal (Palucci et al., 2016).

Thus, this study extends the analysis of the game in its entirety by incorporating the tactical interpretation of the technical offensive techniques with a futsal ball, becoming a breakthrough in the research of this sport modality. These techniques were defined in Lapresa et al. (2013): ball control, ball handling, pass, clearance/wrong pass, running with the ball, dribbling and shooting; as well as contact surfaces were determined: foot sole, instep, inside, heel, toe, combination of different contact surfaces, head and other contact surfaces - muscle, chest, shoulders and hands in the goalkeeper's case-. In this way, the aforementioned study concerning the statistical analysis and temporal patterns detected in the offensive sequences that ended in shooting by the Spanish futsal team is extended. Therefore, the aims of this research are as follows:

- Describe the technical-tactical offensive techniques most frequently used by the Spanish futsal team, as well as the contact surfaces with which they most frequently play and the playing field areas where each one of those techniques do most often start.

- Examine the associative relationship between the technical-tactical offensive ball techniques with respect to the following criteria: contact surfaces and commencement areas of each technical-tactical ball technique.

2. MATERIAL AND METHODS

In this study, we have used the observational methodology (Anguera, 1979), whose observational design is below, based on the one of Anguera, Blanco and Losada (2001) and Anguera, Blanco, Hernández Mendo and Losada (2011): nomothetic, multidimensional, intra-sessional and inter-sessional follow-up. It is an intersessional follow-up, as the behaviour of the Spanish futsal team during their participation in the 2010 European Futsal Cup is analysed. Likewise, it is an intra-sessional follow-up, since a frame-to-frame monitoring of the Spanish team is carried out during the offensive phase throughout the registration session: the match. It is idiographic, because the Spanish team participating in the championship is under study. And, it is a multidimensional design configured by the different criteria or dimensions of the created observation tool.

2.1. PARTICIPANTS

In this paper, we have analysed the offensive phase of the Spanish futsal team that participated in the European Championship of 2010. The observational sampling is made up of the five matches played by this team, which correspond to the maximum possible amount to become champion of the tournament. This study has been authorised by the Royal Spanish Football Federation, dated 9 October 2018.

2.2. TOOLS

The observation tool is a combination of field format and category systems, since the general approach of the criteria is the field format, but most of them

are broken down into a category system. This observation tool developed *ad hoc* for futsal (Lapresa et al., 2013) is mainly based on the SOF observation tool (Jonsson et al., 2006), which is specific to football. In addition, another reference is the observation system in football (SOF-4), created by Anguera et al. (2004), which corresponds to a more advanced version of SOF-1 (Anguera et al., 2003). In this regard, it should be noted that the criterion "Technical ball techniques" has been extended in relation to the "Ball contact" criterion of the SOF-4, since in the latter, four types of contacts are considered, while in this paper, they are extended to seven, which are specific to futsal from the existing theoretical framework. Likewise, the criterion "Contact surface" has been established as a category system (Lapresa et al., 2013).

Therefore, this specific instrument for futsal maintains the following criteria in relation to the SOF of Jonsson et al. (2006): match number, Commencement area of the action, End area of the action, Ball Contact, Interruptions, Interceptions and Shooting; taking always into account the tangible difference with respect to the criterion "Ball Contact". Thus, the tool is shown in Table 1 below, according to Lapresa et al. (2013). Additionally, image 1 shows the area distribution of the playing field reflected in the observation tool.

Table 1. Observation tool (criterion: Commencement area of the action: commencement area 10, CA10, commencement area 20, CA20; criterion: Technical ball techniques: ball control, CON, ball handling, HAN, pass, PAS, clearance/wrong pass, CLEAR, running with the ball, RUN, dribbling, DRIB, and shooting, SHOOT; and criterion: Contact surfaces: foot sole, CPL, foot instep, CEM, foot inside, CIN, foot heel, CTA, foot toe, CPU, combination of different contact surfaces, CCO, head, CAB, and other contact surfaces -muscle, chest, shoulders and hands in the case of the goalkeeper-, COT).

No.	Criteria	Categories
1	**Match number**	1; 2; 3; …n
2	**Commencement area of the action**	CA10; CA20; CA30; CA40; CA50; CA60; CA41; CA51; CA61; CA70; CA80; CA90
3	**End area of the action**	EA10; EA20; EA30; EA40; EA50; EA60; EA41; EA51; EA61; EA70; EA80; EA90
4	**Technical ball techniques**	CON; HAN; PAS; CLEAR; RUN; DRIB; OTHR
5	**Contact surfaces**	CPL; CEM; CIN; CEX; CTA; CPU; CCO; CAB; COT
6	**Interruptions**	FDFT; FDSN; FFSB; FFSE; FFSP; CDFT; CDSN; CFFB; CFSE; CFFF
7	**Interceptions**	P; R; IOC
8	**Shooting**	TG; TI; TM; TF; TP
9	**Time**	Real time, expressed in frames of 1/25 per second, from the beginning of each action
10	**Length**	Real time, expressed in frames, elapsed between the start of two consecutive actions

By Lapresa et al. (2013).

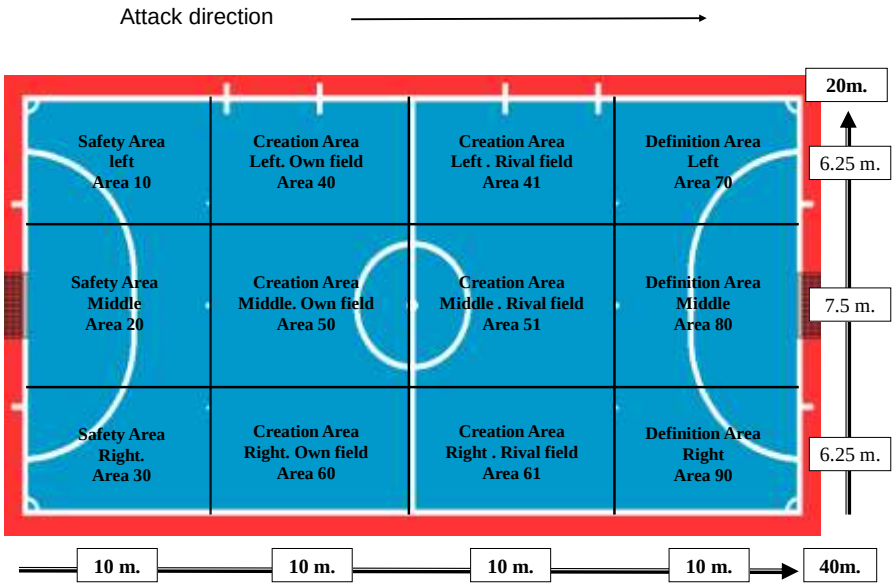

Image 1. Area distribution of the playing field (Lapresa et al., 2013).

Furthermore, to analyse the depth of the game, the playing field areas have been merged transversally to obtain four sectors -see Image 2-, by Arana, Lapresa, Garzón and Álvarez (2004):

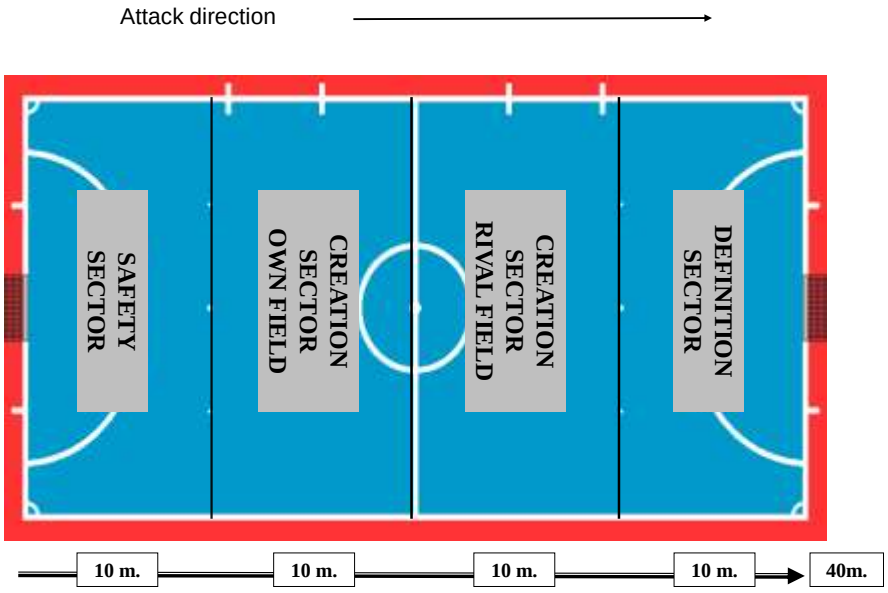

Image 2. Sector distribution of the playing field (Arana et al., 2004).

2.3. PROCEDURE

Initially, the five matches played by the Spanish futsal team have been recorded. Their observational sampling amounts to 536 plays and 2029 contacts with the ball, considering that each play is composed of a certain number of actions, which represent the smallest registered unit.

Consequently, as a registration tool, the ThemeCoder programme has been used. The names of each one of the criteria of the created observation tool have been introduced into it, as well as the codes related to the corresponding categories -Image 3-. According to Bakeman (1978), the type of data used have been time-based and concurrent, in other words, it was type IV.

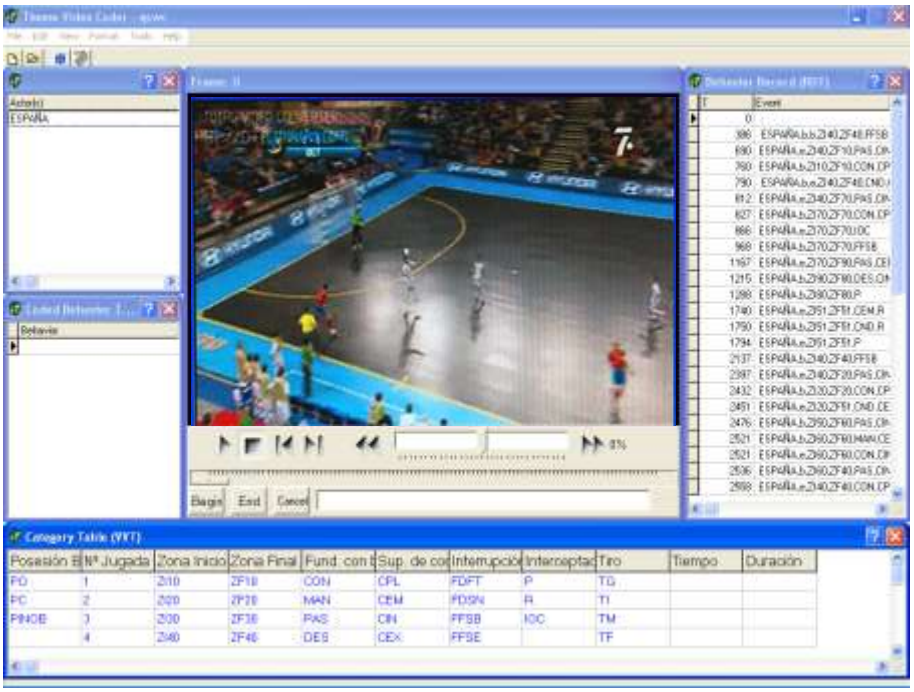

Image 3. Screenshot of the *ThemeCoder* registration tool (Own creation).

2.4. DATA QUALITY

This section is based on the theory of Generalizability, designed by Cronbach, Gleser, Nanda and Rajaratnam (1972). Two different designs have been made in the framework of the Generalised Linear Model, of which, we have selected the type III data, as the data have not been gathered in a random manner: one for the coincidence between observations and another for the assessment of the coefficient of generalizability concerning matches. In this regard, the sum of squares required has been obtained through the SPSS programme, version 23. Subsequently, the data has been entered into the Software *Generalizability Theory* (GT), of Ysewijn (1996).

2.4.1. CORRELATION OF THE OBSERVATIONS

Initially, it should be noted that an inter-subject correlation was used, which consisted of the first author of this paper and a second observer recording a game of the National Futsal League, season 2011/2012, for three minutes, and subsequently performing the same procedure, after the pertinent rest, but during five minutes, justifying therefore the training process of Anguera (2003). After this last session, the correlation between the two observations was corroborated by Cohen's Kappa coefficient (1960), validating this training process since 0.82 was obtained in the recording.

Regarding the first design of generalizability (Matches, Categories/Observers, PC/O), the analysis reflects a high correlation between both observers, since it is obtained an intraclass correlation coefficient (ICC) of 0.995, as observed in Lapresa et al. (2013).

2.4.2. GENERALIZABILITY OF RESULTS

Regarding the second design (Categories/Matches, C/P), from the analysis of the coefficients of generalizability carried out, a high reliability of generalization accuracy is observed: 0.983. In addition, 92% of the variability is associated with the categories aspect, while the one corresponding to the Matches is null and the one referring to the Categories/Matches interaction is relatively low: 8%. Thus, the high reliability aforementioned allows us to assess the consistency of the matches selected for this study, because if they had been very different from each other, it would not have been possible to configure the observational sampling that supports this research.

2.5. DATA ANALYSIS

In order to study all the technical ball techniques that are used in futsal, as well as the contact surfaces with which they are perform and the playing field areas in which each one of said techniques is implemented, two types of analysis have been made. The first one is descriptive statistics and the second one is the SPSS programme, version 23.0 in order to determine the associative relationship between categorical variables.

Likewise, to verify the existence of significant differences among the three categorical variables mentioned, different contingency tables have been used with the associated statistical comparison of Pearson's chi-square (χ^2), since the data are measured in nominal scale, according to Calvo (1985). The chi-square test is the proper nonparametric statistics to determine the dependence or independence between two nominal variables (González and Pérez de Vargas, 2009), as for instance, the technical ball techniques and contact surfaces.

3. RESULTS

In relation to the descriptive statistical analysis of the three criteria studied, table 1 shows the results corresponding to the criterion of technical ball techniques: a total of 2029 ball contacts have been registered, prevailing the pass with 753 contacts (37.1%), followed by ball control with 586 (28.9%) and shooting with 237 (11.7%). It should be highlighted that the two most registered technical ball techniques accounted for 66% of all contacts.

Regarding the criterion of contact surfaces -see table 2-, it should be noted that the foot instep has been the most used (n = 678) with an equivalent to 33.4% of the total, followed by the foot inside (n = 654).) with 32.2% and the foot sole (n = 608) with a 30%. It should be emphasised that the three contact surfaces constitute 95.6% of the total contacts.

Table 2. Frequency and percentage of the technical ball techniques and contact surfaces.

Technical ball techniques	CON	HAN	PAS	CLEAR	RUN	DRIB	SHOOT		Total
Frequency	586	226	753	8	196	23	237		2029
Percentage	28,9	11,1	37,1	0,4	9,7	1,1	11,7		100
Contact surfaces	**CPL**	**CEM**	**CIN**	**CTA**	**CPU**	**CCO**	**CAB**	**COT**	**Total**
Frequency	608	678	654	20	41	17	2	9	2029
Percentage	30,0	33,4	32,2	1,0	2,0	0,8	0,1	0,4	100

Technical ball techniques: ball control, CON; ball handling, HAN; pass, PAS; clearance/wrong pass, CLEAR; running with the ball, RUN; and dribbling, DRIB. Contact surfaces: foot sole, CPL, foot instep, CEM, foot inside, CIN, foot heel, CTA, foot toe, CPU, combination of different contact surfaces, CCO, head, CAB, and other contact surfaces -muscle, chest, shoulders and hands in the case of the goalkeeper-, COT.

Finally, as for the criterion of commencement area of the action, it is observed in table 3 that the commencement area where the most actions with the ball start is the 41 (n = 351) with 17.3% of the total of contacts, followed respectively by area 51 (n = 297) with 14.6%, area 61 (n = 296) with 14.6% and area 50 (n = 259) with 12.8%.

Table 3. Frequency and percentage of ball contacts according to the commencement area.

Commencement area	CA10	CA20	CA30	CA40	CA50	CA60	CA41	CA51	CA61	CA70	CA80	CA90	Total
Frequency	17	36	23	181	259	169	351	297	296	150	125	125	2029
Percentage	0.8	1.8	1.1	8.9	12.8	8.3	17.3	14.6	14.6	7.4	6.2	6.2	100

Commencement area of the action: commencement area 10, CA10; commencement area 20, CA20…

Therefore, the ball contacts are mainly carried out in a rival's field (n = 1344), representing 66.2% of the total of said contacts. In particular, those that started in the creation sector of the rival's field prevail, accounting for 46.5% of the total (n = 944), followed by the creation sector of the own field (n = 609) with 30.0% of the total, definition sector (n = 400) with 19.7% and safety sector (n = 76) with 3.7%.

Regarding the analysis of the associative relationship between categorical variables, it should be noted that two studies have been carried out. The first one links the categories related to the criteria of technical ball techniques and the area where the action starts. The other one is characterised by the relationship between the categories of the criteria of technical ball techniques and contact surfaces.

From the first study conducted -see table 4-, significant differences were obtained ($p < 0.005$) in the ball control and running with the ball from the own field and the dribbling and shooting from the rival's field.

Table 4. Chi-square test results and contingency table: Technical ball techniques and commencement field.

Technical ball techniques	Commencement field					
	Value	*P*	Gl	Own field	Rival field	Total
Ball control	21.886	0.000	1	35.5%	25.5%	28.9%
Running with the ball	6.328	0.012	1	12.0%	8.5%	9.7%
Dribbling	4.465	0.035	1	0.4%	1.5%	1.1%
Shooting	104.388	0.000	1	0.7%	15.4%	10.4%

Concerning the technical ball techniques and playing field sectors -see table 5-, there are significant differences (p <0.005) in the ball control from the safety sector, in the ball control, pass and running from the creation sector of the own field and in the dribbling and shooting from the definition sector.

Table 5. Chi-square test results and contingency table: Technical ball techniques and Commencement sector.

	Commencement sector														
	Safety sector					Creation sector own field					Definition sector				
	Value	*P*	Gl	Yes	No	Value	*P*	*Gl*	Yes	No	Value	*P*	*Gl*	Yes	No
CON	6.722	0.010	1	42.1%	28.4%	14.084	0.000	1	34.6%	26.4%					
PAS						6.277	0.012	1	41.2%	35.4%					
RUN						6.188	0.013	1	12.2%	9.7%					
DRIB											5.541	0.019	1	2.3%	0.9%
SHOOT											219.458	0.000	1	30.8%	5.5%

Technical ball techniques: ball control, CON; pass, PAS; running with the ball, RUN; and dribbling, DRIB.

And as for the technical ball techniques and the commencement areas of the action, the significant differences (p <0.005) found are as follows -see tables 6 and 7-: ball control from area 40; ball handling and running with the ball from area 41; pass and shooting from area 51; ball control from area 61; pass and shooting from area 70; shooting from area 80; and handling the ball and shooting from area 90.

Table 6. Chi-square test results and contingency table: Technical ball techniques and commencement area of the action (1).

	CON					HAN					PAS				
CA 40	**Value**	***P***	**Gl**	**Yes**	**No**										
	11.490	0.001	1	39.8 %	27.8 %										
CA 41						**Value**	***P***	**Gl**	**Yes**	**No**					
						11.157	0.001	1	16.2 %	10.1 %					
CA 51											**Value**	***P***	**Gl**	**Yes**	**NO**
											4.757	0.029	1	42.8 %	36.1 %
CA 61	**Value**	***P***	**Gl**	**Yes**	**No**										
	4.055	0.044	1	33.8 %	28.0 %										
CA 70											**Value**	***P***	**Gl**	**Yes**	**No**
											4.691	0.030	1	45.3 %	36.5 %
CA 80															
CA 90						**Valor**	***P***	**Gl**	**Yes**	**No**					
						8.746	0.003	1	19.2 %	10.6 %					

Technical ball techniques: ball control, CON; ball handling, HAN; and pass, PAS. Commencement area of the action: commencement area 40, CA40; commencement area 41, CA41…

Table 7. Chi-square test results and contingency table: Technical ball techniques and commencement area of the action (2).

	RUN					SHOOTING				
CA40										
CA41	**Value**	***P***	**Gl**	**Yes**	**No**					
	8.993	0.003	1	14.0%	8.8%					
CA51						**Value**	***P***	**Gl**	**Yes**	**No**
						13.610	0.000	1	16.5%	9.4%
CA61										
CA70						**Value**	***P***	**Gl**	**Yes**	**No**
						6.693	0.010	1	16.7%	10.0%
CA80						**Value**	***P***	**Gl**	**Yes**	**No**
						16.771	0.000	1	60.0%	7.2%
CA90						**Value**	***P***	**Gl**	**Yes**	**No**
						9.001	0.003	1	18.4%	9.9%

Technical ball techniques: running with the ball, RUN. Commencement area of the action: commencement area 40, CA40; commencement area 41, CA41…

On the other hand, from the second study carried out about the criteria of technical ball techniques and contact surfaces, the following significant differences were obtained (p <0.005): ball control and its significantly greater implementation with the foot sole; ball handling and its significantly greater execution with the foot instep and combining different contact surfaces; pass and its significantly greater execution with the foot inside and heel -table 8-; clearance/wrong pass and its significantly greater execution with the foot inside and heel; running with the ball and its significantly greater performance with the foot instep; dribbling and its significantly greater execution combining different contact surfaces -table 9-; and shooting and its implementation significantly greater with the foot instep, heel and toe -table 10-.

Table 8. Chi-square test results and contingency table: Technical ball techniques and contact surfaces (1).

	CON					HAN					PAS				
CPL	**Value**	***P***	**Gl**	**Yes**	**No**										
	1080.434	0.000	1	79.4%	7.2%										
CEM						**Value**	***P***	**Gl**	**Yes**	**No**					
						68.888	0.000	1	19.3%	7.0%					
CIN											**Value**	***P***	**Gl**	**Yes**	**No**
											901.032	0.000	1	83.8%	14.9%
CTA											**Value**	***P***	**Gl**	**Yes**	**No**
											9.361	0.002	1	70.0%	36.8%
CCO						**Value**	***P***	**Gl**	**Yes**	**No**					
						39.385	0.000	1	58.8%	10.7%					
COT	**Value**	***P***	**Gl**	**Yes**	**No**										
	6.284	0.012	1	66.7%	28.7%										

Technical ball techniques: ball control, CON; ball handling, HAN; and pass, PAS. Contact Surface: foot sole, CPL, foot instep, CEM, foot inside, CIN, foot heel, CTA, foot toe, CPU, combination of different contact surfaces, CCO, head, CAB, and other contact surfaces - muscle, chest, shoulders and hands in the case of the goalkeeper-, COT

Table 9. Chi-square test results and contingency table: Technical ball techniques and contact surfaces (2).

	CLEAR					RUN					DRIB				
CEM						Value	*P*	Gl	Yes	No					
						251.326	0.000	1	24.3%	2.3%					
CIN	Value	*P*	Gl	Yes	No										
	6.725	0.010	1	0.9%	0.1%										
CTA	Value	*P*	Gl	Yes	No										
	10.910	0.001	1	5.0%	0.3%										
CCO											Value	*P*	Gl	Yes	No
											178.508	0.000	1	35.3%	0.8%

Technical ball techniques: clear/wrong pass, CLEAR; running with the ball, RUN; and dribbling, DRIB. Contact surfaces: foot instep, CEM, foot inside, CIN, foot heel, CTA; and combination of different contact surfaces, CCO.

Table 10. Chi-square test results and contingency table: Technical ball techniques and contact surfaces (3).

	SHOOTING				
CEM	Value	*P*	Gl	Yes	No
	192.438	0.000	1	23.7%	3.8%
CTA	Value	*P*	Gl	Yes	No
	4.571	0.033	**1**	25.0%	10.3%
CPU	Value	*P*	Gl	Yes	No
	204.371	0.000	1	78.0%	9.1%

Contact surfaces: foot instep, CEM; foot heel, CTA; and foot toe, CPU.

4. DISCUSSION

The aims of this study are as follows: to describe the technical and tactical offensive techniques most frequently used by the Spanish futsal team, as well as the contact surfaces with which they are most frequently performed and the playing field areas where each of these techniques most frequently starts. Likewise, this study aims to examine the associative relationship between these techniques and the following criteria: contact surfaces and commencement areas of each technical-tactical ball technique.

As for the first objective of this study, it should be noted that the pass and control, respectively, are the most used technical-tactical techniques, followed by the shooting and the ball handling, while the dribbling is the least used, since the interpersonal distance and the pass and throw angles of the Spanish team players reduced the odds of dribbling, according to Corrêa et al. (2016). In addition, it is verified that the ball control and its handling are essential in the offensive phase. These results are in line with Gómez et al. (2015) and Álvarez

Medina et al. (2018) concerning the pass, given that the first ones detect that the effectiveness is related to the plays with more than 4 passes, while the second ones verify that around 24.5% of the goals are produced after 3-4 passes and more than 80% of the goals are scored after 1-2 previous passes. However, it contrasts with Mohammed et al. (2014) in the use of dribbling, as they claim that it is one of the performance predictors together with the pass and the shooting.

In terms of contact surfaces, the use of the foot instep, inside and sole, followed by the foot toe, clearly predominates. Thus, the specificity in the use of the foot sole and toe in futsal is verified, being the latter subject matter of study in the double penalty shot (Zabala, García, Lozano, J., Lozano, l. y Soto, 2006). In this regard, it is worth mentioning that in the shooting towards the opposite goal, the foot inside, instep and toe have been effective (Alvarez, Puente, Manero and Manonelles, 2004, Lapresa et al., 2013, Álvarez Medina et al., 2018). In contrast, the majority use of the foot instep to carry out any technical-tactical ball techniques is partially in line with Álvarez Medina et al. (2018), since they claim that this contact surface has been the most used in the shots that ended in goal from any playing field area.

With regard to the commencement area of each technical-tactical offensive technique, the creation sectors of the rival's field and the creation sectors of the own field predominate, respectively, followed by the definition sector and a lower frequency in the safety sector, proving thus the depth of the Spanish selection. Specifically, the most significant execution of the ball control and running with the ball from one's own field, as well as passing and running with the ball from the creation sector of the own field and dribbling and shooting from the rival's field -also from the definition sector- shows the initial need to control, pass and running with the ball to progress towards the opposite goal. Meanwhile, by approaching it, the dribbling and shooting are decisive for the attainment of the goal, according to Mohammed et al. (2014). Likewise, it highlights the greater significant implementation of the pass from areas 51 and 70, which, on the one hand, shows its use from the offensive middle area next to the opposing goal and, on the other hand, it suggests a greater space in the lateral area, perhaps due to the presence of some defence, besides the goalkeeper, in the middle area, where the opposing goal is located. The most significant execution of the ball handling start in the lateral areas 41 and 90 allude amplitude, depth and need to appease, protect the ball in the presence of opponents and/or await the movement of the teammates for a possible pass. Finally, the greater significant presence of the shooting from the middle areas 51 and 80 reflects the predominance of the centrality to make the shots, as it was also indicated by Álvarez et al. (2004) and Álvarez Medina et al. (2018), despite the fact that the lateral areas next to the opposite goal - areas 70 and 90 - are also susceptible to this technical-tactical technique.

With regards to the contact surfaces used in each technical-tactical technique, the significantly greater implementation of the ball control with the foot sole stands out. There is no other scientific evidence in this regard, although the literature points out the specificity of controlling the ball with the foot sole in futsal (Sampedro, 1996). On the other hand, the significantly greater execution

of the ball handling with the foot instep and combining different contact surfaces is crucial to keep possession of the ball and to enable the performance of another technical-tactical action. As for the pass and its greater presence with the foot inside, although there is no similar research, Igea (2001) indicates that the accuracy over the ball is greater. In addition, another effectiveness and accuracy indicator of the Spanish team is the lower use of the clearance/wrong pass. This also confirms that its significantly greater performance occurs with the foot inside and heel. In terms of running with the ball, it noticeably stands out its implementation with the foot instep, which may be due to the more favourable angulation of the ankle and hip joints compared to the foot inside and sole. This result also lacks other scientific studies. Finally, the greater significant presence of the dribbling combining different contact surfaces agrees with Moreno et al. (1997), alluding this combination as necessary to deceive and overcome the opponent.

Lastly, the significantly greater execution of the shooting with the foot instep, toe and heel should be underlined, being the first two contact surfaces under study concerning the shooting from the double penalty (Zabala et al., 2006), while the foot heel was necessary in areas near the opposite goal. Álvarez Medina et al. (2018) also agrees with the use of the foot instep, since almost all the goals of the 2013-2014 season are achieved with this contact surface.

5. CONCLUSIONS

It is possible to claim that the objectives established in the Introduction have been achieved by having described, on the one hand, all the technical-tactical offensive ball techniques more frequently used by the Spanish team, as well as the contact surfaces with which these techniques are most frequently carried out and also the playing field areas where each one of these techniques starts with more assiduity. On the other hand, the associative relationship between all the technical-tactical offensive ball techniques have been examined with respect to the contact surfaces with which these techniques are carried out and the playing field areas in which each one of the mentioned techniques starts. Thus, thanks to the most awarded team in Europe and second at worldwide level, it has been possible to delve into the technical-tactical offensive knowledge with a futsal ball. This has made possible the constitution of a referential model for all levels of this sport modality.

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