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ORIGINAL

IS DRIBBLING IN THE U-12 CATEGORY OF SOCCER PLAYERS A DETERMINING FACTOR IN COMPETITION?

¿ES DETERMINANTE LA MODALIDAD DE COMPETICIÓN EN LA ACCIÓN DE REGATE EN FUTBOLISTAS SUB12?

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ABSTRACT

The aim of this study was to analyse the influence of the modalities of the game applied against the competition in the beginner category focusing on dribbling. We analyzed 18 matches, 6 by category, registering 785 dribbles. The dependent variables were carried out (RT), earned (RG) and lost (RP). They were registered according to areas of the field: lateral corridors (PLD + PLI) and central (PC); defensive (SD), defensive medium (SMD), offensive medium (SMO) and offensive (SO). In Soccer-11 (F11) the number of RG was significantly higher ($p < 0.05$) than in Soccer-7 (F7). The RT and RG performed in PLI + PLD in F11 were significantly higher ($p < 0.05$) than in F7. The intramodality analysis showed that in Soccer-8 (F8) and F11, RT was

significantly higher ($p < 0.01$) in PLD + PLI than in PC, and there was lower ($p < 0.01$) in SD than in SMD and SO. The size of the pitch has an influence over number of dribbles among players of U12 category.

KEY WORDS: Soccer-7, Soccer-8, Soccer-11, player U12, technique, dribble.

RESUMEN

El objetivo fue analizar la influencia de las modalidades de juego aplicadas a la competición en categoría sub-12 sobre el regate. Se analizaron 18 partidos, 6 por modalidad, registrando 785 regates. Las variables dependientes fueron regates realizados (RT), ganados (RG) y perdidos (RP). Se registraron en función a zonas del campo: pasillos laterales (PLD+PLI) y central (PC); sector defensivo (SD), medio defensivo (SMD), medio ofensivo (SMO) y ofensivo (SO). En fútbol 11 (F11) el número de RG fue significativamente mayor ($p < 0,05$) que en Fútbol 7 (F7). Los RT y RG realizados en PLI+PLD fueron mayores ($p < 0,05$) en F11 que F7. Además en fútbol 8 (F8) y F11 el RT era mayor ($p < 0,01$) en PLD+PLI que en PC, también era menor ($p < 0,01$) en SD que en SMD y SO. La dimensión del terreno de juego es determinante en la acción técnica del regate en jugadores de categoría sub-12.

PALABRAS CLAVE: fútbol 7, fútbol 8, fútbol 11, jugador sub12, técnica, regate.

1 INTRODUCTION

The player's performance is the product of the interaction of multiple variables (Reilly, Bangsbo & Franks, 2000). Some studies have indicated that success in competition depends on a reciprocal combination of physical abilities, perceptive-decisional faculties and the ability to execute techniques in a rapidly changing environment (Lee, Whitehead & Ntoumanis, 2007; Nevill, Atkinson & Hughes, 2008, Bradley, Lago-Peñas, Rey & Gómez-Díaz, 2013). Currently, coaches attach great importance to tactical aspects (Slimani et al., 2016), regarding physical condition and control of the ball as reinforcements in this performance area (Barreira, Garganta, Castellano & Anguera, 2014).

The evolution of the systems of the game along with the modifications related to its regulation have made it necessary for players to increase the number of actions that they execute at a high level of intensity (Bush, Barnes, Archer, Hogg & Bradley, 2015) and to control the ball with enough mastery to maintain control of the game as long as possible (Bradley et al., 2013). Perhaps this is the reason that practicing certain actions like dribbling throughout the training process should be established as fundamental requirements for developing talent among young players (Huijgen, Elferink-Gemser, Post & Visscher, 2009), though it has been noted that as the players mature, their technique improves (Gil, Gil, Ruiz, Irazusta & Irazusta, 2007). Dribbling seems to be very important in the game (Reilly, Williams, Nevill & Franks, 2000). Having players with this ability represents an important resource towards the efficiency of collective behavior, generating a lot of uncertainty, and eliciting the dismantling of the

rival's best defensive game plans (Castellano, Perea & Hernández-Mendo, 2008). The ability to move at high speed and dribble around rival players could be considered one of the most important tools when it comes to provoking high-risk behaviors from the rival team (Ali, 2011), and for that reason the best players can be distinguished by their capacity to maintain high-intensity actions without losing effectiveness in one-on-one matchups. (Malina et al., 2005; Vaeyens et al., 2006).

Although traditionally the technique was related to the mastery of universal movement patterns, the dynamic and changing nature that characterizes sports such as soccer point out the importance of making it flexible (Bloomfield, Polman, O'Donoghue & McNaughton, 2007). For this reason, far from causing automation, techniques such as dribbling should be developed via the application of stimuli that strengthen their cognitive dimension (Aquino et al., 2016), building contexts in which the execution is directly related to the variability (García, Menayo, Sánchez-Sánchez, 2015). To achieve this, small-sided games (SSGs) have been considered to be an ideal and highly specific tool for improving aspects of the game (Ford, Yates & Williams, 2010). SSGs have the ability to replicate the physical, tactical and technical demands associated with competition (Little, 2009). With regards to technique, a common suggestion has been to employ tasks which require a smaller number of players as it is more effective in enhancing this particular skill (Jones & Drust, 2007, Katis & Kellis, 2009). However, this circumstance could not be confirmed in other studies that did not observe differences in the frequency of passing, dribbling or driving (Abrantes, Nunes, Maçãs, Leite & Sampaio, 2012), or of tackles, interceptions and dribbles (Febré, Ríos, Casamichana, Gómez, Ríos & Tamayo, 2015) by reducing the number of players.

Although the analysis of training tasks and their influence on technical demand is important, in grassroots soccer it is also interesting to analyze the influence of competition itself on performance factors (Lapresa, Arana, Garzón, Egüen & Amatria, 2010). In the U8 category, when comparing Soccer-3 (F3) and Soccer-5 (F5), the number of techniques employed was highest in F3 (Lapresa et al., 2010). Amatria (2015) states that in the U10 category Soccer-7 players (F7) executed a greater number of techniques and with greater success than players in the Soccer-8 (F8) category. These differences can be illustrated by the Interaction Individual Space (IIS) existing in each category (Katis & Kellis, 2009, Owen, Twist & Ford, 2004). The IIS is related to the theoretical playing surface that corresponds to each player (Casamichana & Castellano, 2010). At a lower IIS, the difficulty of executing techniques increases, which thereby determines the type of skills executed and their effectiveness (Sanchez-Sanchez et al., N.d).

The aim of this study was to analyze the influence of the game modalities applied to the competition in U12 category on the technique of dribbling. As a hypothesis, we have indicated that the number of dribbles and their efficiency will be greater in the modalities with fewer players.

2 METHOD

2.1 SAMPLE

The study sample was made up of 785 dribbling actions, which were registered via analysis of 18 U12 matches corresponding to each competition modality (F7, n = 6, F8, n = 6, F11, n = 6). The matches were selected according to the following inclusion criteria: the matches had to be played by teams with players in the last year of the U12 category; the matches had to be part of the highest available ranking U12 competition in each reference Federation. The F7 matches analyzed were organized by the Federation of Castilla y León, those of F8 by the Asturian Football Federation, and those of F11 by the Madrid Football Federation. The study was approved by the technical departments of the participating clubs. Before filming the matches, the parents or guardians of the players signed the appropriate consent forms in which the objectives, benefits, rights and obligations associated with the players' participation were explained in detail, albeit briefly. The design was carried out in full compliance with the Declaration of Helsinki.

2.2 PROCEDURE

This is an observational study based on the video recording of U12 games, which were played under different competition modalities. The filming of the matches was made on the playing field itself. A video camera was used for this purpose (Panasonic HC-V700, Panasonic®, Osaka, Japan) located about 10 meters from the play area, and at a height of about 7 meters (Sanchez-Sanchez, Carretero, Assante, Casamichana & Los Arcos, 2015). Once the games had been recorded and downloaded, they were analyzed by an expert observer using the LINCE v 1.1 program. (Gabin, Camerino, Anguera & Castañer, 2012). Prior to the data collection, the observer completed 5 practice / learning sessions in order to familiarize themselves with the tool, as well as with the dependent variable being analyzed. Subsequently, the intra-observer reliability was checked by comparing the data from 2 analysis sessions, completed fifteen days apart, using the same F7 match (Casamichana & Castellano, 2009). The results proved to be highly reliable with an agreement percentage of 95%.

Due to the diversity of situations and actions that can be observed in soccer, provisional tools were needed (Anguera & Hernández-Mendo, 2013). Thereby, an observation instrument was built which included keypads for registering variables. These keypads had buttons which referenced each of the dependant variables, being: the number of total dribbles (RT), dribbles that won (RG) and dribbles that lost (RP) in each F7, F8 and F11 match with respect to different areas of the field (independent variable). A dribble is considered to be a technique consisting of a relatively complex feint which is made prior to the attack of a rival player (González-Víllora, 2010). In this work, RG was interpreted as that in which the player in possession of the ball is able to overtake the opponent while still maintaining possession. RP, on the other

hand, was considered to be that in which the attacking player is not able to overtake the opponent, and in this manner lost possession of the ball.

The dependent variables were recorded according to the different competition modalities used in the U12 category in Spain. These modalities present their own regulations, as described in Table 1 (IFAB, 2016).

Table 1. Game rules of the competition modalities analyzed.

Rule	F7	F8	F11
Playing field	50-65 x 30-45 m.		90-120 x 45-90 m.
The ball	62-66 cm. Size 4.		68-70 cm. Size 5.
Number of players	7 per team 14 in all.	8 per team. 16 in all.	11 per team. 22 in all.
Out of bounds	From the 12-meter line in the direction of attack.		Starting from the midfield line in the direction of the attack.
Substitutions	Unlimited You can leave and re-enter as often as you want.		5 substitutions. The substituted player cannot re-enter.
Size of the goal	6 x 2 m		7,32 x 2,44 m

Note: F7 = Soccer-7; F8 = Soccer-8; Soccer-11 = F11; m = meters. cm = centimeters

In addition, the number of dribbles was counted depending on the area of the field (Castelo, 1999). For this, a fieldgram was used that determined 3 vertical sub-spaces or corridors (Figure 1A): right lateral corridor (PLD, F7 and F8 = 12x60 = 720 m², F11 = 20x100 = 2,000 m²); central corridor (PC; F7 and F8 = 24x60 = 1,440 m²; F11 = 40x100 = 4,000 m²); left lateral corridor (PLI, F7 and F8 = 12x60 = 720 m², F11 = 20x100 = 2,000 m²). To analyze the results, the dribbles performed in the PC and lateral corridor (PLD + PLI) were observed. Another field was also used to divide the playing field into 4 horizontal spaces or sectors (Figure 1B): defensive sector (SD: F7 and F8 = 15x48 = 720 m², F11 = 25x80 = 2,000 m²), medium defensive sector (SMD, F7 and F8 = 15x48 = 720 m², F11 = 25x80 = 2,000 m²), medium offensive sector (SMO, F7 and F8 = 15x48 = 720m², F11 = 25x80 = 2,000 m²) and offensive sector (SO; F7 and F8 = 15x48 = 720 m²; F11 = 25x80 = 2,000 m²).

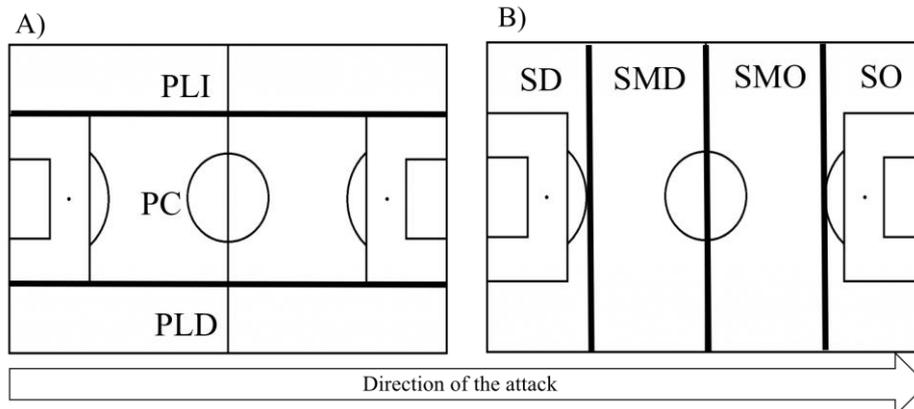


Figure 1. Campograms that divide the playing field into corridors (A) and sectors (B).

Note: PLD = Right Lateral Corridor; PC = Central Corridor; PLI = Left Lateral Corridor; SD = Defensive Sector. SMD = Medium Defensive Sector. SMO = Medium Offensive Sector. SO = Offensive Sector.

2.3 STATISTICAL ANALYSES

The results are presented as standard median deviation (SD). The study of the variables showed a normal distribution according to the Shapiro-Wilk test. The one-way ANOVA test was used to analyze the difference between variables according to the type of game modality, using Tukey's *post hoc* tests. To compare the number of RTs performed in each category according to the corridor where they are produced (PLI + PLD vs PC), Student's t-test for related samples was used. A significant difference between variables was considered when $p < 0.05$ in all the analyses. In addition, the effect size (ES) was assessed through the Cohen d test (Cohen, 1988). The value of d was < 0.1 (very small), 0.1 to < 0.2 (small), 0.2 to < 0.5 (moderate), 0.5 to < 0.8 (large) and ≥ 0.8 (very large). The SPSS program for Windows v. 20.0 (SPSS, Inc., Chicago IL.) was used to perform the statistical analysis.

3 RESULTS

There were no significant differences in RTs according to the competition modality (Figure 2). However, ES showed a large difference in F11 vs. F7 (ES = 1.21) and F8 vs. F7 (ES = 1.17). In F11 the number of RG was significantly higher ($p < 0.05$) than in F7. While no RP differences were observed among competition models, all of the RP modalities garnered lower values than those of the RG (RP $<$ RG: $p < 0.05$ in F7, $p < 0.01$ in F8 and F11).

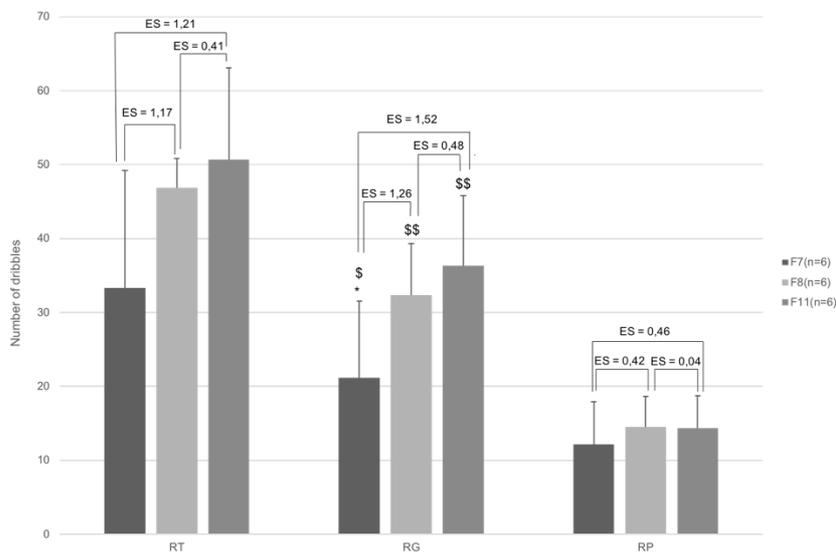


Figure 2. Number of dribbles performed according to the competition modality.

Note: ES = Effect Size; n = number of matches analyzed; F7 = Soccer-7; F8 = Soccer-8; F11 = Soccer-11; RT = Total Dribbles; RG = Dribbles that Won; RP = Dribbles that Lost.

* = Indicates significant differences with F11 ($p < 0.05$); \$ and \$\$ = Indicate significant differences with RP ($p < 0.05$ and $p < 0.01$, respectively).

According to Figure 3, the RG variable was greater than the RP in both F7 ($p < 0.05$), F8 and F11 ($p < 0.01$). On the other hand, the RT and RG performed in PLI + PLD in F11 were significantly higher ($p < 0.05$) than in F7. In F8 the

variable RT was higher ($p < 0.05$) than in F7. Regardless of the competition modality, more RG than RP were produced in PLI + PLD ($p < 0.05$ in F7 and F8, $p < 0.01$ in F11). The intramodality analysis showed that in F8 and F11 the variable RT was significantly higher ($p < 0.01$) in PLD + PLI than in PC.

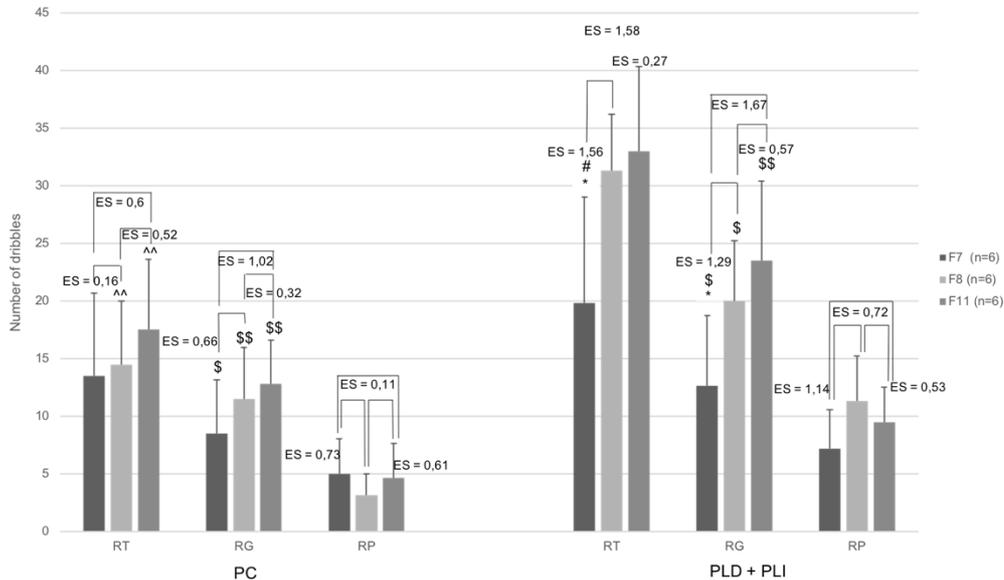


Figure 3. Number of dribbles performed in each corridor in each competition modality.

Note: ES = Effect Size; n = number of matches analyzed; F7 = Soccer-7; F8 = Soccer-8; Soccer-11 = F11; RT = Total Dribbles; RG = Dribbles which won; RP = Dribbles that Lost; PC = Central Corridor; PLD + PLI = Right Lateral Corridor plus Left Lateral Corridor. * = Indicates significant differences from F11 ($p < 0.05$); # = Indicates significant differences from F8 ($p < 0.05$). \$ and \$\$ = Indicate significant differences from RP ($p < 0.05$ and $p < 0.01$, respectively); ^^ = Indicates differences from PLD + PLI ($p < 0.01$).

The analysis by sector determined that in SMO the variables RT and RG were higher ($p < 0.05$) in F11 than in F7 (Table 2). Although without statistically significant values, in SMD there was a *very large* difference between F11 and F7 in RT (ES = 1.17, 13.67 ± 2.80 vs 7.67 ± 6.68) and RG (ES = 1.51; 10.67 ± 3.44 vs 5.00 ± 4.0). The intramodality analysis showed that in all modalities RT was significantly smaller ($p < 0.01$) in SD and SMS than in SMO. In F8 and F11 the variable RT was lower ($p < 0.01$) in SD than in SMD and in SO. In this last sector, there were also fewer dribbles ($p < 0.01$) than there were in in SMO.

Table 2. Number of dribbles carried out by sector in each competition modality.

		F7 (n=6)	F8 (n=6)	F11 (n=6)	ES ^a	ES ^b	ES ^c
SD	RT	0,83±1,17 [§]	0,83±1,17 ^{§#^}	0,17±0,41 ^{§#^}	0	0,62	0,62
	RG	0,83±1,17	0,83±1,17	0,00	0	1,01	1,01
	RP	0,00	0,00	0,17±0,41	-	0,58	0,58
SMD	RT	7,67±6,68 [§]	11,00±4,60 [§]	13,67±2,80 [§]	0,58	1,17	0,7
	RG	5,00±4,05	8,00±4,47	10,67±3,44	0,7	1,51	0,67
	RP	2,67±2,94	3,00±2,10	3,00±1,26	0,13	0,15	0
SMO	RT	17,33±9,35 [*]	27,17±3,06 [^]	28,83±8,68 [^]	1,41	1,27	0,26
	RG	11,17±5,60 [*]	18,50±2,81	20,50±5,89	1,66	1,62	0,43
	RP	6,17±4,26	8,67±3,39	8,33±4,23	0,65	0,51	0,09
SO	RT	8,00±5,90	7,83±1,83	7,83±1,83	0,04	0,03	0
	RG	5,33±4,63	5,17±2,79	5,00±3,35	0,04	0,08	0,05
	RP	2,67±1,86	2,67±1,86	2,83±1,72	0	0,09	0,1

Note: n = number of matches analyzed; F7 = Soccer-7; F8 = Soccer-8; Soccer-11 = F11; ES^a = Effect size F7 vs F8; ES^b = Effect size F7 vs F11; ES^c = Effect size F8 vs F11; RT = Total Dribbles; RG = Dribbles that Won; RP = Dribbles that Lost; SD = Defensive Sector; SMD = Medium Defensive Sector; SMO = Medium Offensive Sector; SO = Offensive Sector; * = Indicates significant differences from F11 (p <0.05); # = Indicates significant differences from SMD (p <0.01); § = Indicates significant differences from SMO (p <0.01); ^ = Indicates significant differences from SO (p <0.01).

4 DISCUSSION

The aim of this study was to analyze the influence of the game modalities applied to the competition in U12 category, in regards to the technique of dribbling. The results showed an increase of RT in F8 in relation to F7. A greater density of players in F8 than in F7 increases the difficulty of finding space and can influence the type of player involvement (Lapresa, Álvarez, Anguera, Arana & Garzón, 2015). Some studies have observed that the smaller the IIS, the greater the number of dribbles performed (Febré et al., 2015; Katis & Kellis, 2009; Owen, Twist & Ford, 2004, Platt, Maxwell, Horn, Williams & Reilly, 2001). The player may have difficulty finding passing lines, and may have to resort to individual techniques such as dribbling (Sanchez-Sanchez et al., N.d).

On the other hand, our study also demonstrates that the higher IIS of F11 promotes more dribbling, showing a very large difference from F7. This is contrary to that which was obtained in previous studies which recorded more dribbles in the modalities with less IIS (Capranica, Tessitore, Guidetti & Figura, 2001, Arana, Lapresa, Garzón, & Álvarez, 2004). An increased IIS in F11 (300m² / player), compared to F7 (183.5 m² / player) and F8 (157 m² / player) (IFAB, 2016) can cause changes in the collective organization. In F11 the players may find themselves to be very spread out over the field, with fewer teammates and adversaries surrounding the one who has possession of the ball. This would encourage individual actions such as dribbling, owing to the fact

that, on one hand the collective offensive game via passing is limited (Sanchez-Sanchez et al., N.d.). In addition, our results show that this action is highly effective, due to the differences in RG between F11 and F7. The dimensions of the pitch in F11 make it difficult for the defending team to carry out defensive assistance, which could result in the action being more successful.

Regardless of the modality practiced, in this category players perform a greater number of RG than RP. However, work done with U8 and U10 players in the F5 and F7 modalities (Lapresa, Amatria, Egüen, Arana & Garzón, 2008) or in SSGs 2 vs 2 (Vera, Pino, Romero & Moreno, 2007), brought about the opposite result. In order to make comparisons between the different studies, it would be necessary to take the players' technical levels into account.

In regards to the data obtained via the corridors, we observed that in PLD + PLI the number of RT in F11 and F8 is greater than in F7. Also in F8 and F11 the RT variable was greater in PLD + PLI than in PC. Regarding the sectors, in the SMD and SMO the RT variable is higher in F11 and F8 than in F7. In all the modalities SD was the sector in which the least amount of dribbling occurred. There are no studies that analyze the influence that the areas of the field have on the implementation of techniques such as dribbling, but our results could be explained by the difficulty players of these ages have in mastering the space, in regards to both length and width of the pitch (Lapresa, Arana, Ugarte & Garzon, 2009). A certain basic technical-tactical behavior is revealed in the dribbling records in F8 and F11 that is not observed in F7. The existence of more dribbling actions in the lateral zones of the field within these modalities, can succeed in adding depth in the game. Although it has not been analyzed in our study, we could think that the characteristics of F7 would make this tactical behavior more successful not due to dribbling, but rather due to the collective efforts. In all game modes, dribbling is done in those sectors which are far from the goal (SO and SMO) since the player knows that doing it close to the goal poses a risk. The player must know how to perform this technical action correctly and have the capacity to make good decisions regarding the area of the field where he executes it, as indicated by the relationship between RG and RP obtained in the study.

5 CONCLUSIONS

The dimension of the game space where the competition takes place in the U12 category determines the number of dribbles performed. Regardless of the modality, there have always been more dribbles won than lost. In all the modalities, the smallest amount of dribbling is done in the defensive sector.

6 REFERENCES

Abrantes, C., Nunes, M., Maçãs, V., Leite, N., & Sampaio, J. (2012). Effects of the number of players and game type constraints on heart rate, rating of perceived exertion, and techniques of small-sided soccer games. *The Journal of Strength & Conditioning Research*, 26(4), 976-981.

- Ali, A. (2011). Measuring soccer skill performance: A review. *Scandinavian Journal of Medicine and Science in Sports*, 21(2), 170-183.
- Amatria, M. (2015). *Análisis observacional del desempeño técnico-táctico en la fase ofensiva de las modalidades de fútbol sala, fútbol 7 y fútbol 8, en categoría benjamín*. (Tesis Doctoral Inédita). Universidad de la Rioja.
- Anguera, M. T., & Hernández-Mendo, A. (2013). Observational methodology in sport sciences. *Journal of Sports Science*, 9(3), 135–160.
- Aquino, R., Cruz, L., Palucci, L., Oliveira, L., Alves, G., Pereira, P., & Puggina, E. (2016). Periodization Training Focused on Technical-Tactical Ability in Young Soccer Players Positively Affects Biochemical Markers and Game Performance. *Journal of Strength and Conditioning Research*, 30(10), 2723–2732.
- Arana, J., Lapresa, D., Garzón, B., & Álvarez, A. (2004). La alternativa del fútbol 9 para el primer año de la categoría infantil. Universidad de La Rioja, Logroño.
- Barreira, D., Garganta, J., Castellano, J., & Anguera, M. T. (2014). Evolución del ataque en el fútbol de élite entre 1982 y 2010: Aplicación del análisis secuencial de retardos. *Revista de Psicología Del Deporte*, 23,139–146.
- Bloomfield, J., Polman, R., O'Donoghue, P., & McNaughton, L. (2007). Effective speed and agility conditioning methodology for random intermittent dynamic type sports. *Journal of Strength & Conditioning Research*, 21(4), 1093–1100.
- Bradley, P. S., Lago-Peñas, C., Rey, E., & Gomez-Diaz, A. (2013). The effect of high and low percentage ball possession on physical and technical profiles in English FA Premier League soccer matches. *Journal of Sports Sciences*, 31(12), 1261–1270.
- Bush, M., Barnes, C., Archer, D. T., Hogg, B., & Bradley, P. S. (2015). Evolution of match performance parameters for various playing positions in the English Premier League. *Human Movement Science*, 39, 1–11.
- Capranica, L., Tessitore, A., Guidetti, L., & Figura, F. (2001). Heart rate and match analysis in pre-pubescent soccer players. *Journal of Sports Sciences*, 19(6), 379-384.
- Casamichana, D., & Castellano, J. (2009). Análisis de los diferentes espacios individuales de interacción y los efectos en las conductas motrices de los jugadores: aplicaciones al entrenamiento en futbol. *Motricidad. European Journal of Human Movement*, 23, 143–167.
- Casamichana, D., & Castellano, J. (2010). Time-motion, heart rate, perceptual and motor behaviour demands in small-sides soccer games: Effects of pitch size. *Journal of Sports Sciences*, 28(14), 1615–1623.
- Castelo, J. (1999). *Fútbol: Estructura y dinámica del juego*. Barcelona: Inde.
- Castellano, J., Perea, A., & Hernández-Mendo, A. (2008). Análisis de la evolución del fútbol a lo largo de los mundiales. *Psicothema*, 20(4), 928–932.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Earlbaum Associates.
- Febré, R., Ríos, L. J. C., Casamichana, D., Gómez, D. C., Ríos, I. C., & Tamayo, I. M. (2015). Influencia de la densidad de jugadores sobre la frecuencia cardíaca y respuestas técnicas en jóvenes jugadores de fútbol. *RICYDE: Revista Internacional de Ciencias Del Deporte*, 11(41), 226–244.

- Ford, P., Yates, I. & Williams, A. M. (2010). An analysis of practice activities and instructional behaviours used by youth soccer coaches during practice: Exploring the link between science and application. *Journal of Sports Sciences*, 28(5), 483-495.
- Gabin, B., Camerino, O., Anguera, M. T. & Castañer, M. (2012). Lince: multiplatform sport analysis software. *Procedia-Social and Behavioral Sciences*, 46, 4692-4694.
- García, J.A., Menayo, R. & Sanchez-Sanchez, J. (2015) Efectos de la práctica variable sobre el golpeo a portería en fútbol. *Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte*, 15(60), 438-445.
- Gil, S. M., Gil, J., Ruiz, F., Irazusta, A., & Irazusta, J. (2007). Physiological and anthropometric characteristics of young soccer players according to their playing position: relevance for the selection process. *Journal of Strength and Conditioning Research*, 21(2), 438–445.
- González-Víllora, S. (2010). *Estudio de las etapas de formación del joven deportista desde el desarrollo de la capacidad táctica. Aplicación al fútbol*. Tesis Doctoral publicada. Cambridge (Reino Unido). Editorial Proquest.
- Huijgen, B. C. H., Elferink-Gemser, M. T., Post, W. J., & Visscher, C. (2009). Soccer skill development in professionals. *International Journal of Sports Medicine*, 30(8), 585–591.
- IFAB. (2016). Reglas del Juego 2016/2017. Zúrich: FIFA.
- Jones, S., & Drust, B. (2007). Physiological and technical demands of 4 v 4 and 8 v 8 games in elite youth soccer players. *Kinesiology*, 39(2), 150-156.
- Katis, A. & Kellis, E. (2009). Effects of small-sided games on physical conditioning and performance in young soccer players. *Journal of sports science and medicine*, 8(3), 374-380.
- Lapresa, D., Amatria, M., Egüen, R., Arana, J. & Garzón, B. (2008). Análisis descriptivo y secuencial de la fase ofensiva del fútbol 5 en la categoría prebejamin. *Cultura, Ciencia y Deporte*, 3(8), 107-116.
- Lapresa, D., Arana, J., Ugarte, J. y Garzón, B. (2009). Análisis comparativo de la acción ofensiva en F-7 y F-8, en la categoría alevín. *Retos. Nuevas Tendencias En Educación Física, Deporte Y Recreación*, 2041(16), 99–103.
- Lapresa, D., Arana, J., Garzón, B., Egüen, R., & Amatria, M. (2010). Adaptando la competición en la iniciación al fútbol : estudio comparativo de las modalidades de fútbol 3 y fútbol 5 en categoría prebenjamín. *Apunts. Educación Física y Deportes*, 101, 43–56.
- Lapresa, D., Álvarez, I., Anguera, M. T., Arana, J., & Garzón, B. (2015). Comparative analysis of the use of space in 7-a-side and 8-a-side soccer: How to determine minimum sample size in observational methodology. *Motricidade*, 11(4), 92–103.
- Lee, M. J., Whitehead, J., & Ntoumanis, N. (2007). Development of the attitudes to moral decision-making in youth sport questionnaire (AMDYSQ). *Psychol*, 369–392.
- Little, T. (2009). Optimizing the use of soccer drills for physiological development. *Strength & Conditioning Journal*, 31(3), 67-74.
- Malina, R. M., Cumming, S. P., Kontos, A. P., Eisenmann, J. C., Ribeiro, B., & Aroso, J. (2005). Maturity-associated variation in sport-specific skills of youth soccer players aged 13-15 years. *Journal of Sports Sciences*, 23(5),

- 515–522.
- Nevill, A., Atkinson, G., & Hughes, M. (2008). Twenty-five years of sport performance research in the Journal of Sports Sciences. *Journal of Sports Sciences*, 26(4), 413–426.
- Owen, A., Twist, C. & Ford, P. (2004). Small-sided games: the physiological and technical effect of altering pitch size and player numbers. *Insight*, 7(2), 50-53.
- Platt, D., Maxwell, A., Horn, R., Williams, M. & Reilly, T. (2001). Physiological and technical analysis of 3 v 3 and 5 v 5 youth football matches. *Insight*, 4(4), 23-24.
- Reilly, T., Bangsbo, J., & Franks, A. (2000). Anthropometric and physiological predispositions for elite soccer. *Journal of Sports Sciences*, 18(9), 669–683.
- Reilly, T., Williams, A. M., Nevill, A., & Franks, A. (2000). A multidisciplinary approach to talent identification in soccer. *Journal of Sports Sciences*, 18, 695–702.
- Sanchez-Sanchez, J., Carretero, M., Assante, G., Casamichana, D., & Los Arcos, A. (2015). Efectos del marcaje al hombre sobre la frecuencia cardíaca, el esfuerzo percibido y la demanda tecnico-tactica en jóvenes jugadores de fútbol. *RICYDE: Revista Internacional de Ciencias Del Deporte*, 12(44), 90–106.
- Sanchez-Sanchez, J., Hernandez, D., Casamichana, D., Martinez, C., Ramírez-Campillo, R., & Sampaio, J. (n.d.). Heart rate, technical performance and session-RPE in elite youth soccer small-sided games played with wildcard player. *Journal of Strength & Conditioning Research*.
- Slimani, M., Bragazzi, N. L., Tod, D., Dellal, A., Hue, O., Cheour, ... & Chamari, K. (2016). Do cognitive training strategies improve motor and positive psychological skills development in soccer players? Insights from a systematic review. *Journal of Sports Sciences*, 34(24), 2338–2349.
- Vaeyens, R., Malina, R. M., Janssens, M., Van Renterghem, B., Bourgois, J., Vrijens, J., & Philippaerts, R. (2006). A multidisciplinary selection model for youth soccer: the Ghent Youth football Project. *British Journal of Sports Medicine*, 40(11), 928–934.
- Vera, G., Pino, J., Romero, C., y Moreno, M. I. (2007). Propuesta de valoración técnico-táctica mediante una situación de juego colectivo básico en el fútbol de iniciación. *Retos. Nuevas Tendencias en Educación Física, Deporte y Recreación*, 12, 29–35.

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