EFFECT OF SCORING FIRST AND MATCH PERIOD IN FOOTBALL WORLD CUP AND UEFA EURO

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ABSTRACT

The objectives were: i) to know how the effect of scoring first affects the match result; ii) to compare the effect of scoring first, the total goals, the match scoring period and the minute of scoring the first goal (winner and loser), in the eliminatory and in the finals of both competitions (World Cup and UEFA Euro); and iii) to analyse the evolution of these variables throughout history. The sample consisted of all the matches until the year 2018 included (N = 288) in FIFA World Cup and UEFA Euro. The results showed that there were found significant differences in function of decade in World Cup in: average of total goals, average of goals in period 2 (from 15 to minute 30), average of goals in period 4 (from 45 to minute 60) and average goals in period 5 (from 60 to minute 75). Also, there were found statistically significant differences in UEFA Euro depending on the decade, in period 2 of the match. It was concluded that there is a great importance of scoring first in the UEFA Euro and World Cup. In addition, it is indicated that throughout history the 1930s, 1950s and 1970s stand out for a greater number of goals in the different variables examined.
Keywords: match analysis, national teams, goals, victory

EFECTO DE MARCAR PRIMERO Y PERIODO DEL PARTIDO EN EL MUNDIAL DE FÚTBOL Y LA EUROCOPA

RESUMEN

Los objetivos fueron: 1) conocer cómo afecta el efecto de marcar primero al resultado del partido; 2) comparar el efecto de marcar primero, el total de goles, el período de anotación y el minuto de anotar el primer gol (ganador y perdedor), en la eliminatoria y en las finales de ambas competiciones (Mundial y Eurocopa); y 3) analizar la evolución de estas variables a lo largo de la historia. La muestra consistió en el total de partidos hasta el año 2018 incluido (N = 288), en el Mundial de la FIFA y la Eurocopa. Los resultados mostraron diferencias significativas en función de la década en el mundial de fútbol en: promedio de goles totales, promedio de goles en el período 2 (minutos del partido del 15 al 30), promedio de goles en el período 4 (minutos del partido del 45 al 60) y goles promedio en el período 5 (minutos del partido del 60 al 75). Además, se encontraron resultados estadísticamente significativos en la Eurocopa dependiendo de la década, en el período 2 del partido. Se concluyó que hay una gran importancia de marcar primero en la Eurocopa y Mundial de fútbol. Además, a lo largo de la historia las décadas de 1930, 1950 y 1970 destacan por un mayor número de goles en las diferentes variables examinadas.
Palabras clave: análisis de partidos, equipos nacionales, goles, victoria

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The current football stands out for the low number of goals that their scoreboards present in relation to its beginnings (Abt, Dickson, & Mummery, 2002). In fact, Anderson and Sally (2013) indicated that the number of goals scored per match in the main European leagues is 2.66. Concerning that, the low score that highlights in football can be considered one of the reasons that justify the importance of scoring first (Castellano, 2009).

Scoring first has a direct impact on teams behavior, because they vary the way they play based on the result (Caballero, García-Rubio, & Ibáñez, 2017), adopting more conservative approaches to try to reduce the chances of the opponent (Lago- Peñas, 2009). In addition, the fact of scoring before your opponent, can cause a positive psychological moment that increases the probabilities of victory of the team that score first (Jones, 2009). On the other hand, the adverse effect could be produced in the opponent, because the one who conceded the goal can go through a negative psychological moment (Courneya, 1990), which provokes a crisis in the team, reducing players confidence, increasing the demoralization and decreasing group cohesion (Bar-Eli, Tenenbaum, & Geister, 2006).

Regarding scoring first, Martínez (2018) carried out a systematic review on the effect of scoring first in professional football, and he pointed out that there are investigations that analyse the effect of opening the scoreboard on the final result (Lago-Peñas, Gómez, Megías, & Pollard, 2016; Michailidis, Michailidis, & Primpa, 2013; Sampedro & Prieto, 2012); those that study the effect of scoring first based on the minute in which it was scored and competition phase (García-Rubio, Gómez, Lago-Peñas, & Ibáñez, 2015); others that examine and quantify the interaction between the goals scored in two periods (Nevo & Ritov, 2013); and there are also those that try to identify the performance indicators that are influenced by the moment in which the first goal is scored (Pratas, Volossovitch, & Carita, 2016). Even, Michailidis et al. (2013), without underline a distinction between local and visitor team, affirmed that the teams of UEFA Euro final phase from 2012 that scored first, won around 71% of their matches, drawn 22% and lost 7%; both in the group phase and final draw. Likewise, Nevo and Ritov (2013) concluded that score first can accelerate or prevent the likelihood of the next goal, depending on the moment in which it is scored. Specifically, they indicated that scoring at minute 65, exceeds the probability of winning in 50%. Moreover, a wide amount of studies carried out in this field (García-Rubio et al., 2015, Lago-Peñas et al., 2016, Pratas et al., 2016, Sampedro & Prieto, 2012) relate the effect of scoring first with the match location, showing that when the scoreboard is opened by the club that plays at home, this club wins around 73% of the matches, draw 18% and loses 9%, and when the visitor opens the scoreboard the percentage of

victories is reduced to 63%, when draws remains around 20% and defeats increases to 17%. However, García-Rubio et al. (2015) and Lago-Peñas et al. (2016) added that these results depend on the minute in which the first goal is scored and on the quality of the opponent.

Furthermore, Lago-Peñas et al. (2016) divided the 90 minutes of a football match, in six periods of 15 minutes, three in the first part and three in the second, and they analysed the importance of the moment in which the first goal was scored. They concluded that when the end approaches, the goals are more decisive in result. At the other end, when scoring first goal occurs in the beginning of the match, the influence on the final result is reduced because the opponent has more time to get the scoreboard back. On the other hand, Martínez and González-García (2018) studied the match moment in which the goals are most influential in the final standing. After analysing the main European football leagues, the conclusion was that the goals scored in the last two thirds of the first part are the most influential to get a good final standing.

On the other hand, Lago-Peñas et al. (2016) and Sampedro and Prieto (2012) calculated a new parameter which they call the "advantage of scoring first". This variable is quantified as the number of points won by the teams that advance in the score according to their local or visitor status, expressed as a percentage of the total points obtained by these clubs (local or visitors) in all matches (Pollard, 1986). Thus, there is an advantage to score first for local teams and visitors, when the percentage of points obtained by the team that advances in the score is greater than 50% (the teams that open the scoreboard get more points than those that conceded the first goal). Although, this advantage does not occur if the percentage is a value equal to or less than 50% (the teams that score first get equal or a smaller number of points than those who conceded first goal).

Based on this definition, the effect of scoring first for the teams that play the matches decided by "ko" in the Final phase of the FIFA World Cup and the UEFA Euro (eliminatory and final), is understood as the number of victories obtained by teams that advance in the scoreboard, expressed as a percentage of the total matches played. Regarding that, there is an effect of scoring first when the percentage of victories obtained by teams that advance in the score is greater than 50% (the teams that open the scoreboard win more matches than those that conceded the first goal), and this effect do not occurs if the percentage is a value equal to or less than 50% (the teams that open the scoreboard get equal or less victories than those who conceded the first goal).

Although, in football there are many leagues and official championships, the FIFA World Cup and the UEFA Euro are two of the most important football tournaments in the world. In addition, they are considered as two of the biggest sporting events of the globe (Lopes de Paula & Ricci, 2016). Therefore, the

interest that they generate for researchers to analyse performance in this sport is very high (Winter & Pfeiffer, 2015).

The FIFA World Cup had its first edition in 1930, in Uruguay, and since 1950 it has been held regularly every four years, bringing the main national teams from all around the world (Garcia, Pereira, Araújo, & Halmenschlager, 2015). The UEFA Euro, meanwhile, began in 1960 and since then brings the main national teams of Europe, also every four years without interruption. These tournaments include two different phases of competition, both played in a single match and in a neutral field. Firstly, the group stage is disputed, in which four teams play a league against each other. Secondly, the elimination phase is disputed, in which the sets have more pressure, because their continuity in the competition depends on going overcoming direct eliminatory. Finally, the winner of the championship is decided in a final match disputed between the two best national teams.

Once it has been shown the important influence of scoring first, the location of the match and the quality of the opponent, the present work aims to reduce the influence of these situational variables. According to this effect, the idea is to analyse only final phases of the FIFA World Cup and the UEFA Euro (only the draw), because none of the national teams play in their field and the quality of the teams that play these matches can be considered similar. Therefore, this study aims: i) to know how the effect of scoring first affects the match result; ii) to compare the effect of scoring first, the total goals, the match scoring period and the minute of scoring the first goal (winner and loser), in the eliminatory and in the finals of both competitions; and iii) to analyse the evolution of these variables throughout history. Regarding the previous literature, the hypotheses are: i) the effect of scoring first influences on each phase and in all of the different competitions and match types (game regulation time, added time and penalty). ii) There are no differences between each competition and the effect of scoring first, goals number, match scoring period, and the minute in which goals are scored. iii) The effect of scoring first increases since the beginning of these competitions until nowadays.

METHOD

Participants

The sample consisted of all football matches (N = 288) played throughout history, in single match and neutral field of the World Cup and UEFA Euro. It was not counting the matches ended with draw without goals, which were excluded because of the impossibility of analysing in them the effect of scoring first. Concerning the World Cup, 168 matches were analysed (n = 168), between the periods from 1930 to 2018, which made an amount of 21 World Cups. Regarding the UEFA Euro, 72 matches were analysed (n = 72), between the

periods from 1960 to 2016, which made a total of 15 Euro Cups. The data was extracted from the official World Cup website (https://es.fifa.com/worldcup/ archive) and the UEFA Euro website (https://es.uefa.com/uefaeuro). In addition, it was observed that the data could be used for research purposes and that ethical standards for its use were allowed.

As an inclusion criterion, in the playoffs that were decided by additional matches, the first match was excluded for not decide a winner. In addition, the 1940s were not included in the sample because no evidence was held, due to the conflicts of World War II.

Analysis of the variables

Decade: the sample of qualifying rounds and draws were divided into a single match and a neutral field in decades. The World Cup included the decades of 1930, 1950, 1960, 1970, 1980, 1990, 2000 and 2010; and the UEFA Euro included the decades 1960, 1970, 1980, 1990, 2000 and 2010.

Scoring First Effect: the percentage of victories achieved by the teams that open the scoreboard in relation with the matches played was calculated.

Goals scored according to the match period: the goal records scored by national teams were selected in periods of fifteen minutes. Consequently, the match was divided into 6 periods of fifteen minutes, including the first part discount time in the third period and the extra time of the second part in the last period, resulting in the following form: 0-15 min (period 1), 16-30 min (period 2), 31-45 min + extra (period 3), 46-60 min (period 4), 61-75 min (period 5), 76-90 min + extra (period 6).

Total Goals: total goals were calculated according to the decade and competition (World Cup and UEFA Euro).

Minute of Scoring the First Goal Winner: the minute in which the first goal was scored by the winning national teams was quantified.

Minute of Scoring the First Goal Loser: the minute in which the first goal was scored by the losing national teams was quantified. In case the loser did not score goal, this data was not computed in the match.

Data analysis and procedure

For the statistical treatment of the data, the SPSS 20 program was used. To know the characteristics of the sample, the descriptive statistics of mean, minimum, maximum, standard deviation, frequency and percentages were performed. In the statistical analyses, a type I error 95% was taken in the use of the different statistical tests. The Komolgorov-Smirnov test was performed to know if the sample followed a normal distribution ($p > .05$). Concerning that, it was found that the sample did not follow a normal distribution, thus, nonparametric tests were conducted. To calculate the differences between

groups, when the variables were quantitative, the Kruskalwallis test was taken for independent samples. On the other hand, when the variables were statistically significant, the effect size was calculated through the *Eta²*. Following Cohen (1988), the results of the effect size could be considered as: from $\eta^2 = .01$ to $\eta^2 = .06$ (small), from $\eta^2 = .06$ to $\eta^2 = .14$ (medium), more than $\eta^2 = .14$ (large).

RESULTS

Firstly, in Table 1 was performed a descriptive analysis of each competition. For this purpose, it was taken the number of matches completed in the standard length of a regulation football game, in the time added and in the penalty shootout, all expressed as a percentage of all matches has been quantified. At a glance, the results are similar between both competitions.

TABLE 1
Distribution of the final rounds from World Cup and UEFA Euro.

	Decade	Matches	Matches finished in regulation time	Matches finished in addition time	Matches finished in penalty
	1930	34	29	5	0
	1950	16	15	1	0
	1960	16	15	1	0
	1970	12	8	4	0
World Cup	1980	19	14	2	3
	1990	45	33	6	6
	2000	29	25	1	3
	2010	45	34	4	7
	Total	216 (100%)	173 (80.09%)	24 (11.11%)	19 (8.80%)
	1960	11	8	3	0
	1970	8	4	3	1
	1980	8	5	1	2
	1990	7	5	1	1
UEFA Euro	2000	18	12	4	2
	2010	20	15	2	3
	Total	72 (100%)	49 (68.05%)	14 (19.44%)	9 (12.5%)
Total		288 (100%)	222 (77.08%)	38 (13.19%)	28 (9.72%)

Secondly, Table 2 displays the effect of scoring first in the games finished in the regulation time, in the time added and in the penalty shoot, is expressed as a percentage. Concerning that, opening the scoreboard in the round matches of the main competitions of national teams is extremely important to get the

victory. However, when the duration of the game is extended beyond the regulation time, the effect of scoring first is reduced.

TABLE 2
Effect of Scoring First in World Cup and UEFA Euro depending on match end.

	Effect of scoring first in regulation time	Effect of scoring first in added time	Effect of scoring first in penalty
World Cup	77.77%	62.79%	57.89%
UEFA Euro	79.16%	60.86%	55.55%
Total	78.46%	62.5%	57.14%

Thirdly, in Table 3 Kruskalwallis tests were conducted to know the differences in means between the different variables in the sample. Regarding the World Cup, it was found statistically significant differences in terms of the decade: average of total goals, average of goals in period 2 and average of goals in period 4, in favour of the 1950s; and average goals in period 5, in favour of the 1940s and 1970s. On the other hand, it was found statistically significant differences ($p < .05$) in the UEFA Euro according to the decade, in match period 2, because in the decade 1970 the number of goals was very high.

TABLE 3
Differences in scored goals in function of decade between World Cup and UEFA Euro.

	Decade	Effect of scoring first winner team %	Mean total goals (SD)	Goals mean period 1 (SD)	Goals mean period 2 (SD)	Goals mean period 3 (SD)	Goals mean period 4 (SD)	Goals mean period 5 (SD)	Goals mean period 6 (SD)	Minute of scoring first goal winner (SD)	Minute of scoring first goal loser (SD)
WC	1930	67.64	5.03 (1.91)	.60 (.68)	1 (.98)	.64 (.78)	.75 (.70)	1 (.81)	.71 (.85)	25.96 (21.21)	36.35 (27.60)
	1950	75	6.54 (2.06)	1 (1.09)	1.36 (1.80)	.81 (.87)	1.18 (.87)	.81 (.75)	1.27 (.78)	14.72 (10.51)	23.54 (21.16)
	1960	81.25	4.27 (1.67)	.63 (.50)	.72 (1)	.63 (.80)	.72 (.90)	.36 (.50)	1 (.77)	22.81 (14.14)	43 (28.70)
	1970	66.66	4.66 (1.32)	.55 (.72)	.55 (.52)	.66 (.50	.22 (.44)	1 (1)	.77 (.66)	33.44 (21.77)	37.77 (29.73)
	1980	73.68	4.60 (1.77)	.20 (.42)	.60 (.69)	.70 (.82)	.70 (.67)	.60 (.51)	.90 (.87)	36.10 (12.68)	47.90 (31.06)
	1990	86.66	3.53 (1.07)	.57 (.83)	.50 (.63)	.21 (.41)	.57 (.63)	.46 (.69)	.92 (.81)	39.25 (31.08)	52.14 (30.91)
	2000	75.86	3.10 (.99)	.80 (1.03)	.40 (.51)	.40 (.51)	.40 (.69	.00 (.00)	.90 (.73)	37.40 (30.14)	34.20 (32.36)
	2010	82.22	3.61 (1.60)	.46 (.58)	.50 (.94)	.46 (.64)	.53 (.70)	.69 (.78)	.61 (.69)	35.07 (28.73)	54.26 (32.58)
	Total	77.77	4.30 (1.80)	.58 (.75)	.69 (.96)	.51 (.68)	.63 (.72)	.65 (.75)	.84 (.78)	31.48 (25.04)	43.47 (30.53)
	X² (p)	5.84 (.55)	41.91 (.00)**	9.27 (.23)	18.36 (.01)*	10.24 (.17)	16.61 (.02)*	18.48 (.01)*	10.58 (.15)	12.36 (.08)	12.97 (.07)
	Eta²	-	.26	-	.08	-	.09	.14	-	-	-
UE	1960	90.90	4.40 (2.60)	1 (1)	0 (0)	.60 (.54)	.60 (.89)	.40 (.89)	1 (.70)	22.40 (18.67)	45.80 (36.56)
	1970	87.5	4.16 (1.16)	.16 (.40)	1.50 (.54)	.33 (.81)	.16 (.40)	.50 (.54)	.66 (.51)	27.66 (19.02)	49.83 (24.98)
	1980	75	3 (1.22)	.40 (.54)	.20 (.44)	0 (0)	.40 (.54)	1 (0)	.40 (.54)	45.80 (27.69)	56.80 (29.03)
	1990	71.42	3.40 (1.14)	.60 (.54)	.60 (.54)	.20 (.44)	.80 (.83)	.40 (.54)	.60 (.89)	25 (27.41)	40 (26.05)
	2000	72.22	3.90 (1.44)	.10 (.31)	.70 (.82)	.50 (.97)	.60 (.69)	.20 (.42)	.90 (.99)	53 (34.11)	53.50 (36.40)
	2010	80	3.55 (1.81)	.66 (.70	.33 (.50)	.77 (.66)	.55 (.72)	.55 (1.01)	.66 (.50)	33.66 (19.55)	42.77 (37.53)
	Total	79.16	3.75 (1.58)	.45 (.63)	.57 (.71)	.45 (.71)	.52 (.67)	.47 (.67)	.72 (.71)	36.62 (26.87)	48.30 (31.64)
	X² (p)	2.10 (.83)	3.52 (.61)	8.35 (.13)	20.78 (.001)**	8.79 (.11)	4.19 (.52)	5.46 (.36)	2.13 (.83)	8.56 (.12)	1.06 (.95)
	Eta²	-	-	-	.41	-	-	-	-	-	-

*Note. *p<.05; **p<.01; WC= World Cup; UE = UEFA Euro*

Fourthly, in Table 4, in which the differences between the World Cup and the UEFA Euro were examined, depending on the decade, it was indicated statistically significant differences in: average of total goals and average of goals in period 2, in favour of the 1970s. On the other hand, when the differences between both competitions were examined in the different variables, there were not found significant differences (p > .05).

TABLE 4
Differences scored goals between World Cup and UEFA Euro in function of decade.

	Decade	Effect of scoring first winner team %	Mean total goals (SD)	Goals mean period 1 (SD)	Goals mean period 2 (SD)	Goals mean period 3 (SD)	Goals mean period 4 (SD)	Goals mean period 5 (SD)	Goals mean period 6 (SD)	Minute of scoring first goal winner (SD)	Minute of scoring first goal loser (SD)
WC + UE Decade **(n=240)**	1930	67.64	5.03 (1.91)	.60 (.68)	1 (.98)	.64 (.78)	.75 (.70)	1 (.81)	.71 (.85)	25.96 (21.21)	36.35 (27.60)
	1950	75	6.54 (2.06)	1 (1.09)	1.36 (1.80)	.81 (.87)	1.18 (.87)	.81 (.75)	1.27 (.78)	14.72 (10.51)	23.54 (21.16)
	1960	85.18	4.31 (1.92)	.75 (.68)	.50 (.89)	.62 (.71)	.68 (.87)	.37 (.61)	1 (.73)	22.68 (15.04)	43.87 (30.13)
	1970	75	4.46 (1.24)	.40 (.63)	.93 (.70)	.53 (.63)	.20 (.41)	.80 (.86)	.73 (.59)	31.13 (20.21)	42.60 (27.66)
	1980	74.07	4.06 (1.75)	.26 (.45)	.46 (.63)	.46 (.74)	.60 (.63)	.73 (.45)	.73 (.79)	39.33 (18.57)	50.86 (29.66)
	1990	84.61	3.51 (1.06)	.57 (.79)	.51 (.61)	.21 (.41)	.60 (.65)	.45 (.66)	.87 (.81)	37.09 (30.59)	50.30 (30.17)
	2000	74.46	3.50 (1.27)	.45 (.82)	.55 (.68)	.45 (.75)	.50 (.68)	.10 (.30)	.90 (.85)	45.20 (32.33)	43.85 (34.91)
	2010	81.53	3.60 (1.63)	.51 (.61)	.45 (.85)	.54 (.65)	.54 (.70)	.65 (.83)	.62 (.64)	34.71 (26.40)	51.31 (33.73)
	Total	78.46	3.79 (1.49)	.50 (.69)	.54 (.74)	.44 (.64)	.53 (.67)	.51 (.70)	.79 (.74)	35.54 (26.38)	48.03 (31.19)
	X² (p)	3.01 (.69)	11.55 (.041)*	5.64 (.34)	15.98 (.007)**	3.59 (.60)	4.93 (.42)	10.95 (.052)	7.33 (.19)	3.08 (.68)	1.62 (.89)
	Eta²	-	.22	-	.09	-	-	-	-	-	-
Diferences between WC and UE **(n=288)**	WC (n=216)	.80 (.40)	2.88 (1.64)	.42 (.63)	.37 (.64)	.35 (.57)	.38 (.59)	.42 (.64)	.65 (.71)	41.27 (31.33)	31.16 (3.21)
	EC (n=72)	.79 (.40)	2.95 (1.58)	.30 (.54)	.37 (.61)	.43 (.64)	.48 (.62)	.40 (.62)	.59 (.72)	41.76 (28.07)	31.64 (5)
	X² (p)	.028 (.86)	.17 (.67)	1.86 (.17)	.004 (.95)	.65 (.41)	1.68 (.19)	.004 (.95)	.40 (.52)	.31 (.57)	.00 (.99)
	Eta²	-	-	-	-	-	-	-	-	-	-

Note. *p<.05; **p<.01; WC= World Cup; UE = UEFA Euro

DISCUSSION

The present work aims: i) to know how the effect of scoring first affects the match result; ii) to compare the effect of scoring first, the total goals, the match scoring period and the minute of scoring the first goal (winner and loser), in the eliminatory and in the finals of both competitions; and iii) to analyse the evolution of these variables throughout history.

Based on the findings found, it should be noted that - overall - the effect of scoring first in the qualifiers and the finals of the FIFA World Cup and the UEFA Euro, is in 78.46%. In that way, this percentage is in 77.77% for the FIFA World Cup, and in 79.16% for the UEFA Euro. These results confirm the nonexistence of statistically significant differences between both competitions and the importance of opening the scoreboard in this type of matches to get to the next round or, even, to end up winning the title. In addition, the results obtained resemble those shown by Michailidis et al. (2013) in the final phase of the 2012 UEFA Euro, where it was indicated that the national teams that scored the first goal win 71% of their matches. Furthermore, other authors pointed out that in the group regular phase of the main European leagues the percentage of scoring first is in 63% and 73%, depending on whether the club that scores first plays as local or visitant (Lago-Peñas et al., 2016; Pratas et al., 2016; Sampedro & Prieto, 2012). On the other hand, they are more distant from those found by García-Rubio et al. (2015), who in the group stage and qualifiers in the UEFA Champions League, established a percentage around 60%, depending on match location and the quality of the opponent.

Moreover, the effect of scoring first depending on the moment in which the match ends is also close to these percentages, is in 78.46% in the matches that end in the regulation time, in 62.5% in those that end in the extension, and in 57.14% in those who are decided in the penalty kick. Therefore, it is confirmed the first hypothesis, although when the duration of the match increases, the effect of scoring first decreases. However, it would be interesting to continue investigating this issue, because there are no studies for comparing the results presented in this study.

On the other hand, when it was analysed the evolution that has had the effect of scoring first throughout history, we can see a growth in this effect since the first World Cups played so far, although not in a statistically significant way. Despite this, it is clear the high importance of opening the scoreboard to obtain victory, regardless the historical period. This increase might be because at the beginning of the FIFA World Cup the number of goals scored in the playoffs and the finals was significantly higher than those scored decades later. Therefore, opening the scoreboard was less decisive that nowadays. In any case, the research should continue in this direction because there are no previous works to contrast these findings.

In relation to the evolution that has had the effect of scoring first throughout the history of UEFA Euro, it is worth noting the enormous influence it has had during all the analysed decades, but there are no found statistically significant differences. In addition, it is particularly noteworthy that this effect has its highest levels during the 1960s, because it is the period in which the average goals number per game is higher. Thus, the third hypothesis was refused. The data presented here could not be compared with other studies, due to the lack of research that talk about this issue. Consequently, it is recommended to continue with this line of research to explain these results with greater scientific rigor.

Even though, the average of goals that are scored in matches from these competitions, which are considered as two of the most important in the world (Lopes de Paula & Ricci, 2016), is 3.79 per game, settling in 4.30 goals in the FIFA World Cup and 3.75 in the UEFA Euro. Although, this research has not considered the games finished with draw without goals, the findings are close to those found by Anderson and Sally (2014), who indicate that the number of goals scored per game in the main European leagues is 2.66. Despite this, it is corroborated that the scoreboard that is handled in this sport is low, as it was underlined by Castellano (2009).

Following this trend, if we analyse the average goals of FIFA World Cup throughout history, we can see statistically significant differences in periods two and four. In both periods, the differences were in favour of the 1950s; and in period five, in favour of the 1930s and 1970s. However, the greatest number of goals scored in this competition is in period six (.83). On the other hand, when it is examined the finals of the last decade, it is in the last two periods of the match when more goals are scored (.69 and .61 respectively). In addition, in case of UEFA Euro, the only statistically significant difference found decreases on period two, in favour of the 1970s. On the other hand, the match time in which the most goals are scored is also in the sixth period (.71). Despite, if we compare both competitions, there are not found significant differences in none of the analysed variables. Thus, the second hypothesis was confirmed. These results follow those argued by authors such as Nevo and Ritov (2013), who pointed out that opening the score board at minute 65 increases the probability of winning above 50%. Even, Lago-Peñas et al. (2016) highlighted that the closer the end of the match is, the more decisive is to scoring first.

However, in the FIFA World Cup the winner usually opens the scoreboard in the 31st minute of the match and in the UEFA Euro in the 36th. These findings are according to a previous study from Martínez and González-García (2018), who pointed out that the match period in which the most influential goals are produced in the final standing is in the last two thirds of the first part (minutes 16-45).

As limitations, it is worth noting the difficulty of analysing the different competition formats that have been developed throughout history within the two tournaments studied. Furthermore, there are a great variety number of matches played in the elimination phase and many ways to determine a winner in the event (extra time, penalty kicks, gold goal, coin toss, silver goal). In addition, it is important to have caution making comparisons between the results of effect of scoring first in the FIFA World Cup and UEFA Euro, due to the difference in sample size of matches. Finally, the lack of work that analysed these variables with a similar sample has increased the complexity for comparing the results.

As a future research proposal, it would be interesting to extend the sample to the matches played in a single match and in the neutral field of the group stage, to see if the effect of scoring first varies with respect to the phase of elimination.

Conclusions

This work demonstrates the enormous importance of the effect of scoring first in the results of the FIFA World Cup and the UEFA Euro. Moreover, the team that is ahead on the scoreboard greatly increases its chances of advancing to the next phase or, even, of getting the title. In addition, if the match ends in regulation time, without the need to dispute extra time or penalties, the chances of victory are even greater. This trend is maintained throughout history, so the technical staff of the national teams must use this information to work on the training and propose strategies with the clear intention of opening first the scoreboard.

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