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Analysis of Goals Scored in UEFA Champions League by the Time Periods

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Abstract

This study was carried out in order to determine the distribution of goals scored during last 10 years in UEFA Champions League (2006/2007 - 2015/2016) into 15 min. Periods, by circuit and season. The data used in this study were obtained from the official website of UEFA. All of the data obtained were recorded in SPSS 22 software, and then the frequency and percentage values were calculated and interpreted. In last 10 years, totally 3426 goals were scored in 1250 matches, and the mean number of goal per match was calculated to be 2.7. When these goals were analyzed in 15 min. periods, it was observed that 438 (12.78%) goals were scored between 1st and 15th minutes, 545 (15.91%) goals between 16th and 30th minutes, 492 (14.36%) goals between 31st and 45th minutes, 53 (1.55%) goals in 45+ minutes, 512 (14.94%) goals between 46th and 60th minutes, 581 (16.96%) goals between 61st and 75th minutes, 635 (18.53%) goals between 76th and 90th minutes, 158 (4.61) goals in 90+ minutes, 5 (0.15%) goals in 1st extra-time, 7 (0.20%) goals in 2nd extra-time. In conclusion, the finding that the goals were mostly scored in between 76th and 90th minutes and in the second half of competitions can be attributed to teams' loss of concentration, increase of fatigue level, and to the fact that the losing teams play more offensive by risking their defense towards the end of match, and that they both scored and conceded higher number of goals during these minutes.

Keywords: Football, Goal, Match Analysis, Champions League

Introduction

The national and international role that the football has been playing to date makes it very important. Football, at which many individuals outside the sport world are interested from various aspects, has a character beyond an ordinary sport game. From scientific aspect, it can be seen that the football has relationship with various disciplines such as health and medicine. From the perspective of sports scientists, football is related with medicine and social sciences from the aspects of physiology, anatomy, psychology, and sociology. Besides these aspects, there are also studies examining and investigating the football in terms of its sub-branches of sports sciences such as sports and medicine, motion and exercise sciences, psychosocial domains, physical education, and sports teaching (Topkaya and Tekin, 2004). In recent years, it is attempted to achieve the success by performing more competitive and systemic trainings in football rather than the traditional ones. One of these methods is the game analysis and many football clubs aim to contribute to football from this aspect by employing game analysts in their teams (Carling, 2016).

Game analysis is a research object that is frequently discussed and investigated in recent years. Generally after the important football organizations, the researchers examine the game systems and game styles of successful teams and the motions of players (Balyan et al., 2009). The game analysis provides the trainers with feedbacks about the players and team and allows them to make objective evaluations (Carling et al., 2005). In order to achieve the success in football, the trainers prepare strategies by determining the strengths and weaknesses of their teams and opposing teams (Sarmiento et al., 2014). In sports sciences, new visual research domains emerged together with the technological advancements (Lames, 2008). Using paper-pen method and computer-video, all of the motions of a football player can be objectively and accurately recorded (Franks and Hughes, 2016). The objective of game analysis and observation is to objectively analyze all the movements during the training and games and to obtain numerical results about the parameters being examined (Müniroğlu, 2009). The effective and widespread analysis of games dates back to recent years in our country (Müniroğlu and Deliceoğlu, 2008).

Together with the technological advancements, the game analysis methods also started developing in football and more importance was paid to achieve result by creating goal-oriented opportunities in games. The game videos that have been recorded can be edited by using video-analysis software, and many parameters including the goals can be analyzed (Hughes, 2003). At this moment, many academic institutions carry out studies and researches on football (Strudwick, 2016).

Göral (2015) reported that the number of goals per game was 2.57 in Germany, national team of which was the champion of World Cup 2014, whereas Sgro et al. (2015) reported that the mean number of goals of teams winning the games in European Football Championship 2012 was 2.17 and that of losing teams was 0.58. Armatas et al. (2009) determined that, in Super League of Greece in Season 2006-2007, 558 goals were scored in 558 games and higher number of goals (58.96%) were scored in second halves of games. In terms of the time period, highest number (23.30%) of goals was scored between 76th and 90th moments. In a study examining the goals of UEFA Champions League for Season 2009-2010, it was reported that 73.75% of the goals were scored from penalty area (Charalampos et al., 2013). In another study on goal analysis of European Football Championship 2012, it was found that the teams scoring the first goal won the games by percentage of 70.97% (Leite, 2013).

In football, the goal is one of the most important parameters directly affecting the result of games and determining the success or failure of the teams. In order for the teams to score more goals and to prevent the goals to be scored against them, it is very important to know the time periods of goals that have been scored. The trainers should use this knowledge in planning the trainings and making the strategical decisions. Thus, the objective of this study is to determine the distribution of goals scored in UEFA Champions League in seasons between 2006/2007 and 2015/2016 in terms of time periods.

Materials and Method

Objective of Study

This study was carried out in order to determine the distribution of goals, which have been scored in UEFA Champions League in last 10 years (2006-2016), in 15-min periods, halves of games, and the seasons.

Data Collection

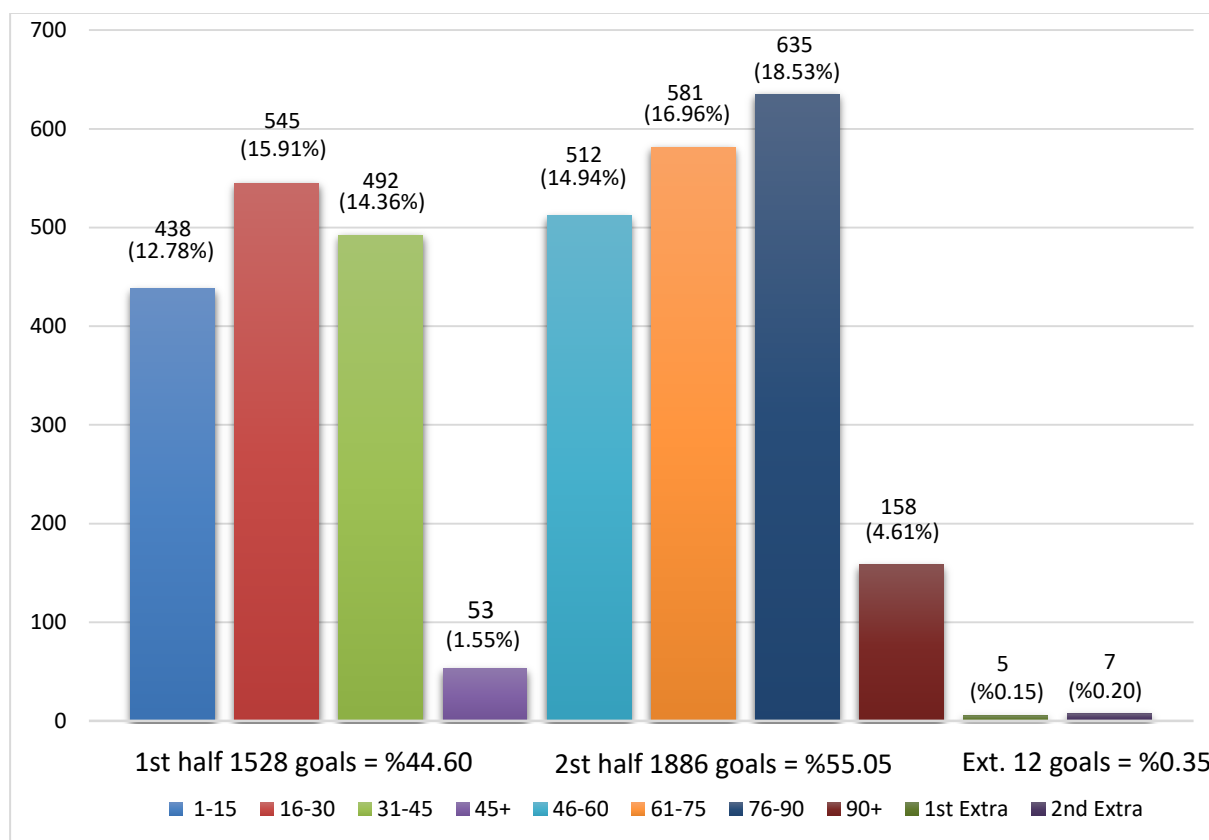
The data used in this research were obtained from official website of UEFA. In last 10 years in the Champions League (2006-2016), the statistics of 3426 goals scored in 1250 games (125 games per year) were examined. The analyses of goals per game, total number of goals, goals per season, goals scored in 15-min periods, goals scored in first and second halves, goals in extra times, and mean number of goals were performed.

Data Analysis

All of the data obtained were recorded in SPSS 22 program, and frequency and percentage values were calculated and interpreted.

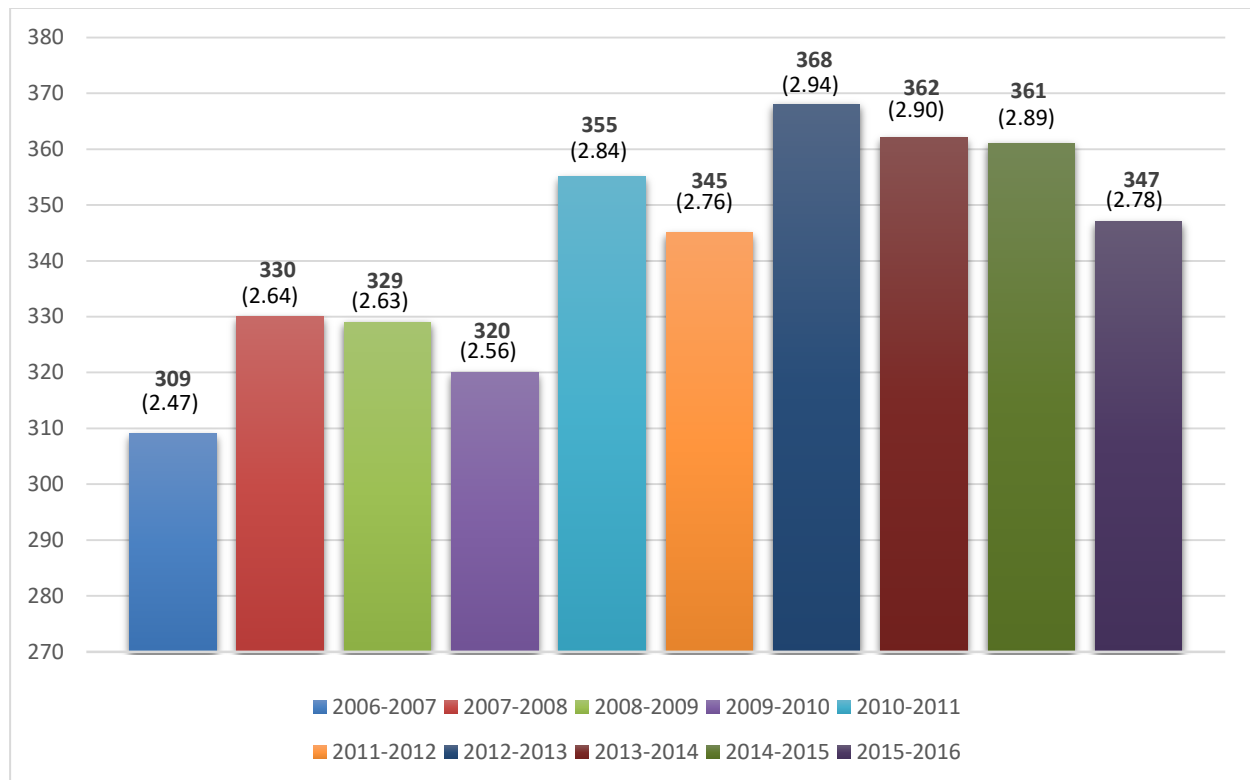
Findings

In this study, the time periods of goals scored in Champions League were analyzed in terms of various parameters. In mentioned seasons, 125 games were played in every season (Group phase and afterwards). In seasons between 2006/2007 and 2015/2016, totally 3426 goals were scored in 1250 games, and the number of goals per game was calculated to be 2.74. The Tables representing the results are presented below.

Table 1. Numeric and percentage distribution of goals between 15-min time periods


Considering 15-min time periods, it was determined that highest number of goals was scored between 76th and 90th minutes (18.53%). From the aspect of halves, the highest number of goals was scored in second half of games (55.05%). In games played after the groups and on elimination basis, 5 goals (0.15%) were scored in 1st extra time and 7 goals (0.20%) in 2nd extra time.

Table 2. Mean number of goals and numeric distribution of goals between the seasons



Considering the distribution of goals scored in seasons, the highest number of total goals and the highest mean number of goal were obtained in Seasons 2012-2013, and the total goals and mean number of goals showed an increase after Season 2009-2010.

Discussion and Conclusion

This study was carried out in order to determine the frequency and number of goals scored in 15-min time periods, halves of games, and seasons in UEFA Champions League between 2006/2007 and 2015/2016. In last 10 years, 3426 goals were scored in 1250 games, and the mean number of goal was found to be 2.74. In terms of 15-min time periods, the highest number of goals was scored between 76th and 90th minutes (635 goals - 18.53% of total). From the aspect of halves, the highest number of goals was scored in second half (1886 – 55.05% of total). In terms of seasons, increases were observed in total number of goals and mean number of goals since Season 2009-2010.

In a study analyzing the goals scored in European Football Championship 2012 (Michailidis et al., 2013), mean number of goals was found to be 2.17 for winning teams and 0.58 for losing teams. In study of Njororai (2013) on goal analysis of World Cup 2010, it was reported that total number of goals was 145 in 64 games and mean number of goals was 2.27 per game. From the aspect of time periods, the number of; 14 goals (9.66%) between 1st and 15th minutes, 23 goals (15.86%) between 16th and 30th minutes, 22 goals (15.17%) between 31st and 45th minutes, 22 goals (15.17%) between 46th and 60th minutes, 27 goals (18.62%) 61st and 75th minutes, 35 goals (24.14%) between 76th and 90th minutes, 1 goal (0.69%) between 91st and 105th minutes (1st extra time), and 1 goal (0.69%) between 106th and 120th minutes

(2nd extra time). Highest number of goals was scored between 76th and 90th minutes, while the lowest number of goals was scored between 1st and 15th minutes. Leite (2013) reported that, of 2208 goals scored in 772 games played in 19 FIFA World Cups between 1930 and 2010, 951 goals (43.07%) were scored in 1st half, 1202 (54.44%) in second half, and 55 goals (2.49%) in extra time. In terms of 15-min periods, 300 goals (13.59%) were scored between 1st and 15th minutes, 332 goals (15.03%) between 16th and 30th minutes, 299 goals (13.54%) between 31st and 45th minutes, 20 goals (0.91%) in 45+ minutes, 355 goals (16.08%) between 46th and 60th minutes, 387 goals (17.53%) between 61st and 75th minutes, 433 goals (19.61%) between 76th and 90th minutes, 27 goals (1.22%) in 90+ minutes, 28 goals (1.27%) between 91st and 105th minutes (1st extra time), and 27 goals (1.22%) between 106th and 120th minutes (2nd extra time). In a study on goal analysis of 558 goals scored in 240 games in Season 2006-2007 of Super League of Greece (Armatas et al., 2009), it was determined that 41.04% of goals were scored in 1st half and 58.96% in 2nd half. From the aspect of 15-min time periods, highest number of goals were scored between 76th and 90th goals (23.30% of total). In study of Göral and Saygın (2012) on Super League performance of a football team, it was reported that Boluspor scored 47 goals in 32 weeks and mean number of team was 1.47. 26 (55.3%) of these goals were scored in second half of games, and highest number of goals were scored between 76th and 90th minutes (12 goals-25.5% of total). In a study on goals scored in total of 306 games played in 34 weeks by 18 professional football teams in 1st Super League of Turkey in Season 2001-2002, the mean number of goals scored per game was found to be 2.97, while it was also reported that the highest number of goals was scored between 76th and 90th minutes (192 goals) (Doğan et al., 2004). In study of Acar et al. (2009) on FIFA World Cup, the authors reported that, of 147 goals, 67 goals (46%) were scored in first half and 69 goals (47%) in second half and 11 goals (7%) in extra time minutes.

In conclusion, it was concluded that more goals were scored in 2nd half of games and between 76th and 90th minutes. The finding that the goals were mostly scored in between 76th and 90th minutes and in the second half of competitions can be attributed to teams' loss of concentration, increase of fatigue level, and to the fact that the losing teams play more offensive by risking their defense towards the end of match, and that they both scored and conceded higher number of goals during these minutes.

Football coaches, trainers, and game analysts can improve their teams' ability of scoring and prevent the goals scored by their opponents by considering the time periods and types of goals. Besides that, they can also contribute to the scores and points of their teams in this manner.

Conflict of Interest

The authors have not declared any conflicts of interest.

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