FIFA U-20 WORLD CUP 2013: ANALYSIS AND EVALUATION OF GOALS SCORED

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ABSTRACT

This study was conducted to analyze the goals scored in 2013 FIFA U-20 World Cup and examine several variables from different aspects. In this research, technical parameters such as shots, shots on goal, corner kicks, goal areas, timetables of goals, the positions of scorer players, the effect of scoring the first goal on the results and etc. were analyzed on computer with e-Analyze Football program. In the 33 games of 52 played (63.46%), winning teams are the ones that scored the first goal. Winning teams shot the ball towards goal 630 times (43.1%) and losing teams replied back with 467 times (31.9%). 335 of 802 accurate shots (44.3%) came from the winning teams and the accurate shots rate for losing teams were recorded as 250 (31.2%). As a result of this study, accurate shootings and scoring numerous goals are important factors leading the teams to a win. Observing the tournament, it is seen that most of the winning teams are the ones that scored the first goal of the game. Scoring the first goal along with a good defense may be considered as a significant criterion to win the game in important tournaments such as World Cups.

Key words: Football. World Cup. Goal Scored. Analysis.

RESUMO

FIFA U-20 world cup 2013: análise e avaliação de gols marcados

Este estudo foi realizado para analisar os gols marcados em 2013 FIFA World Cup U-20 e analisar diversas variáveis de diferentes aspectos. Nesta pesquisa, os parâmetros técnicos, tais como tiros, chutes a gol, escanteio, áreas de gol, horários de metas, as posições dos jogadores apontador, o efeito do primeiro gol nos resultados e etc. foram analisados em programa de computador com e-analisar futebol. Nos 33 jogos de 52 jogadas (63,46%), equipes vencedoras são aquelas que marcam o primeiro gol. As equipes vencedoras chutam a bola em direção ao gol 630 vezes (43,1%) e equipes perdedoras com 467 vezes (31,9%). 335 de 802 finalizações precisas (44,3%) vieram das equipes vencedoras e a taxa de finalizações precisas para equipes perdedoras foram registrados como 250 (31,2%). Como resultado deste estudo, finalizações precisas e pontuação são fatores importantes que conduzem as equipes para uma vitória. Observando o torneio, vê-se que a maioria das equipes vencedoras são aquelas que marcam o primeiro gol do jogo. Fazer o primeiro gol, juntamente com uma boa defesa pode ser considerado como um critério importante para ganhar o jogo em torneios importantes, como a Copa do Mundo.

Palavras-chave: Futebol. Copa do Mundo. Gol Marcado. Análise.

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INTRODUCTION

Competition analysis point out the practical recording and examination of behavioral events occurring all the way through match. It may be focused on the output of one performer or may include the completion of actions and movements of athletes about the ball. Competition analysis may range in extensity from certain data about the activity of a personal performer or of each athlete of the team as a personal profile, to a synthesis of the interaction between players in similarity to a team strategy. Action when make defense and when make offense can be accommodated. A consequence may be a description of the team's strategy (Carling et al, 2005). A receive feedback plays a significant role in the training process. It supports the player to correct his wrongs and to be more profound. Feedback helps soccer players to enhance their performance. The athlete after a step knows through inner feedback if the movement was true or mistake. Also the comments of trainer supply additional feedback information to the soccer player about his steam. Over the past decades, the teams use the video feedback that helps the performers to upgrade themselves (Michailidis et al, 2013a).

In recent years, the match analysis in soccer teams has been focused on their compound truth (Clemente et al, 2014). Competition analysis definitions sports movements at this degree of performance output, optimal encode the process of athletes or team in technique terms (McGarry et al, 2003). In recent years the implementation of analysis to figure out the different viewpoints of productivity in all sports has become quite popular through sport scientists. A lot of analysts who employed at different levels of sport performance have used it for various objectives including technique and strategy consideration, motion analysis, feedback supply, standard progress and modeling (Shafizadeh et al, 2013; Hughes et al, 2008).

The analysis of match's performance can be undertaken from several various perspectives (McGarry et al, 2003). Inasmuch as soccer analysis, some of these systems supply competition involved statistics about movements of soccer players (such as shots on goal, fouls, passing, control, etc.) that may provide valuable information about the performance of victorious and ineffective teams during a competition (Moura et al, 2013). A performance output is a choice, or compound, of movement factors that aims to describe some or all points of a performance (Hughes et al, 2002). We may also add goal scoring and accurate shots to the list.

Goals scored are the key to achievement of teams in sport competitions the first characteristic for analysis in all tournaments. The consequences of this analysis may find practice in arranging application strategies (Michailidis et al, 2013b; Cachay et al, 2000). In addition to this, goals provide smallness input points for all of the game and, eventually, major examples of competitions possessions are required for significant analyses (Tenga et al, 2010). Shots are one of the main markers of performance in soccer.

If two athletes, A and B, have 4 and 6 shots on goal, it is not convenient to record that athlete B is having the much better play. What are the related totals of shot efforts? (Hughes, 2003). Therefore, the aim of this study is to examine the goals scored in 2013 U-20 FIFA for several variables from different aspects.

MATERIALS AND METHOD

In this study, data were collected from all 52 matches played in the 2013 U-20 FIFA World Cup in Turkey. In total, were scored 152 goals in this tournament. The data were obtained from international TV channels publishing competitions and the database of the website of the Fédération Internationale de Football Association - FIFA (www.fifa.com) through official overviews of the games. The study was developed through the variables analysis:

a) Dividing the total time of the game in time periods of 15 minutes, the playing time was split into 8 periods: 1st-15th min., 16th-30th min., 31st-45th min., 46th-60th min., 61st- 75th min., 76th-90th min., 1st extra time (91st - 105th min.) and 2nd extra time (106th - 120th min.)
b) Frequency of goals scored by the game time (1st and 2nd time)
c) Shots on goal, total shots
d) Corner kicks

e) Scoring the first goal's impact to result of the match
f) The range of goals according to shot techniques and goal zones
g) Goal zones (goal area, penalty area, outside the penalty area, penalties).

These performance indicators were analyzed by e-Analyze Soccer computer program. The data obtained in this study was recorded in SPSS 16.0 program and interpreted by calculating frequency and percentage values.

RESULTS

This study was conducted to examine the goals scored in 2013 U-20 FIFA for several variables from different aspects. So the parameters such as shots, shots on goals, corner kicks, goal areas, goal times and scoring players' positions etc. were analyzed and presented in tables.

In the games, it is recorded that 63 goals (41.45%) with an average of 1.21 per game were scored in the first periods, 82 goals (53.94%) with an average of 1.57 per game in the second periods and 7 goals (4.61%) with an average of 0.13 in the extra times. The most of the goals in games (n=33) with an average of 0.63 goal per game were scored between the 61-71st minutes of play time. Next big average is 0.61 goal per game with 32 goals scored between 76-90th minutes of play time.

Table 1 - Variances of goals by the game times.

	Time	Minutes	Number of Goals	Average	Total
Groups Matches	1st time	1st – 15th	17	0.47	43
		16th - 30th	12	0.33	
		31th - 45th	14	0.39	
	2st time	46th - 60th	15	0.42	58
		61th - 75th	22	0.61	
		76th - 90th	21	0.58	
Total			101		
Matches			36		
Average			2.81		
	Time	**Minutes**	**Number of Goals**	**Average**	**Total**
Round of 16	1st time	1st – 15th	1	0.12	7
		16th - 30th	4	0.50	
		31th - 45th	2	0.25	
	2st time	46th - 60th	0	0.00	17
		61th - 75th	8	1.00	
		76th - 90th	9	1.12	
	Extra time	91th - 105th	1	0.12	1
		106th - 120th	0	0.00	
Total			25		
Matches			8		
Average			3.12		
	Time	**Minutes**	**Number of Goals**	**Average**	**Total**
Quarter-finals	1st time	1st – 15th	1	0.25	9
		16th - 30th	4	1.00	
		31th - 45th	4	1.00	
	2st time	46th - 60th	1	0.25	3
		61th - 75th	2	0.50	
		76th - 90th	0	0.00	
	Extra time	91th - 105th	2	0.50	6
		106th - 120th	4	1.00	
Total			18		
Matches			4		
Average			4.50		

	Time	Minutes	Number of Goals	Average	Total
Final Matches (Semifinal, match for third place and final)	1st time	1st – 15th	0	0.00	4
		16th - 30th	0	0.00	
		31th - 45th	4	1.00	
	2st time	46th - 60th	1	0.25	4
		61th - 75th	1	0.25	
		76th - 90th	2	0.50	
	Extra time	91th - 105th	0	0.00	0
		106th - 120th	0	0.00	
Total			8		
Matches			4		
Average			2.00		

	Time	Minutes	Number of Goals	Average	Total
Total	1st time	1st – 15th	19	0.37	63
		16th - 30th	20	0.38	
		31th - 45th	24	0.46	
	2st time	46th - 60th	17	0.33	82
		61th - 75th	33	0.63	
		76th - 90th	32	0.61	
	Extra time	91th - 105th	3	0.06	7
		106th - 120th	4	0.08	
Total			152		
Matches			52		
Average			2.92		

Table 2 - Ball possession percentages of winning and losing teams, shots, accurate shots and corner kicks.

Variables	Winning Teams			Losing Teams			Draw			Total		
	Total	Average per match	%	Total	Average per match	%	Total	Average per match	%	Total	Average per match	%
Shots	630	16.15	43.1	467	11.97	31.9	365	14.04	25.0	1462	28.12	100
Shots on goal	355	9.10	44.3	250	6.41	31.2	197	7.58	24.5	802	15.42	100
Corners	224	5.74	39.9	212	5.44	37.7	126	4.85	22.4	562	10.81	100

Winning teams carried out 630 shots (43.1%) and losing teams responded back with 467 shots (31.9%). 335 of 802 (44.3%) accurate shots came from winning teams and losing teams had only 250 shots (31.2%). Also again on corner kicks, winning teams has the superiority with 224 kicks (39.9%) against losing teams with 212 kicks (37.7%).

Teams scoring the first goal has won 22 (61.1%) of 36 games. In 18 (81.8%) of this 22 games the first goals have been scored in the first periods. 6 (75.0%) games of 8 in Round of 16s have been won by the teams that scored the first goal. In 3 (50.0%) of this 6 games the first goals have been scored in the first periods. 3 (75.0%) of 4 games in Quarter finals have been won by the teams that scored the first goal. In 2 (66.7%) of this 3 games the

first goals have been scored in the first periods. 2 of 4 games (50.0%) in Finals Matches (Semifinals, match for third place and final) have been won by the teams that scored the first goal. Both of these 2 goals were scored in the first periods. In the tournament, 33 (63.46%) of all games (52) have been won by the teams that scored the first goal and in 25 (75.76%) of this 33 games the first goals have been scored in the first periods.

In 5 (13.9%) of 36 matches, the teams conceding the first goal of the game have accomplished winning the game. 4 (80.0%) of this 5 matches the first goal have been scored in the first periods. Only 1 (12.5%) of 8 games in Round of 16s has been won by the team that conceded the first goal. And in this game the first goal has been scored in the first

period. No team that conceded the first goal of the game has been able to accomplish to win the game in quarter finals, semifinals, match for the third place and final. The teams that conceded the first goal of the game was able to win only 6 (11.54%) of all 52 matches in tournament. And in 5 (83.33%) of this 6 matches the first goals have been scored in the first periods.

Table 3 - Instance of winning the game by scoring the first goal.

	First Period	%	Second Period	%	Extra time	%	Total	%
Group Matches (n=36)	18	81.8	4	18.2	-	0.00	22	61.1
Round of 16 (n=8)	3	50.0	2	33.3	1	16.7	6	75.0
Quarter-finals (n=4)	2	66.7	-	0.0	1	33.3	3	75.0
Final Matches (n=4)	2	100	-	0.0	-	0.0	2	50.0
Total (n=52)	25	75.76	6	18.18	2	6.06	33	63.46

Table 4 - Instance of winning the game after conceding the first goal.

	First Period	%	Second Period	%	Extra time	%	Total	%
Group Matches (n=36)	4	80.0	1	20.0	-	0.0	5	13.9
Round of 16 (n=8)	1	100	-	0.0	-	0.0	1	12.5
Final Matches (n=8)	-	0.0	-	0.0	-	0.0	-	0.0
Total (n=52)	5	83.3	1	16.7	-	0.0	6	11.54

Table 5 - Variances of goals according to shooting areas

			Shooting Area			
Rounds	Number of Matches	Inside the Goal Area	Inside the Penalty Area	Outside the Penalty Area	Penalties	Total
Group matches	36	15	63	17	6	101
Round of 16	8	6	10	5	4	25
Quarter-finals	4	5	8	2	3	18
Final Matches	4	2	4	2	0	8
Total	52	28	85	26	13	152

Table 6 - Variances of goals according to shooting techniques

Shooting Type	Number of Goals	%
Foot	126	82.89
Head	25	16.45
Own goal	1	0.66
Total	152	100

Table 7 - The positions of goal scoring players

Positions	Number of Goals	%
Defenders	14	9.21
Midfielders	53	34.87
Forwards	84	55.26
Own goal	1	0.66
Total	152	100

28 (18.42%) goals were recorded as shot from inside the goal area, 85 (55.92%) goals from inside the penalty area, 26 goals (17.12%) from outside the penalty area and 13 (8.55%) goals from the penalty shots.

Majority of 152 goals scored in this tournament (82.89%) were shot by foot and 16.45% by head shots. There is also a goal recorded as an own goal.

84 of 152 goals (55.26%) were scored by forward players, 53 (34.87%) by midfielders and 14 (9.21%) by defenders.

DISCUSSION

To analyze the collective performance of the teams is important understand and determine the relevant parameters to achieve the main goals of the observation (Clemente et al, 2012).

In the first U-20 FIFA World Cup (1977) organization 28 matches played. U-20 FIFA World Cups are now organized in every two years as 52 matches since 1997. In 52 matches of 2013 U-20 FIFA World Cup, 152 goals were scored with an average of 2.92 goal per game.

51 matches (98.07%) of 52 in 2013 U-20 FIFA World Cup were played with goals and only 1 game (1.93%) ended without any goal. 36 matches (69.23%) of 52 had a winner. In the matches' first periods with an average of 1.21 goal per game 63 goals (41.45%) in total were scored, in the second periods with an average of 1.57 goal per game 82 goals (53.94%) in total were scored and in the extra times with an average of 0.13 goal per game 7 goals in total were scored. In games, most of the goals were recorded between 61st and 75th minutes with 33 goals and between 76th and 90th minutes with 32 goals. As seen on other similar researches, (Alberti et al, 2013; Armatas et al, 2007; Imamoglu et al, 2007; Giampietro et al, 2013; Goral et al, 2012; Leite, 2013) games' last periods and minutes are frequently where reached the most goal number.

In this study of Armatas et al, (2007) it is seen that most of the goals were scored in the second periods of the games in World Cup 1998 (60.8%), 2002 (59.0%), 2006 (52.5%). In the research of Muhamad et al, (2013), it is found that EURO 2012 Championship's most of the goals were scored in the second periods and in the last 15 minutes of the games. Also it is seen that winning teams' corner kicks are more than losing teams'. According to study of Leite (2013) most goals (57.89%) were again scored in the second half of the matches. In the study of Alberti et al, (2013) the four major European soccer leagues were investigated. The amounts of goals scored in the second periods of the games were found greater than the firsts. Also the highest scoring rate was found in the last 15 minutes of the matches. Armatas et al, (2009) studied the goals scored in Greek Super League and with a rate of 58.96% they found out the majority of goals were scored in the second period of the games. Imamoglu et al, (2007) in their research found out the rate of goals scored in 2006 FIFA World Soccer Cup as 48.98% for the first periods and 51.02% for the second periods. Also, Yiannakos et al, (2006) in their research, found that 57.4% of the goals in 2004 European Championship were scored in the 2nd half of the games. According to Mitrotasios et al, (2014) the most identified components of the performance in soccer matches are the scored goals. An analysis of how goals are scored can reveal critical factors that will help determine the most appropriate attacking strategy, briefly to obtain winning formula.

According to the research findings, winning teams have shot the ball 630 (43.1%) times and losing teams 467 (31.9%) times. 335 (44.3%) of 802 accurate shots came from the winning teams and the accurate shots rate for losing teams were recorded as 250 (31.2%). On corner kicks, winning teams have greater rate with 224 kicks (39.9%) than losing teams with 212 kicks (37.7%). Hughes et al, (2005) determined that successful teams' accurate shot rates are higher than unsuccessful ones. Lago-Peñas et al, (2011) have studied differences in performance indicators between winning and losing teams in the champion's league. In this study, winning teams have been found significantly better on shots, shots on goal and corner kicks than losing teams. The results from the present study indicate that winning teams made more shots, shots on goal and corners than losing and drawing teams.

Castellano et al, (2012) have studied Korea/Japan 2002, Germany 2006 and South Africa 2010 World Cups' match statistics. They found out that successful teams have higher rates on shots, shots on goal and corner kicks than unsuccessful teams. Similarly, in the

study of Delgado-Bordonau (2013) winning teams have higher rates on shots, shots on goal and corner kicks than losing teams. Lago-Ballesteros et al, (2010) found greater rates for top 4 clubs of the Spanish Soccer League on shots, shots on goal and corner kicks than the teams that have lower places on the league list. Baranda et al, (2012) have analyzed 2006 World Cup and determined that losing teams have higher amount of corner kicks (171) than winning teams (144).

In 2013 FIFA U-20 World Cup, teams that scored the first goal of the game have won 22 matches of 36 (61.1%). In 18 of this 22 matches the first goals were scored in the first periods of the game. In 6 games of 8 (75.0%) played through round of 16, teams that scored the first goal of the game have won. In 3 of this 6 matches (50.0%) the first goals were scored in the first periods of the game. 3 of 4 games (75.0%) in Quarter finals have been won by the teams that scored the first goal. In 2 of this 3 games (66.7%) the first goals have been scored in the first periods. 2 of 4 games (50.0%) in finals matches (semifinals, match for third place and final) have been won by the teams that scored the first goal. Both of these 2 goals were scored in the first periods. In the tournament, 33 (63.46%) of all games (52) have been won by the teams that scored the first goal and in 25 of this 33 games (75.76%) the first goals have been scored in the first periods.

In 5 of the 36 matches (13.9%) played through groups, the teams conceding the first goal of the game have managed to win the game. In 4 of this 5 games (80.0%) first goals have been scored in the first periods. Only 1 of 8 games (12.5%) in round of 16s has been won by the team that conceded the first goal. And in this game the first goal has been scored in the first period. No team that conceded the first goal of the game has been able to accomplish to win the game in quarter finals, semifinals, match for the third place and final. The teams that conceded the first goal of the game was able to win only 6 of all 52 matches (11.54%) in tournament. And in 5 of this 6 matches (83.33%) the first goals have been scored in the first periods. In the study of Delgado-Bordonau (2013) during the group matches in the 2010 soccer World Cup, the team scoring the first goal had 66.7% of victories, 4.2% of defeats and 29.2% of draws. In the knockout stage, the first goal effect had a stronger influence in game's outcome than in the group stage since in 81.3% of the cases the team scoring first won the match, versus 6.3% of defeats and 12.5% of draws. In the study Leite (2013) the team that scored the first goal was the winning team in 70.97% of the games. Armatas et al, (2009) studied goals scored in Greek Super League and found that at the rate of 71.43% winning teams are the ones that scored the first goal of the game. With reference to these findings, in big, international and worldwide tournaments we can say that scoring the first goal of the game, shooting accurately and in big amounts are highly effective to win the game.

In FIFA U-20 World Cup, 28 goals (18.42%) were shot from the inside of goal area, 85 goals (55.92%) from inside the penalty area, 26 goals (17.12%) from outside the penalty area and 13 goals (8.55%) from penalty kicks. Majority of 152 goals scored in this tournament (82.89%) were shot by foot and 16.45% by head shots. There is also a goal recorded as an own goal. Michailidis et al, (2013a) in their study of analysis of goals scored in European Championship 2012 found that most of the goals (71.1%) achieved through the penalty area. Michailidis et al, (2013b) in their study of analysis of goals scored in UEFA Champions League in the period 2009-2010 found that most of the goals (73.75%) achieved through the penalty area. Acar et al, (2007) in their study, according to the analysis of in 2006 FIFA World Cup, they found that 9% (13 goals) of the goals (147) from penalty-kicks. In the study of Njororai (2013), more goals were scored in the second half and especially in the last 15 minutes of normal game time and more goals were scored from within the penalty box than outside in 2010 World Cup. Overall, it is clear from this analysis that coaches have to focus on improving the technical and tactical build up into the penalty area. In the study of Imamoglu et al, (2007) 78.3% of the goals scored in 2006 FIFA World Soccer Cup were achieved by foot shots, and also in the study of Goral et al, (2012) 74.47% of goals were scored by foot shots.

In this tournament, of 152 goals 84 (55.26%) were scored by forward players, 53 by midfielders (34.87%) and 14 by defenders (9.21%). According to Imamoglu et al, (2007), in 2006 FIFA World Soccer Cup, the least goal scoring players according to their positions

have been found as the defenders (9.1%). Forwards have been determined as the most goal scoring players with the 59.4% of goal scoring rate according to the positions in game. Midfielders have achieved the goal scoring rate of 31.5%. According to Njororai (2013), strikers scored majority of the goals (53.10%) in 2010 World Cup, followed by midfielders (34.48%) and defenders (11.04%). In the study of Sajadi et al, (2007) in 64 games played through 2006 FIFA World Cup, 143 goals were scored with the average of 2.23 goals per match. 52.4% of goals were scored by forward players. According to Göral et al, (2012) performance indicators revealed by competition analysis done with the correct data according to certain criteria are considered to provide a significant contribution to the decision making process of coaches, since league marathon is a long period, being in the highest level of physic, condition and concentration in every moment of competitions is related to season performance of the teams and it is thought that necessary training season should be planned accordingly.

CONCLUSION

In conclusion, in the 2013 FIFA U-20 World Cup analyzed goal scoring frequency increases progressively throughout the game. The highest rates were achieved in the 2nd periods and last 30 minutes of the games. In games until final rounds the goal average per match (2.92) was higher than the rate of final matches per match (2.00).

Winning teams achieved 630 shots (43.1%) and losing teams responded back with 467 shots (31.9%). 335 of 802 accurate shots (44.3%) came from the winning teams and the accurate shots rate for losing teams were recorded as 250 (31.2%). In this tournament, 33 (63.46%) of all games (52) have been won by the teams that scored the first goal and in 25 (75.76%) of this 33 games the first goals have been scored in the first periods.

As a conclusion, shooting accurately and in big amounts are important factors to claim the control of the game and win. Moreover, with reference to these findings, in international and worldwide tournaments we can say that scoring the first goal of the game along with a good defense to avoid conceding a goal is highly effective to win the game.

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