ICE HOCKEY WORLD CHAMPIONSHIP - ANALYSIS OF TOTAL SHOTS AND SHOTS OF GOALS SCORED (U18-DIV III-Group B/2013)

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ABSTRACT

The aim of this study is to analyze the shots and goals scored of the teams competing in the Ice Hockey World Championships (2013) according to their regions. The aim is to develop new recommendations specific to the branch of ice hockey aimed at the distribution of shots and goals scored in ice hockey according to their regions by discussing and comparing the findings of this analysis with the other results and findings in the literature. The research group is the four ice hockey teams including South Africa, Israel, Ireland and Turkey participating in the organization of U18 World Championship that had held in Kocaeli Province of Turkey. Visual recordings of six competitions of these four teams were obtained from Turkish Ice Hockey Federation. Visual records and videos of the competitions that stored in the compact disk were viewed and goals scored and shots were marked on the template rink which had been created previously and determined according to the teams and areas by marking method and using paper and pencil. Marked data were shown on rink template in terms of percentage and frequency. In addition, goals scored in all competitions and their ratios were presented in tabular form. Data obtained were analyzed according to areas in the form of percentage and frequency. As a result, it was seen that most of the shots have been made from the circular area in front of the net and most of the goals are scored by the team which shoots more than the opponent. According to these statistical records, it has to be provided to give more time to shooting trainings in order to reach more scores and a series of exercises for the circular area in front of the net. Supporting these kinds of analysis studies for the branch of ice hockey is so important in terms of development of performances of skaters and use of the areas in order to score more goals.

Key words: Ice Hockey, Shot, Goal, Analysis

1. INTRODUCTION

It has been tried to find answers to the questions of levels of competition performances of teams and skaters and how this required to be determined by using competition analysis. Scientific analysis in terms of performance, are a tool for the improvement of future results and aim to improve the process during the competition (McGarry, 2009). These analysis enable to collect information about the movements during the competition and to reach the desired information instantly and allow the athlete to assess himself additionally. Especially, use of these analysis during the competition for the sports branches newly emerging in our country contributes to the development of sports. Researches in this direction are continuously continuing and different analysis models are being developed (Beetz et al, 2009). Objective observation and keeping the movements that may occur during the competition is very difficult that many observers and managers have developed many analysis methods appropriate for their aims. The simplest method is to use paper and pencil method and to record data. (Imamoğlu, Cebi and Kilcigil, 2007).

McGarry (2009) touched on the subject that analysis results of sports performances avail to the establishment of relationship between the application and theory. When viewed from this perspective, it can be said that competition analysis can contribute to the development of athletes and technical and tactical decisions. Kilpivaara (2012) has pointed out the existence of many cases and situations such as technique, tactics and types of shots and diversity of achieving scores affecting the result during the competition.

The most important factor determining the result of a competition is "goal". Determination of structure of offensive strategies and organizations resulted with goal and development of necessity-oriented training models will increase the success of the sports branch (Sonmeyenmakas, 2008). No matter how a team is good in the rink or produce how much more scoring chances, all its efforts will be meaningless if it cannot score goals. The importance of scoring goals has been emphasized by a number of studies referring to this issue. Trainings and

studies aimed on scoring goals is one of the most important subjects on which many studies have been performed in this issue for ice hockey (Cited by: Malkia, 2006; Westerlund 1992; Teivainen and Vahteristo 1995; Sumkin and Vuorinen 2005). By considering the ultimate goal of the forward line is to produce the necessary positions in order to score goal also in ice hockey such as the same with many sports, the team is required to establish its play in the offensive zone in order to produce the necessary positions and to score goals. The most important factors affecting to score are the position of the skater who will score points, the area, the direction of the movement, speed and the technique. Malkia (2006) and Winkler (1993) touched on the subject that match analysis are an integrative situation for the evaluation of general performance. They pointed out that many parameters composing football have to be determined while evaluating the performance and have to be recorded on a regular basis after examining according to their study on football.

Coaches can follow up the overall condition of their teams, individual performances of their players by benefiting from match analysis studies specific to the branch based on scientific data and should use these results and findings in favor of their teams and players (Gönener, Sertbas and Atali, Ozturk and Taskiran, 2004).

It has been seen that scientific methods for the movements in sports have been used for different sports in recent times in addition to the other important contributions of sports sciences. Aims of increasing performance and success lie at the bottom of these researches (McGarry, 2009). When viewed from these angles, this research is considered to contribute to ice hockey. The fact that there are not so much researches in the branch of ice hockey which is an emerging sports branch in our country further increases the importance of the research. The analysis of shots and goals scored of teams participating in Ice Hockey World Championships (2013) according to the areas and zones of these shots is considered to contribute to technical and tactical performances of athletes and individual performances in the branch of Ice Hockey.

The aim of this study is to analyze the shots and goals scored of the teams competing in the Ice Hockey World Championships (2013) according to their regions. The aim is to develop new recommendations specific to the branch of ice hockey aimed at the distribution of shots and goals scored in ice hockey according to their regions by discussing and comparing the findings of this analysis with the other results and findings in the literature.

2. METHOD

2.1. Research Group

The research group is the four ice hockey teams including South Africa, Israel, Ireland and Turkey participating in the organization of U18 World Championship that had held in Kocaeli Province of Turkey. The competitions of the organization were held in Kocaeli Ice Rink (Kocaeli B.B. Ice Arena) and six competitions took place between the teams. A total of 2571 spectators watched the competitions (www.iihf.com).

2.2. Data Collection

Visual recordings of six competitions of these four teams were obtained from Turkish Ice Hockey Federation. Visual records and videos of the competitions that stored in the compact disk were viewed and goals scored and shots were marked on the template rink which had been created previously and determined according to the teams and areas by marking method and using paper and pencil.
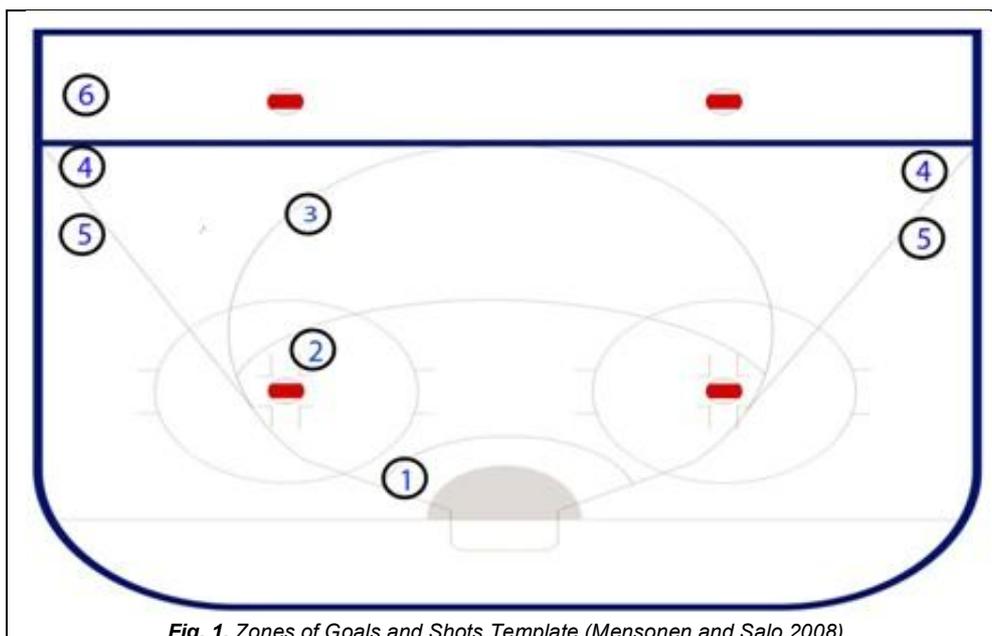

*Fig. 1. Zones of Goals and Shots Template (Mensonen and Salo,2008)*

Determination of the distribution of shots and goals scored according to the areas was made by Menson and Salo (2008) previously according to determined the areas and zones of Ice Hockey (Figure 1). An Ice Hockey

rink is divided into six parts. These parts are named as the crease area (1), the area at the face-off circle (2), the big circle (3), inside the attacking triangle (4) outside the attacking triangle (5) and behind the blue line (6).

2.3. Analysis of Data

Goals scored and shots were determined with marking method by using paper and pencil on the created rink template according to the areas and zones. Marked data were shown on rink template in terms of percentage and frequency. In addition, goals scored in all competitions and their ratios were presented in tabular form and data obtained were analyzed according to areas in the form of percentage and frequency.

3. FINDINGS

Fig. 2. *Distribution of Shots at the World Championships according to the Area*
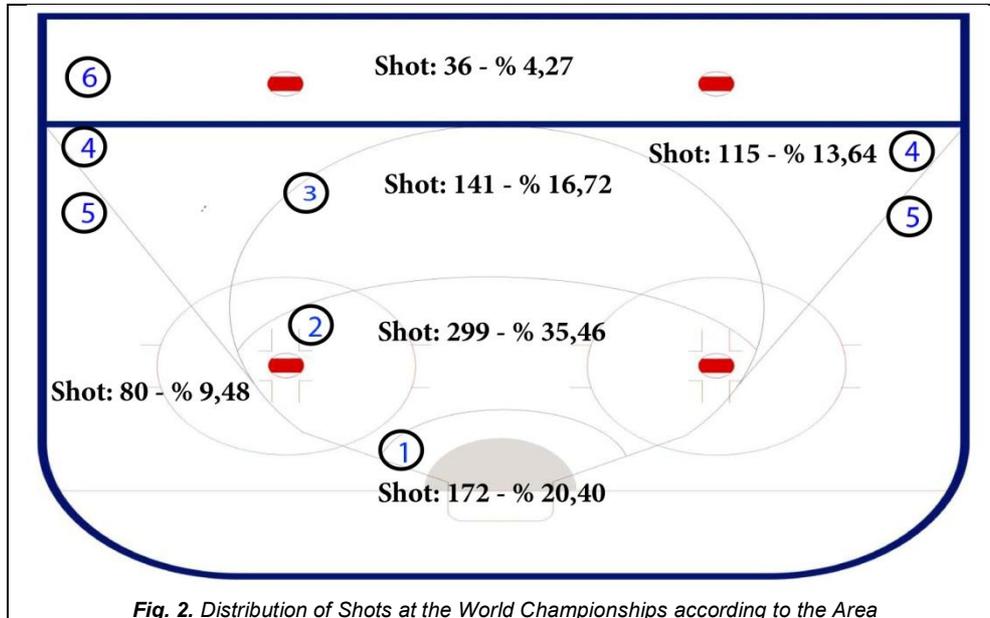
As illustrated in Figure 2, considering the distribution of total shots according to the zones, it can be seen that most of shots were sent from the area at the face-off circle with no.2 with 299 and have a ratio of 35,46% and the least shots were sent from the area named behind the blue line with no.6 with 36 and have a ratio of 4,27%.

Fig. 3. *Distribution of Goals scored at the World Championships according to the Areas*
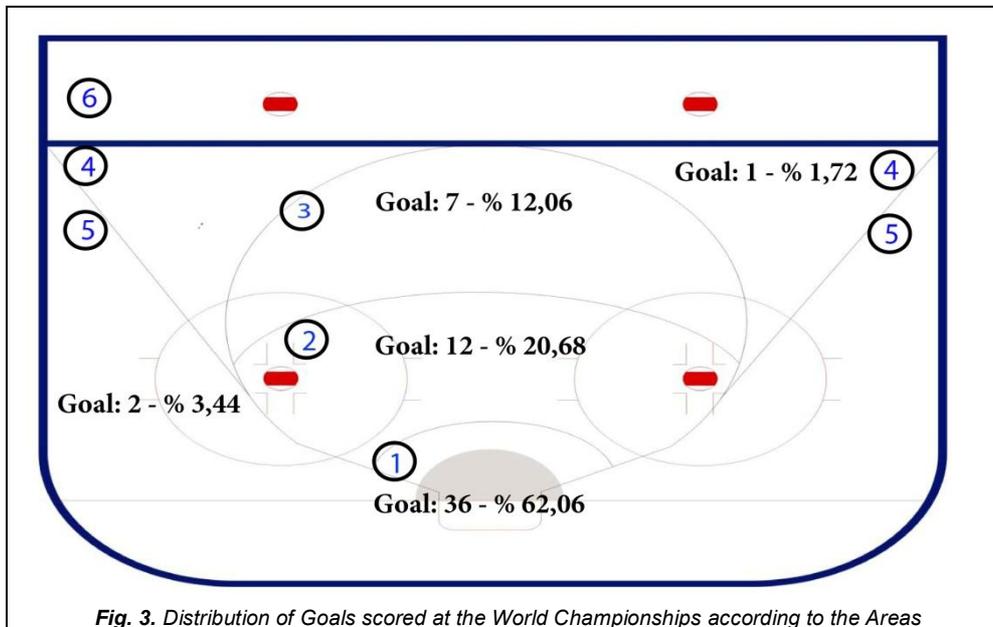
As illustrated in Figure 3, considering the distribution of total goals according to the zones, it can be seen that most of shots were sent from the crease area with no.1 with 36 and have a ratio of 62,06% and the least shots were sent from the area named inside the attacking triangle with no.4 with 1 and have a ratio of 1,72%.

Table 1. Distribution of Shots and Goals Scored based on teams at the World Championships

Teams	Goals Scored		Shots	
Israel	25	% 43,10	312	% 37,01
South Africa	14	% 24,13	216	% 25,62
Turkey	13	% 22,41	188	% 22,30
Ireland	6	% 10,34	127	% 15,06
Total	58	100,00	843	100,00

As illustrated in Table 1, considering total goals scored, Most of the goals were scored by Israeli team with 25 and have ratio of 43,10% and most of shots were sent by the same team with 312 and have a ratio of 37,01%. By contrast with this situation least of the goals were scored by Irish team with 6 and have a ratio of 10,34% and the least of shots were sent by the same team with 127 and have a ratio of 15,06%. In addition, the average of goals per competition is 9,7 for the organization in which 6 competitions were held and 58 goals scored in total.

4. DISCUSSION

Shots and goals scored of the teams competing in the Ice Hockey World Championships (2013) have been tried to be analyzed according to the areas and zones in this study. Recommendations specific to the branch of ice hockey were developed aimed at the distribution of shots and goals scored according to the areas and zones by discussing and comparing the findings obtained as a result of analysis performed in this study with the other results in the literature in this section.

It was observed that the highest shot ratio was seen at the areas including area of the face-off circle (2) that forms a circular area in front of the net, the crease area (1) and the big circle (3) respectively according to the analysis performed during the study. The prominent characteristic of these areas is the fact that the player who will shoot is able to see the net obviously. The most important factors affecting to score are the position of the skater who will score points, the area, the direction of the movement, speed and the technique (Malkia, 2006).

According to the analysis of the areas and zones of goals scored, respectively, it was seen the most of the goals scored were sent from the crease area (1), the area at the face-off circle (2) and the big circle (3). According to a study conducted by Mensoken and Salo (2008), it was determined that the most of the goals scored were sent from the crease area (1), the area at the face-off circle (2) and the big circle (3) respectively at the 2005 World Championships and the 2006 Olympic Games. And also an another study conducted by Sumkin and Vourinen (2005) about the 2003 World Championships confirms these findings. It can be said that the zonal distribution of the shots which are resulted as goals mostly and these findings show a similarity. Mikkola (1986) has identified the most suitable area for shooting. According to him, the goal scoring possibility increases when the shot is sent from a circular area in the offensive zone. In addition, Kostka (1971) approached to the event of scoring from a different viewpoint during his studies about scoring and he used a triangular area in order to define and describe the most suitable area for shooting. At the same time, he stated and argued that the midpoint of the area seven meters from the net is the most suitable point for the final shot. (Malkia, 2006).

It was seen that the team which shot more than all the others is the team which scored more than all the other teams and the team which shot less than all the others was the least scoring team of the organization. In addition, the average of goals per competition was determined as 9,7 for the organization. It was determined that the average of goals per competition was 5,4 at the 2006 Olympic Games and 5,2 at the 2005 World Championships which had been examined by Saarinen, Mensonen and Small (2009).

As a result, it was seen that most of the shots have been made from the circular area in front of the net and most of the goals are scored by the team which shoots more than the opponent. According to these statistical records, it has to be provided to give more time to shooting trainings in order to reach more scores and a series of exercises for the circular area in front of the net. Supporting these kinds of analysis studies for the branch of ice hockey is so important in terms of development of performances of skaters and use of the areas in order to score more goals.

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