



UNIVERSITÀ DEGLI STUDI  
DI MILANO

# THE LAST FIFTEEN MINUTES OF THE FOOTBALL MATCH: ANALYSIS OF TECHNICAL ACTIONS OF GOALKEEPER

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FACOLTÀ DI  
SCIENZE MOTORIE

## Introduction

Match analysis studies show that the Italian Serie A football players cover 23.5% metres less at high intensity in the last fifteen minutes than in the first fifteen minutes of the match and the highest number of goals are scored in the last fifteen minutes of the second half (Ferretti F., 2007). A high-level goalkeeper runs about 4 km in a match (Stølen T. et al., 2005) and his movements are accomplished primarily through slow changes of position, alternating with fast actions of a few meters (Filippi C. and De Bellis R., 2008).

## Purpose

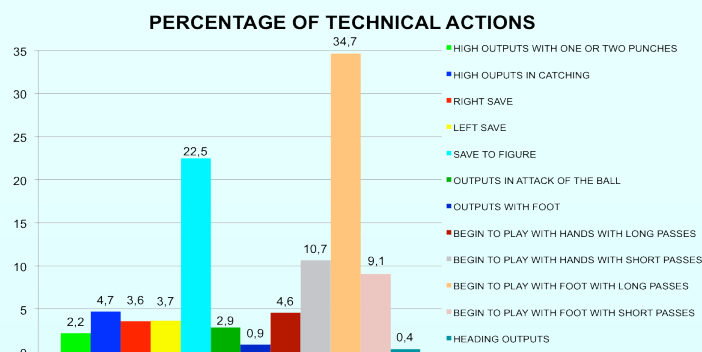
Therefore the aim of this study was to analyze the frequency of technical actions that the goalkeeper of the Serie A completes during the match and to check if in the last quarter of an hour there is a change in frequency of such actions.

## Methods

50 games of the 2007-2008 season of the Italian Serie A were examined for a total of 100 goalkeeper performances. The collected data was analyzed using the Anova test to check if every single action in each performance showed significant differences between the different quarters of the match (6 quarters), and with the Student t test to verify if there were differences between each action in the average of the first 5 quarters and last quarter of the match. The statistical significance calculated at  $p < 0.005$ . Statistical analysis was performed using the software SPSS v. 17.

## Results and Discussion

An analysis using the Anova test did not show any statistically significant difference, while analyzing the average of the first 5 quarters with the last quarter of the match, there was a significant difference in the high outputs with one or two punches ( $p < 0.001$ ). This result indicates that there are more high outputs with one or two punches in the first 5 quarters of the match than in the last fifteen minutes.



**Graph 1.** The graph shown the percentage of technical actions performed by a goalkeeper during 90 minutes + injury time of a match.

TECHNICAL ACTIONS	P VALUE
HIGH OUTPUTS WITH ONE OR TWO PUNCHES	0,0009**
HIGH OUTPUTS IN CATCHING	0,2126
RIGHT SAVE	0,4899
LEFT SAVE	0,6861
SAVE TO FIGURE	0,8181
OUTPUTS IN ATTACK OF THE BALL	0,9207
OUTPUTS WITH FOOT	0,0962
BEGIN TO PLAY WITH HANDS WITH LONG PASSES	0,3098
BEGIN TO PLAY WITH HANDS WITH SHORT PASSES	0,9503
BEGIN TO PLAY WITH FOOT WITH LONG PASSES	0,8720
BEGIN TO PLAY WITH FOOT WITH SHORT PASSES	0,6890

**Table 1.** The table shown the significant difference between each technical actions performed in the last fifteen minutes and the first 5 periods of a match.

\*\* p-value < .001

## Conclusions

With the passing of minutes, the game becomes less organized as a result of physical decline, the players often try to shoot a goal, remaining in large numbers inside the box and increase the danger to the goalkeeper and the possibility of being scored a goal. From this study it is possible to assume that, towards the end of the match, these factors lead the goalkeeper to change his technical and tactical approach, opting for different choices, such as not making high outputs because of the presence of many players in the goal-area making possible contact with a player and loss of the ball.

## References

- Ferretti F, (2007). Il calo nell'ultimo quarto d'ora, *Scienza e Sport*, 0:20-5.  
Filippi C and De Bellis R, (2008). L'allenamento fisico, *Il Nuovo Calcio*, 189:146-50.  
Stølen T, Chamari K, Castagna C, Wisløff U, (2005). Physiology of soccer, *Sport Med.* 35(6):501-536.