Do saccadic movements influence soccer players' decision-making?

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Abstract

Saccadic movements are one of the components involved in visual tracking. It is an important way to conduct a preliminary mapping of a situation that subsequently the individual will select the best sources of information to be analyzed. However, this variable is not explored within the soccer context, but its function seems to be important in the build up of decision-making in players who perform a greater number of saccades and are also able to identify more relevant information for further analysis. The aim of this study is to examine saccadic movements of soccer players with different levels of quality of decision-making. The sample comprised 57 youth soccer players. The instrument used to collect and analyse data was the Mobile Eye Tracking – XG (Applied Science Laboratories, Bedford, MA, EUA). This system is used to examine gaze behaviour through the track of visual focus. The players were grouped according to their age group: U-13, U-15, U-17. Video stimuli were the same as the one employed by Mangas (1999). Descriptive statistics (mean and standard deviation) were performed. T-test was used to determine whether there were differences between groups with different levels of quality of decision-making. Results from the saccadic analysis did not display differences between groups with high and low quality of decision-making (t₁₁₆=1,613, p=0,113, r=0,22). These results indicate that saccadic movements do not influence players' decision-making. This may occur because this variable does not provide information at the cognitive level and therefore cannot provide any useful information for the players' decision-making. It is concluded that there are no differences in saccadic movements between players with different quality of decision-making.

Keywords: Saccadic Movements; Decision-Making; Soccer

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