Visual search strategy of soccer players according to positional roles

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Visual search strategy (VSS) has been considered one of the most important aspects within the process of decision making in soccer. The literature shows that there are differences on VSS between different competitive levels but in relation to positional roles, further investigation is necessary due to differences demands for positional. The sample comprised 17 U-13 youth soccer players. The instrument used to collect and analyze VSS was the Mobile Eye Tracking – XG. The players were grouped according to the following positional roles: defenders, midfielders and forwards. The video stimuli were the same as the one employed by video based test. VSS stimuli was classified in five categories: “player in possession of the ball”; “ball”; “teammates”; “opponent”; “space”. The number of fixations made by players, in each stimuli category was analyzed. Data distribution was verified by Shapiro-Wilk's test. One-way ANOVA was performed to compare mean values. The “ball” category displayed significant differences between midfielders (15.50±5.85) and forwards (27.80±7.36). Other significant difference found was in “teammates” category, between midfielders (22.00±5.62) and forwards (34.60±1.81). These findings may be related to the specific task of each positional role in the game. Forwards tend to focus their actions on receiving the ball and therefore are more likely to look at the ball while midfielders need to focus on different stimuli to read the game. Other of forwards' task is to create space in order to enable the team to advance up the field. Thus, it is necessary that the forwards are aware of their teammates' movements and that they are able to make the best decisions. These findings are important for coaches and researchers to know how VSS changes according to positional roles, in order to provide their athletes with proper feedback.

Keywords: visual search strategy, positional role, youth soccer

How do individual team members regulate their behavior to achieve spatiotemporal collective behavior?

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This study aimed to analyze processes of the emergence of collective behavior patterns. Collective behavior, considered as self-organized, emerges from individual activities that interplay as the activity unfolds. The purpose of the present study was to explore how co-agents actively (co-)regulate their involvement to contribute to the emergence of collective behavior on-site. To this end, we aimed at describing the variety of ‘modes of regulation’ achieved by team members during a soccer game. One team of expert soccer players (i.e., national level) participated in this study. We video recorded a complete official game using a drone. A sequence of ten minutes was selected, based on which phenomenological data was collected for all of players through individual self-confrontation interviews. The verbal data obtained were transcribed verbatim, from which we reconstructed the visual perception and the associated behavioral adjustment as players can comment it for each instant of the activity under study. Then, a thematic analysis helped to identify patterns of meanings within verbalization data, leading to the characterization of various modes of regulation. These modes were then re-positioned within the course of the experience of each teammate, so that co-regulation modes could be identified at each instant of the game. The results showed the amount of typical patterns of regulating activity carried out by participants, going from a mode of ‘local couplings’ to one of ‘couple through grasping a global picture’. When associating each identified mode of regulation with a degree of ‘collective adoption’, that is the probability to simultaneously appear across the various participants involved in the collective behavior, the results showed that all the team members were able to share the same mode of regulation at the same time. Occasionally, one or several members switched to another mode of regulation, thus helping to avoid the disruption of collective behavior.