

Decision-making skills and role-specificity in football refereeing

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Introduction

Top-level football referees (Rs) and assistant referees (ARs) have to be in a perfect psychological and physical condition to make the right decisions and to keep up with the game (Helsen & Bultynck, 2004). Although most of these officials are in a typical age category in which general cognitive skills start to decline, they are expected to assess in a split-second critical incidents such as foul play and offside situations in a correct and consistent way. To preserve top-performances, age-related declines in performance need to be dealt with. Therefore, the aim of this study is to examine whether older Rs and ARs can keep up with the high standards for role-specific cognitive skills, while the general cognitive skills may be subjected to a normal age-related decline in performance.

Methods

Four groups participated in the study that consisted of Rs and ARs of international level on the one hand (7 Rs; 9 ARs) and national level officials on the other (20 Rs; 22 ARs).

Performance was measured for general cognitive skills. Five reaction time tasks were used to measure various aspects of their information-processing speed. A finger-tapping task was included to test the peripheral motor speed. Verbal intelligence was tested using a speeded word-producing task. Finally, they were subjected to a digit symbol substitution test (perceptual motor speed) and a digit span test (working memory).

The Rs and ARs also participated in a core referee skill task (application of the laws of the game) and a core assistant referee skill task (offside assessment). So, one task was very role-specific for each of the two referee groups, while the other task was expected to be in the near transfer domain.

Results

With respect to the general cognitive skills, the results of the four groups were in line with the normal age-related declines. Regardless of this observation, the international officials (Rs= 76.0%; ARs= 67.8%) outperformed their national counterparts (Rs= 70.4%; ARs= 57.6%) on the specific cognitive skills tasks. For the role specificity, the Rs (73.2%) clearly performed better than ARs (67.2%) for the foul play assessment task, and ARs, in turn, clearly performed better on the offside decision-making task (Rs= 54.7%; ARs= 62.7%).

Discussion

MacMahon et al. (2007) showed that there are role-specific skills between players and Rs. Within refereeing, however, there also seems to be very role-specific skills for Rs and ARs. Although both roles are quite related and transfer may be expected, a clear difference in performance on the role-

specific task was observed. So, very specialized training is needed to become an expert R or an expert AR. Finally, continued training and performance at high level results in the maintenance of specific cognitive skills regardless of the normal age-related decline in performance on general cognitive skills.

Helsen, WF & Bultynck, JB (2004). *JSS*, 22, 179-189.

MacMahon, C, Helsen, WF, Starkes, JL, & Weston, M (2007). *JSS*, 25, 65-78.

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