

Anticipation and gaze behaviour when defending shots in basketball

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The aim of the study was to examine sources of information for predicting shooting behaviour in basketball players. Using a representative research design, 31 (15 national level experts, 16 novices) participants watched life-sized videos of basketball players performing shots or shot fakes. Shooting actions were temporally occluded at one of three events; gaze orientation to basket, ball at head height, shot initiation. Participants decided if the shooting motion was a shot or fake by activating response switches with a game-like motions. Accuracy, response time, and confidence were recorded along with gaze behaviour. The results showed an interaction between shot fake and occlusion event, indicating that later occlusion of a normal shooting motion increased the probability of a shot deceiving a defender. In comparison to novices, experts were affected by this interaction with a delay. In contrary to the accuracy, the confidence in giving the correct answer increased with later occlusion. Further, eye gaze was located at the hips for longer in experts when shots were accurately anticipated. Our results suggest that direction of a defender's attention towards to the shooter's hips to may help the anticipation of genuine and fake shots.