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A field-based study of the influence of probability information on skilled detection of deception

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A field-based study of the influence of probability information on skilled detection of deception

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We conducted a field study of the influence of outcome probability information on 1-on-1 duels in a group of 12 highly-skilled Academy football U-23 players. On each trial, conducted within a 10m x 10m area, the attacking player attempted to dribble the ball past the defensive player on their left or right side, with or without a deceptive 'step-over' action. Before each trial, the defender was told the probability the player would take the ball to their left and right (50-50; 35-65; or 80-20). From video recordings of each trial, the defender's performance was rated on a 4-point scale based on initial movement relative to outcome direction and whether they were successful in blocking the attacking player. In addition, separation between the attacker and defender was estimated across a time window from -400ms to +1000ms relative to the time the foot contacted or passed over the ball. Analysis revealed a significant interaction between prior outcome probability and deception. The defensive player performed worse when high outcome probability was aligned with the fake. Conversely the fake was ineffectual when aligned with low probability. This finding was reflected in the increased separation between the attacking and defensive player, which emerged as the actions unfolded. The study confirms recent lab-based evidence that probability information influences skilled detection of deceptive intent.

Keywords: deception; anticipation; soccer