O-99:Visual Exploratory Activity of Youth Soccer Defenders: Insights from Out-of-Possession Play

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BACKGROUND

Research on visual exploratory activity (VEA) in soccer has advanced significantly (e.g., 1, 2). VEA or "scanning" involves head, shoulder, or body movements where players look away from the ball to assess their surrounding environment, aiding performance with the ball [2]. Studies have shown a positive link between scan rate (scans/s) and in-possession performance, especially passing success (e.g., 1, 2). However, there is no research on defenders' VEA while out of possession, despite its importance in anticipating opponents' actions.

METHODS

Using manual coding of VEO footage, we recorded the scanning behaviours of 16 English National Youth League Academy defenders during one match each. The "interactive mode" of VEO allowed panning of wide-angle recordings. Three out-of-possession phases were analysed: (1) being out of possession for longer than 10 seconds that does not end in ball contact, (2) 10 seconds before an opposition set piece was taken, and (3) 10 seconds before a participant making a positive defensive action (i.e., tackle/interception). A total of 696 clipped phases were analysed.

RESULTS

A linear mixed model analysis revealed significant differences in scan rate across phases ($p < 0.05$). VEA was highest before a set piece (M = 0.32 scans/s), lowest before making a positive defensive action (M = 0.17 scans/s), and intermediate during prolonged out-of-possession periods (M = 0.24 scans/s). These results indicate that the phase of play while out of possession significantly affects defenders' VEA. Independent samples T-tests showed no significant differences in scan rates between wide and central defenders across phases.

CONCLUSION

This study highlights the under-researched area of defenders' VEA, showing frequent scanning influenced by the phase of play. Defenders likely use pre-set piece time to gather relevant environmental cues, such as opposition players to mark, and focus on the ball the moments prior to making a positive defensive action. Coaches can leverage these insights to guide players on optimal scanning timing while out of possession. Future research should explore other factors affecting defenders' VEA, including distance to the ball and pitch location.

REFERENCES

1. Feist J, Datson N, Runswick OR, et al. (2024). *Int J Sport Psychol*, 1-23.

2. Jordet G, Aksum, KM, Pedersen DN, et al. (2020). *Front Psychol, 11*, 553813.