

INTERPERSONAL COORDINATION TENDENCIES EXPLAIN 1V1 OUTCOMES IN FOOTBALL

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Introduction

Previous research on 1 v 1 attacker-defender dyads in sport (e.g., Palut, & Zanone, 2005) revealed specific relational patterns that expressed inter-dependence between players. In this study we investigated whether coordination tendencies existed between association football players in 1vs1 sub-phases.

Methods

Six under-13 level football players (11.8 ± 0.4 years) performed a 1vs1 task, where attackers tried to create shooting opportunities and defenders attempted to recover the ball to attack the opposite goal. Each participant completed 20 trials as an attacker. The other five players performed alternately 1 trial as defenders, resulting in a total of 120 trials. For analysis, we selected 82 sub-phase plays ($n=55$ with attacker success; $n=27$ with defender success) that resulted in a shot on goal. Players' displacement trajectories were captured by a single digital video camera and spatial coordinates (25 Hz) obtained using motion analyses techniques (see Duarte et al., 2010). Relative phase values (Palut, & Zanone, 2005) between the distances of each player to the goal line were calculated to examine space-time coordination of the players.

Results & Discussion

When attackers were successful, relative phase values revealed high attraction to in-phase relations (near 50%). When defenders were successful, the relative phase attractor deviated towards negative values (near -30 degrees), revealing a lead-lag from the defensive player (33.5%).

Conclusion

Data suggested that in successful attacks both players remained highly synchronized in space and time. When defending players led the spatiotemporal relationship (i.e., when they were moving before the attackers), the outcome was favourable for them.

References

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