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## Abstract details

Title: DIRECTION MATTERS WHEN DESIGNING FOOTBALL PRACTICE – INVESTIGATING THE REPRESENTATIVENESS OF POSSESSION GAMES VIA POSITIONAL DATA

Session: OP-AP25 - TEAM SPORTS: LOAD MONITORING

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INTRODUCTION:
In football, practitioners and sports scientists observe a growing involvement in possession games (PG) to encourage passing skills, interpersonal space exploration, and occupation tendencies (Menuchi et al., 2018). These training tasks are designed without goals so that goal-setting shifts from goal-scoring towards maintaining possession for as long as possible. Informed by the Ecological Dynamics framework, collective cooperative behaviour is shaped by the layout of the available affordance landscape (Pinder et al.,2011). So, to facilitate skill transfer from training to the actual game, the present study investigates the representativeness of interpersonal relations in PG practice in football (O Sullivan et al., 2021).
METHODS:
22 male football players (age: 23 ± 2.5 years, body height: 183 ± 8 cm, mass:77.2 ± 7.8 kg) participated in one formal game (FG) condition (FG11VS11), two on-goal (OG) practice games: 6 vs. 6 (OG6VS6) and 7 vs. 5 (OG7VS5) and two PG conditions, 6 vs. 6 (PG6VS6) and 7 vs. 5 (PG7VS5), which aimed players to maintain possession as long as possible. The teams performed 60 trials in a crossover study design. Players' positional data were computed using a global positioning system (10 Hz, Catapult ®) and processed to calculate measures of inter-team distance, dyadic distance, and distance to the nearest opponent. The resulting values were analysed via repeated-measures ANOVA using the statistical software R (version 4.2.2). Tukey test for pairwise comparison was used when the repeated-measures ANOVA was $\alpha \leq 0.05$.
RESULTS:
Results from the repeated-measures ANOVA revealed significant differences between the played conditions for distance to the nearest opponent, $F(4, 50) = 48.14$, $p < 0.001$, $\eta 2 = 0.76$, dyadic distance, $F(4, 50) = 72.13$, $p < 0.001$, $\eta 2 = 0.85$, and inter-team distance, $F(4, 50) = 9.64$, $p < 0.001$, $\eta 2 = 0.44$. The pairwise comparisons between FG11VS11 and the other conditions reveal that FG11VS11 resulted in a significant higher distance to the nearest opponent compared to PG6VS6 ($p = 0.0116$) and significantly lower values compared to PG7VS5 ($p < 0.0001$). The inter-team distance also differed in the two PG conditions compared to the formal game condition: (PG6VS6 ($p = 0.0084$) and PG7VS5 ($p = 0.0004$). Furthermore, Dyadic distance in FG11VS11 was significantly higher across all practice conditions ($p < 0.01$).
CONCLUSION:
The major findings indicate that concerning the spatiotemporal relation, the applied possession games differed significantly from the FG, while the OG conditions showed representativeness. Consequently, when simulating the interpersonal properties of football, the direction of play is crucial to facilitate kinematic representativeness. Future studies should extend the kinematic comparison between the formal game and practice tasks in football to facilitate skill transfer into the performance environment (Farrow et al., 2016).

1. Menuchi et al. (2018) 2. Pinder et al. (2011) 3. O Sullivan et al. (2021) 4. Farrow et al. (2016)

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