



Basketball players' performance variability and team interactions

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Abstract:

In basketball and other team sports, measures of players' performance should focus not only on performance level measurement, but also on performance variability. In this contribution, we model performance variability by using Markov switching models, assuming the presence of two performance regimes, good and bad performance, that can be also related to the positive or negative synergies among specific combinations of players. The relationships between each player's performance variability and line-up composition are then investigated. Based on the interactions between teammates, a score is defined for the line-ups, which correlates with the line-up's shooting performance. This shows how interactions between teammates affect team performance. This information can give important insights to coaches when deciding the best strategy in line-up composition.

Keywords:

Sports analytics; Markov switching models; performance regimes; line-up composition; shooting performance