Hot Hand Fallacy

Applies for

1. Hitters
2. Pitchers
3. Teams   
     
   Bottom-line: There is no predictive value of any a/b/c above whom are going through a streak of performance consistently above or below their expected production. This condition relies on confounding variables such as skill regression or progression, park affects, weather, etc. staying constant.   
     
   Situation: Choose a player X whose wOBA is above a players average batting components for the past 10 games. AKA “Hot.” Choose a player Y whose wOBA is the opposite percentage wise as player X. AKA “Cold.”

Now choose 1 game and 5 games after the beginning of those win streaks. Look at their average wOBA over their 10-game streak. Add the cold players difference in wOBA to the hot player’s difference in wOBA and they will be close to zero. They Balance each other out.

Expected wOBA – Streak wOBA.

This shows that players regress and progress around their expected value and no sampling size can combat this principle.

Also, the expected wOBA over the streak and the actual wOBA will always progress towards the expected as n increases given no change in variables. i.e. Temperature, Ability, Injury, park affects, team….