

Three Pointers In The NBA

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Problem

How do three point statistics affect your odds of winning in the NBA?

- Game-by-Game
- By Team Over Entire Season

Three point statistics studied:

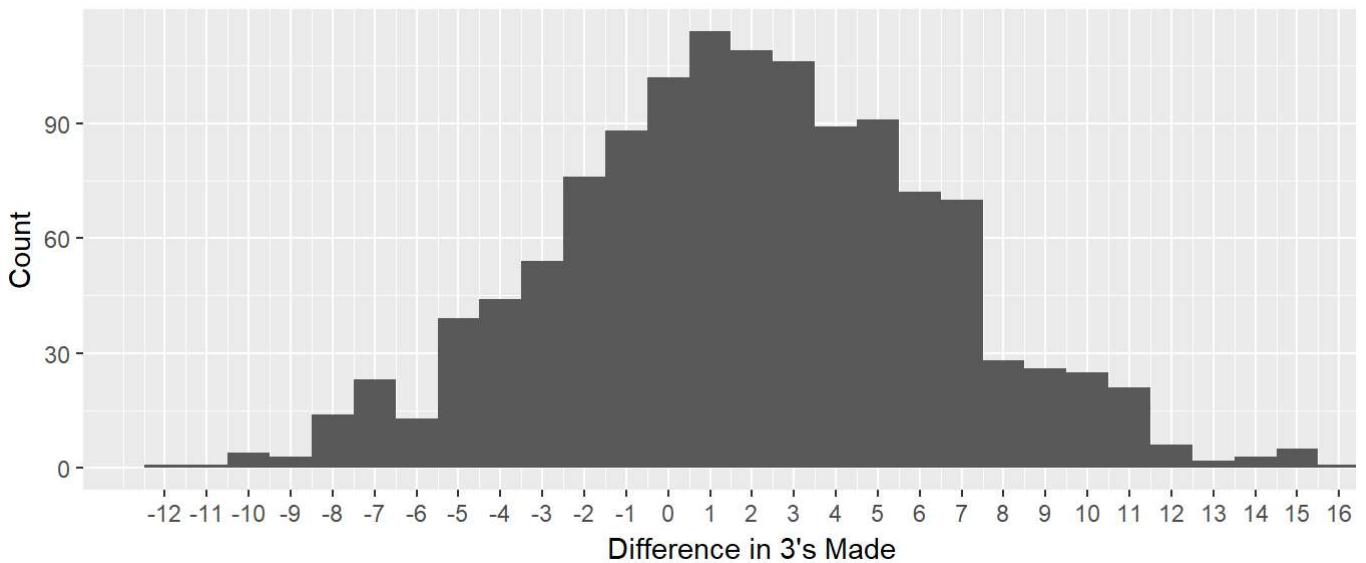
- Number of three's made
- Three Point Percentage
- Percentage of total point contributed by three's

Game-By-Game

- Looked at patterns by winning teams
 - Number of Winning Team's Made 3's - Number of Made 3's Allowed
 - Winning Team's 3-Point Percentage - Opponent's 3-Point Percentage
 - Winning Team's Percentage of Points from 3's - Opponents's Percentage of Points from 3's

Game-By-Game

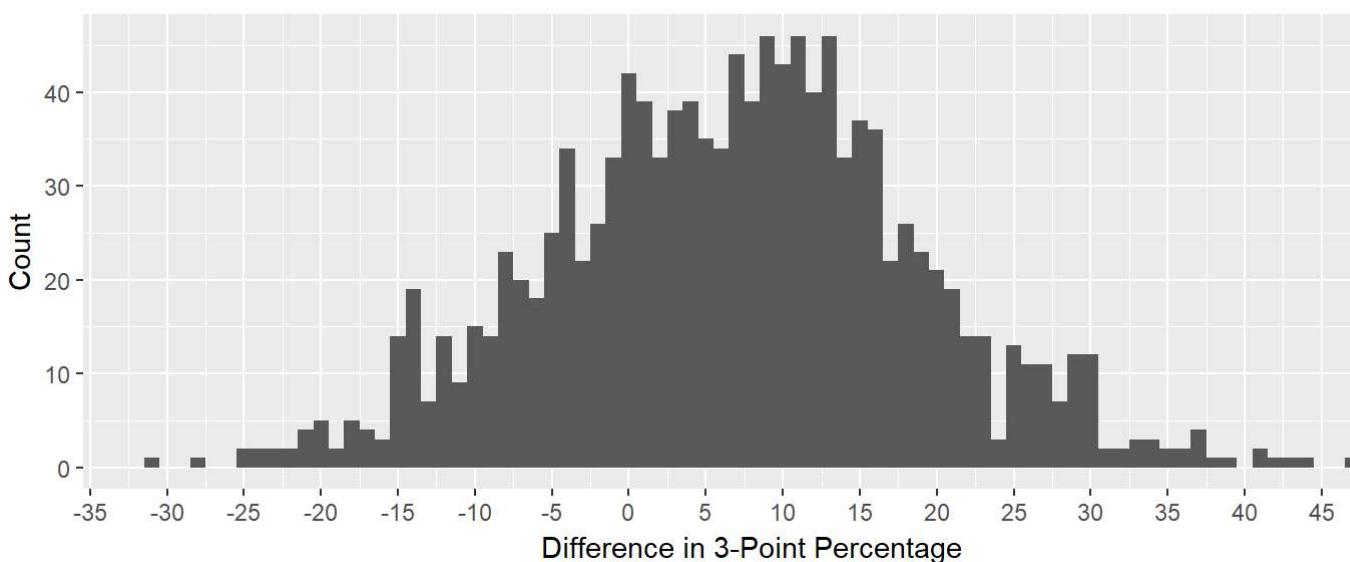
Number of Winning Team's Made 3's - Number of Made 3's Allowed



- No definitive patterns can be concluded
 - Winning teams can be out scored in 3-points and still have a good chance of winning

Game-By-Game

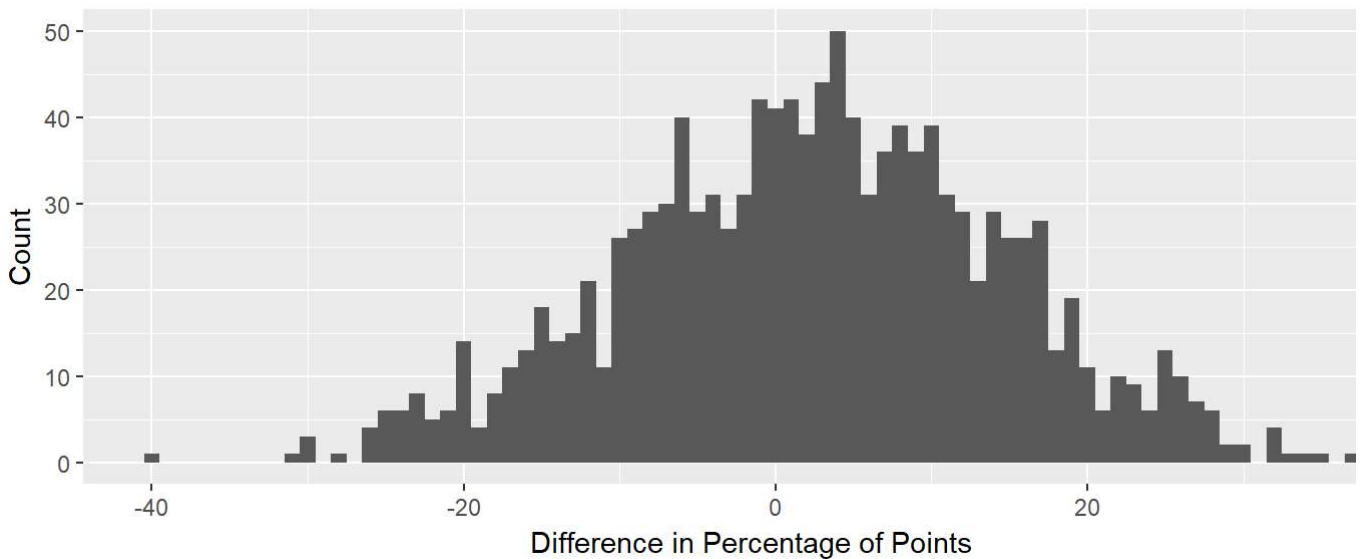
Winning Team's 3-Point Percentage - Opponent's 3-Point Percentage



- No significant patterns emerged
 - Winning teams can be less efficient than their opponents and still have a good chance of winning

Game-By-Game

Winning Team's Percentage of Points from 3's -
Opponents's Percentage of Points from 3's



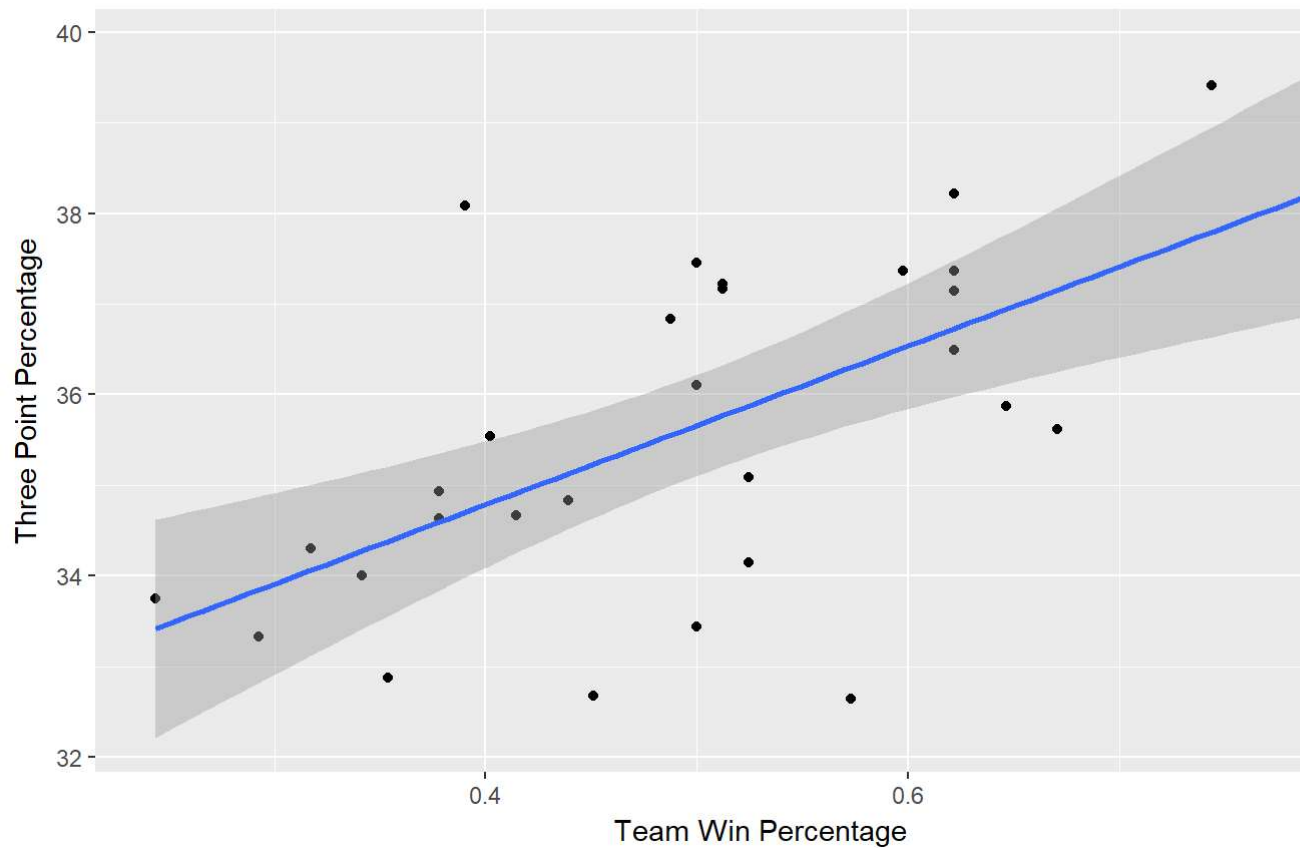
- Similar to other two, no significant patterns
 - Teams can have a greater percentage of points come from 3's than their opponents and still have a good chance to lose

Game-By-Game Summary

- According to end-game statistics, there's no significance/correlation to out-producing your opponent to win a game
 - Coaches and players shouldn't worry about adjusting their game to match their opponent's production from the 3-point line
- Created a model with 74% accuracy but the validity of the model is questionable due to using end-game results unintentionally improving the accuracy

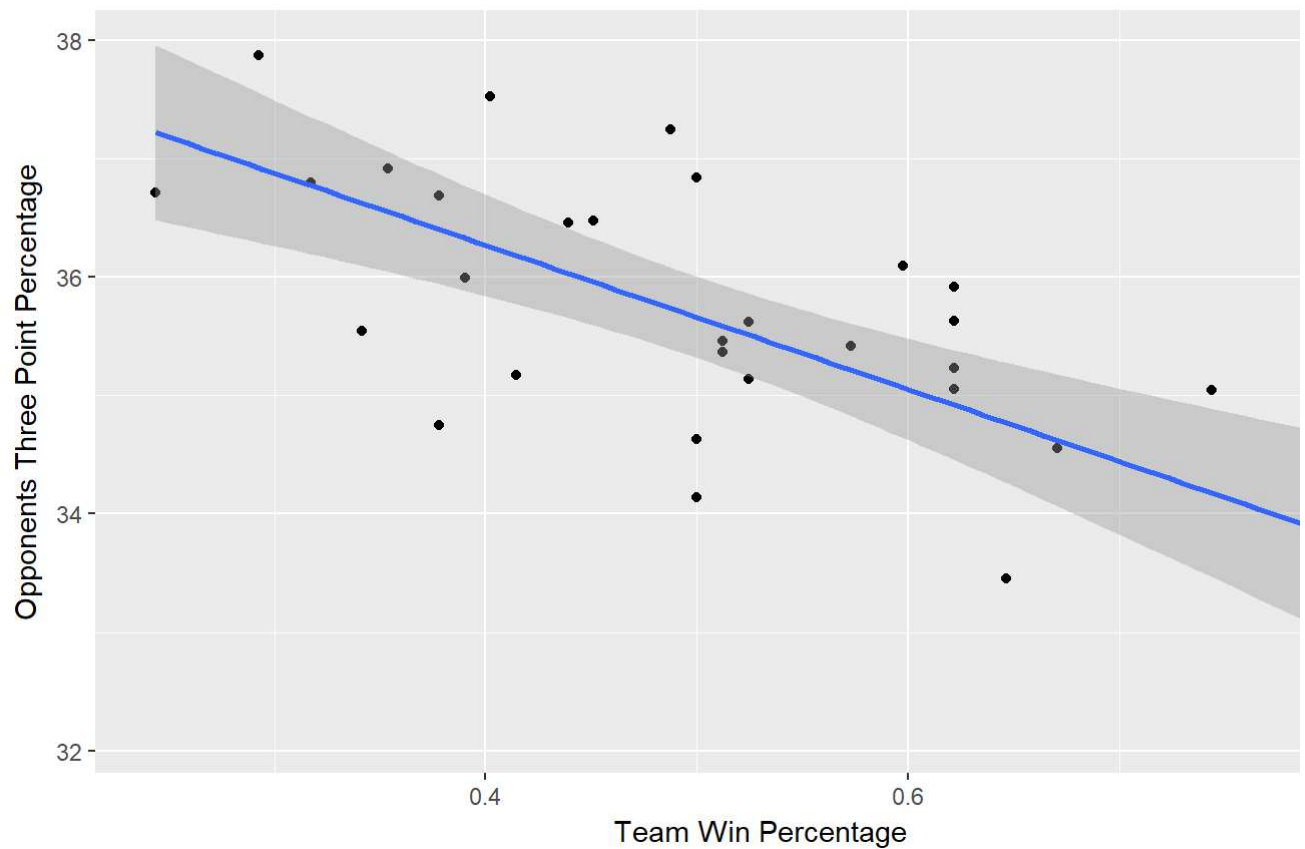
By Team

- Strong positive correlation between Win Percentage and Three Point Percentage



By Team

- Strong negative correlation between Win Percentage and Opponents Three Point Percentage



By Team

- A model was created with an R^2 of 0.647
 - Closer the value is to 1, the better the model
 - This model is good, but not perfect
- More data needs to be collected to improve the significance of the model

By Team Summary

- Players
 - Limit low percentage, contested 3-point shots
 - Force opponents to take low percentage 3-point shots
 - Efficiency is key
- Coaches
 - Prioritize efficiency over volume when concerned about 3-point offense
 - Focus on preventing and disrupting opponent 3-point shooters
 - Develop a system to get players good, open looks from the 3-point line & coach players to force bad shots from their opponent

By Team Summary(cont.)

- General Managers
 - Focus on players who can shoot 3's efficiently that works with the coaches system
 - Invest in players that can actively disrupt 3-point shooters