NCAA vs NBA: Team Game vs Star Power?

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Project Description:

Compare team and individual player stats to team standings (for NCAA vs NBA) to see if there are play styles (extrapolated from stats that seem more prominent in teams with high standings) that are more successful in one league more than the other.

Research Questions:

1. Do teams with superstars perform better than teams with only role players (NCAA and NBA)?
   - How are the team points distributed among players?

2. What stat correlates with more wins for NCAA and NBA teams?
   - Looking for a change over the years
   - How do different defense strategies used (man-to-man in NBA vs zone defense in NCAA) affect stats?

3. Do NCAA players who make the NBA see a change in shooting performance?
   - Specifically the 3-point range being moved further back
   - Freethrow percentage?

4. What kind of shot types are taken and result in the most points/wins?

Data Sets:

1. https://www.kaggle.com/ncaa/ncaa-basketball
   a. Need to query from API
   b. Data from 2013-2018
   c. mbb_players_games_sr
   d. mbb_teams_games_sr
2. https://www.kaggle.com/drgilermo/nba-players-stats
   a. Data from 2012-2018
   b. 2012-18_playerBoxScore.csv
   c. 2012-18_teamBoxScore.csv
   d. 2012-18_standings.csv
3. Shot chart
   a. https://probasketballapi.com/docs/shotcharts
   b. https://developer.sportradar.com/docs/read/basketball/NCAA_Mens_Basketball_v3#ncaa-mens-basketball-api-map
4. https://www.basketball-reference.com/
   a. Data for all NBA seasons

Breakdown of Tasks:

1. Tanner
    a. Manage team Github
    b. Clean NBA data into a DataFrame
    c. Answer question 2
2. Benjamin
    a. Clean NCAA data into a DataFrame
    b. Answer question 1
3. Yamah
    a. Gather data from the shot chart APIs
    b. Answer question 4
4. Kerwin
    a. Answer question 3