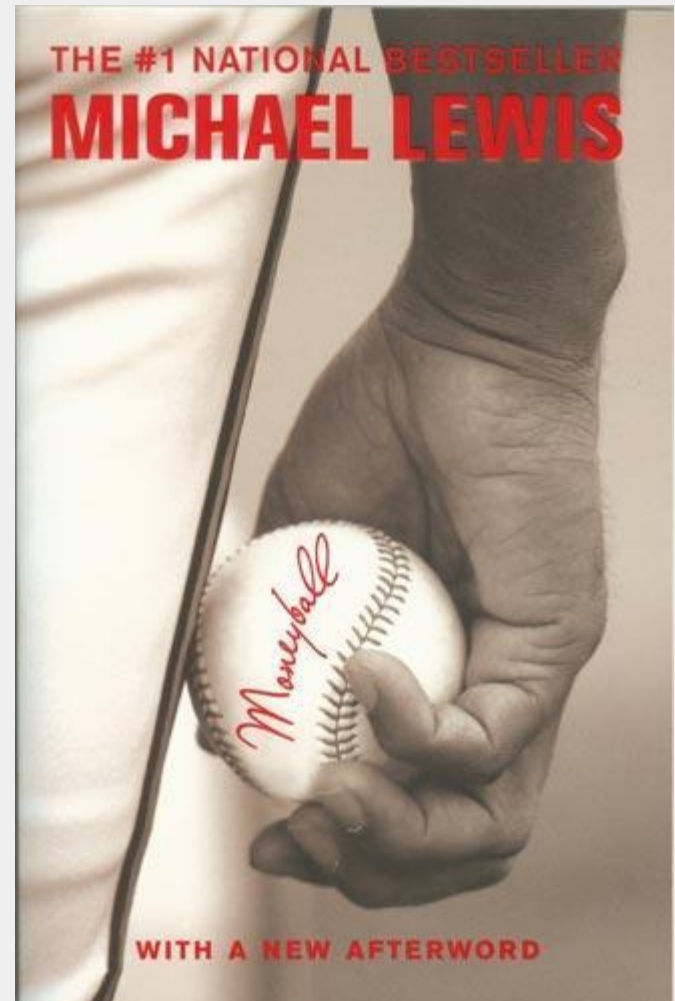# An Analysis of Baseball Statistics

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CSE 140

Research Questions

- What is the association between baseball statistics and fan attendance?

- What is the association between baseball statistics and team salary?

Motivations

- Attendance is important for financial stability of baseball franchises
- Teams spend millions of dollars to hire players with the best talent
- Results could be useful for MLB marketing strategists or team owners/managers/scouts

Methodology

- Select 5 batting and 5 pitching stats
- Compare to attendance and salary
- Compute Pearson's correlation
- Interpret strength of association

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{N})(\sum Y^2 - \frac{(\sum Y)^2}{N})}}$$

Results

- Attendance
  - Batting: Batting Average (.5257)
  - Pitching: Runs per game (.4514)
- Salary
  - Batting: Batting Average (.4849)
  - Pitching: Strikeouts (-.5332)