Positioning strategy in Olympic rowing

By Shayna Martin, Ethan Machen,
Alex Goldberg, and Maya Balan

Background

- Rowing has been a prominent sport throughout the history of the Olympics since 1900.

- **Proper strategy is one of the most critical elements in the sport, overall.**
    - Most teams enter a race with a pre designed plan in how to approach the 2,000 meters ahead of them.

Our Problem

- Given the common positioning strategies implemented by Olympic rowers:
  - Which strategy is most effective for success within a race?
  - Is there a correlation between strategic positioning at each of the 500m intervals and success in the overall race?
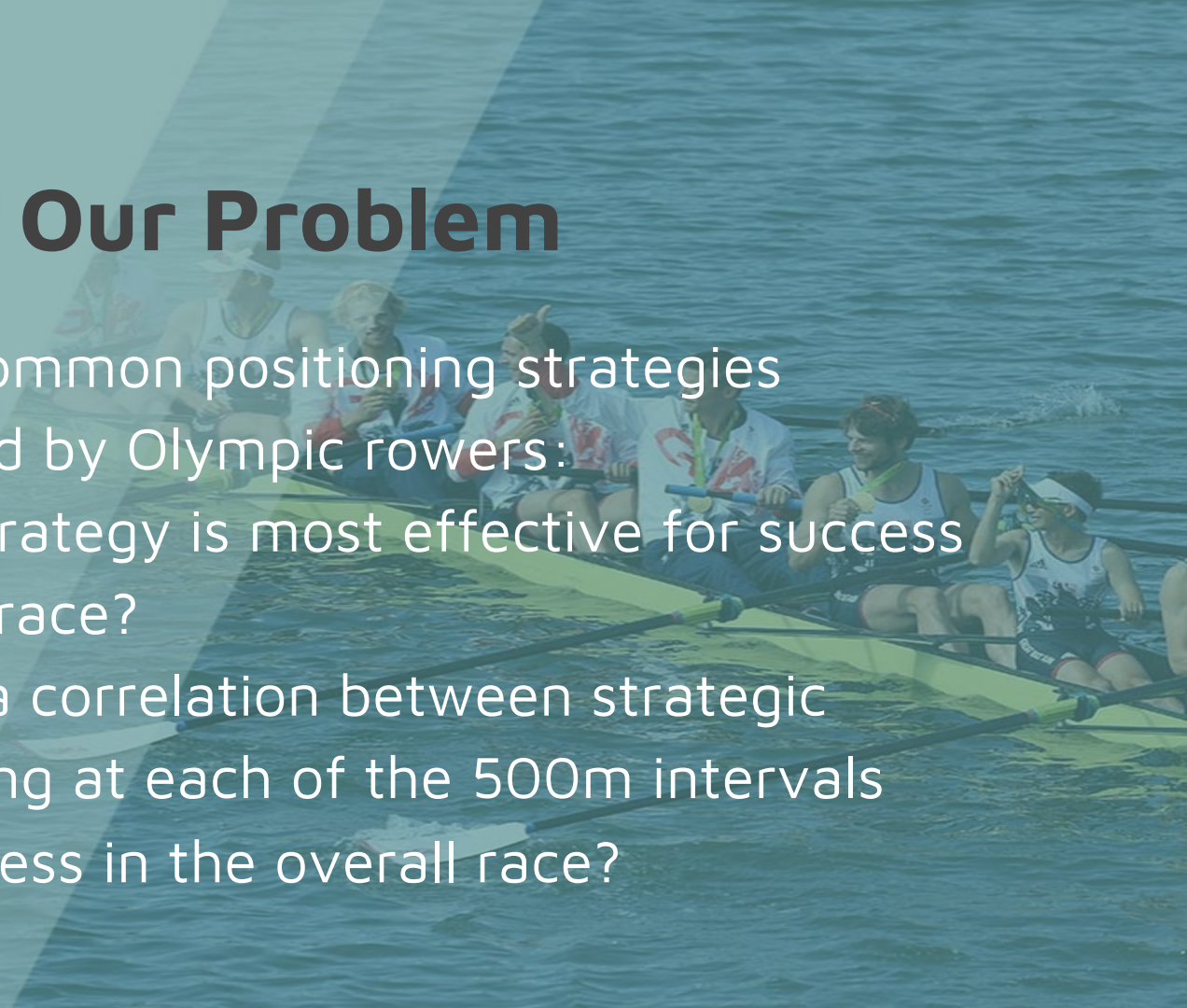
Research and Data Collection

- Rowing results from the Singles, Fours, and Eights Finals were taken from the 2008, 2012, and 2016 Olympics
  - Including:
    - Time relative to meters rowed
      - 500m, 1000m, & 1500m marks.
    - Positions at given points of the race.

- **Goal: Determine most effective strategy in positioning that leads to success.**

Methodology

- Three years of olympic used to limit confounding factors.
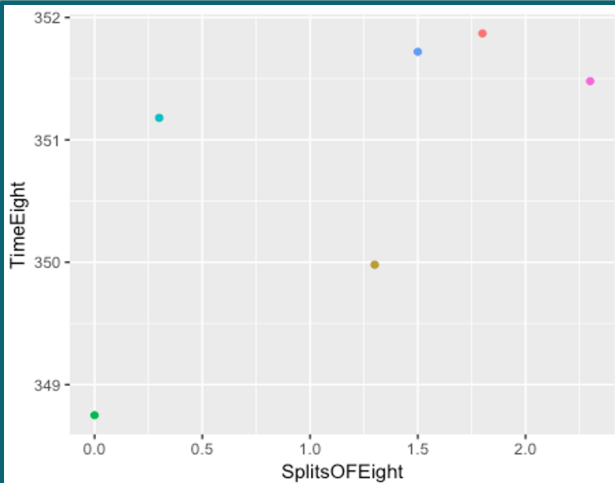 - E.g: weather, course difference, "home course advantage", etc.
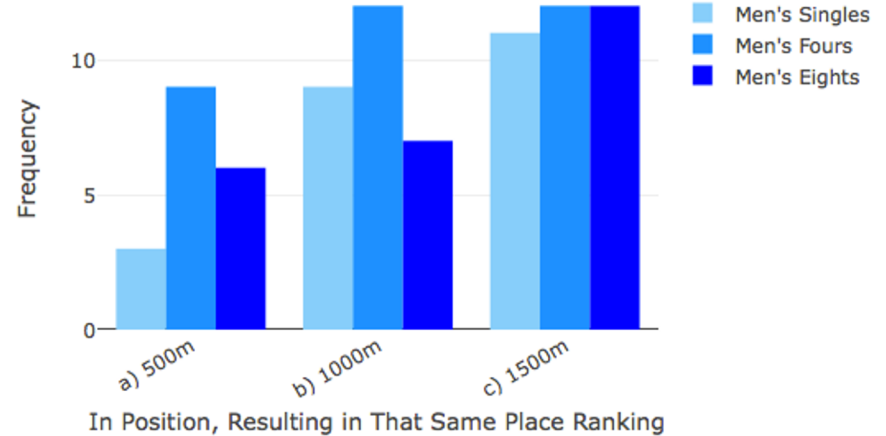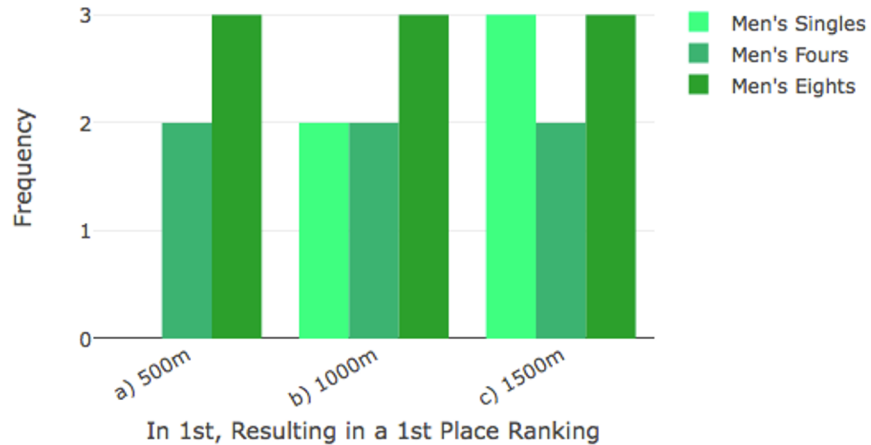
Olympic Data Graphs

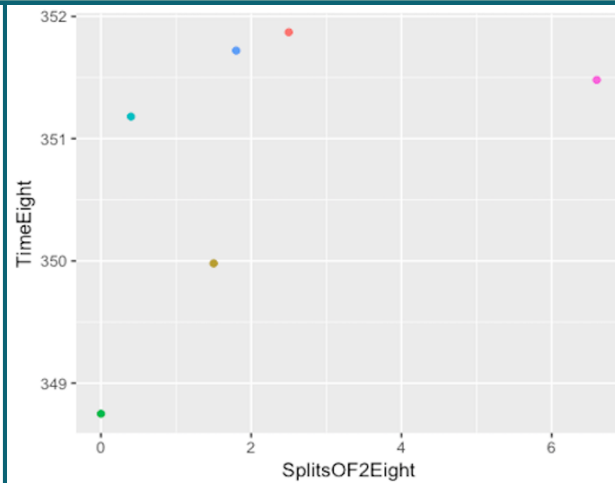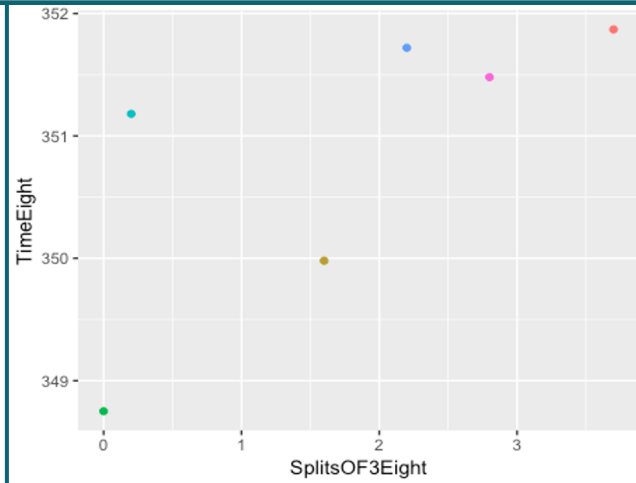# Olympic Data Graphs

R=0.6842   R=0.5074   R=0.7123

Results and Analysis

- Smaller boat's final ranking is less determined by positioning at the beginning of the race
  - Final position is apparent the longer the race goes on
- Large boat's final ranking is more determined by early boat positioning.

Confounding Factors

- Some Confounding Factors *not* controlled for include:
  - Fitness of the olympians
    - Strength of the Stroke (Watt) VS Number of Strokes (Rate)
  - Age of the olympians.
    - Experience
      - Mental strength of olympians.

Questions?