PPS Project Kickoff

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Advisor: Zach Branson

Client: Steven Greene from Pittsburgh Public Schools

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Carnegie Mellon University

Introduction

Jenny Luo

- Master of Statistical Practice @ CMU
- Background: Mathematics and Statistics
- Skills: R, MySQL, Data Analytics
- Relevant Experience: Education Analysis with Mixed Effects Model

Huiyi Guo

- Master of Statistical Practice @ CMU
- Background: Mathematics and Statistics
- Skills: MatLab, R, SQL
- Relevant Experience: Intern at CCB, Education Analysis with Mixed Effects Model

Yuhang Ying

- Master of Statistical Practice @ CMU
- Background: Statistics and Machine Learning
- Skills: R, Python, SQL, Statistical Modeling, Data Visualization
- Relevant Experience: RoboTutor @CMU, Education Analysis with Mixed Effects Model

Introduction

- Assistant Teaching Professor in Statistics. Been at CMU since 2019.
- Main research interests: Experimental design and causal inference.
- Did my undergrad at CMU. Did statistical work for PPS, which is my token “how I fell in love with statistics” story!

Background

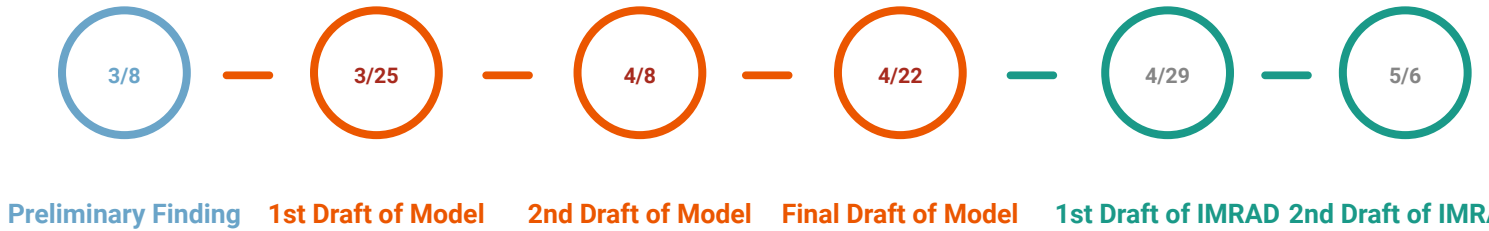
- Project Background:
  - Semester-long Capstone project in Statistical Practice course
  - Part of Master of Statistical Practice degree @CMU
- Client:
  - **Pittsburgh Public Schools** is a public school district for pre-K12 students.
  - The **Pittsburgh Promise** funds scholarship for post-secondary education.

Our Understanding

- Project Tasks:
  - Examine the relationship between the Promise scholarship use and students' post-secondary retention and completion
  - Examine other factors that would affect students' retention and mobility among post-secondary institutions
- Project Outcomes:
  - Show whether the Promise scholarship promotes/reduces post-secondary retention/mobility
  - Advice for choosing eligible students to fund
- Project Deliverable: research-focused, IMRAD report writing

Our Approach

- Timeline:



- Technical Tools: R Programming Language and Environment & SQL
- Project Management Tools: Google Drive

Next Steps

- Finalize project scope
  - Current scope: Compare performances of the students who received the scholarship **vs** who didn't
  - Potential question: Predict whether a student would use the scholarship
- Read data documentation and understand the order of measurement
  - Input Factors:
    - Correlation with scholarship criteria (GPA, etc)
    - Measured before the scholarship decision or after
- Preliminary analysis -- EDA
- Data validation -- Missing Data

Technical Knowledge Evaluation

- Data:
  - Have basic understanding about the data (e.g. information)
  - Not responsible for setting up the data
- Modeling:
  - No specific requirements for statistical models
  - More flexibility for the team
- Previous Work or Research:
  - Still need confirmation with colleagues

Contacts

- SPOC: Jenny Luo (junluo@andrew.cmu.edu)
- Meeting Frequency with Advisor:
  - Every week
  - Time: 11am to 12am on Tuesdays
  - Project updates and feedback, discussion about next steps
- Meeting Frequency with Clients:
  - Every two weeks
  - Time: 10am to 11am on Thursdays
  - Project updates and questions

Questions?