M-STEM Academy Value Added: Improvements to First-Term Grades

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Abstract: Analysis of actual first-term grades compared to predicted first-term grades suggests that participation in the M-STEM Academy increases the first-term GPA by .34 points, on average.

Research Question: What is the effect of participation in the M-STEM Academy on first-term grades?

Limitations:

- Population used for out-of-sample coefficients enrolled 6 years before M-STEM Academy students
  - Changes in financial aid packaging, passage of Proposal 2, and other policy changes
- Limited pre-college data
  - High school course information not included in our estimates.

Next Steps:

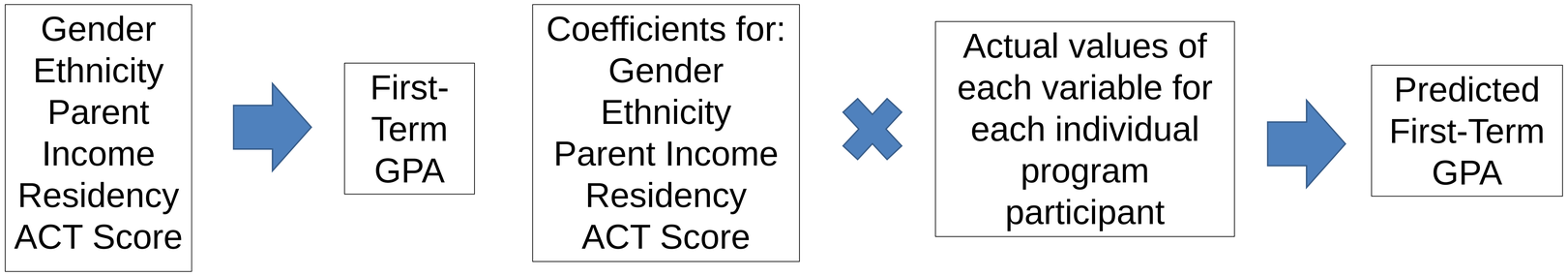
- Refine out-of-sample prediction model.
- Compare grades at end of second term to predicted second term grades.
- Use model to predict potential increases in persistence rates.

Implications: Academic support programs that incorporate social and networking elements, such as the M-STEM Academy, move beyond the idea of remediating for deficiencies in education to accelerating past expected achievement. This approach bears the potential of decreasing grade differentials and perhaps in the long-term, of decreasing persistence gaps by lifting students up academically, socially, and professionally.

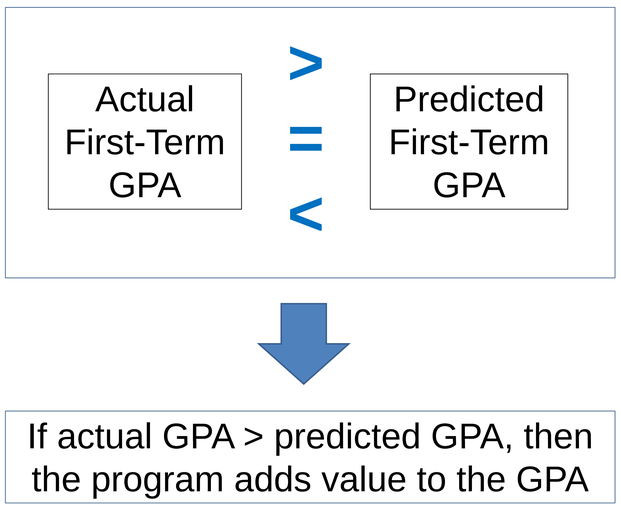
Value Added Methodology:

Step 1: Predict GPA from out-of-sample OLS regression

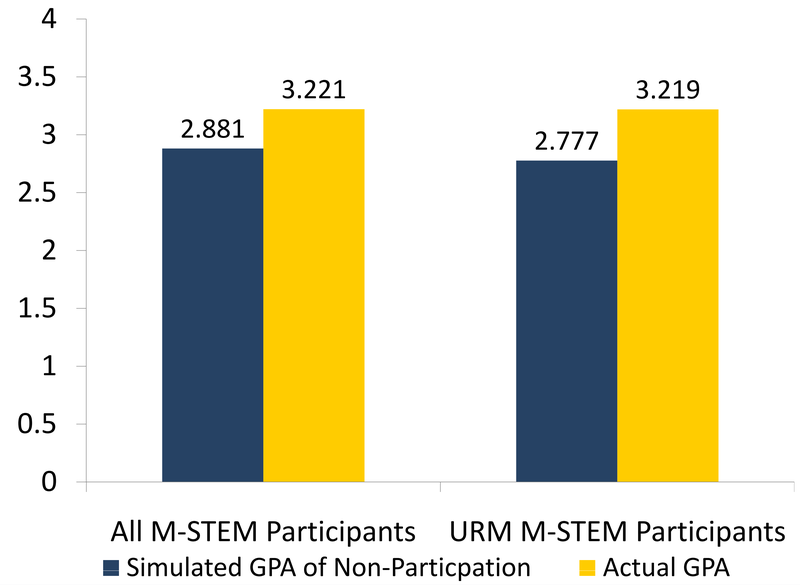
Step 2: Multiply coefficients from predictors in Step 1 by individual characteristics of program participants



Step 3: Compare individual's predicted GPA to their actual GPA



Results:



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