Persisting Gaps: Labor market Outcomes and Numeracy Skill Levels of First Generation and Multi Generation College Graduates

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First Generation vs Multi Generation College Graduate

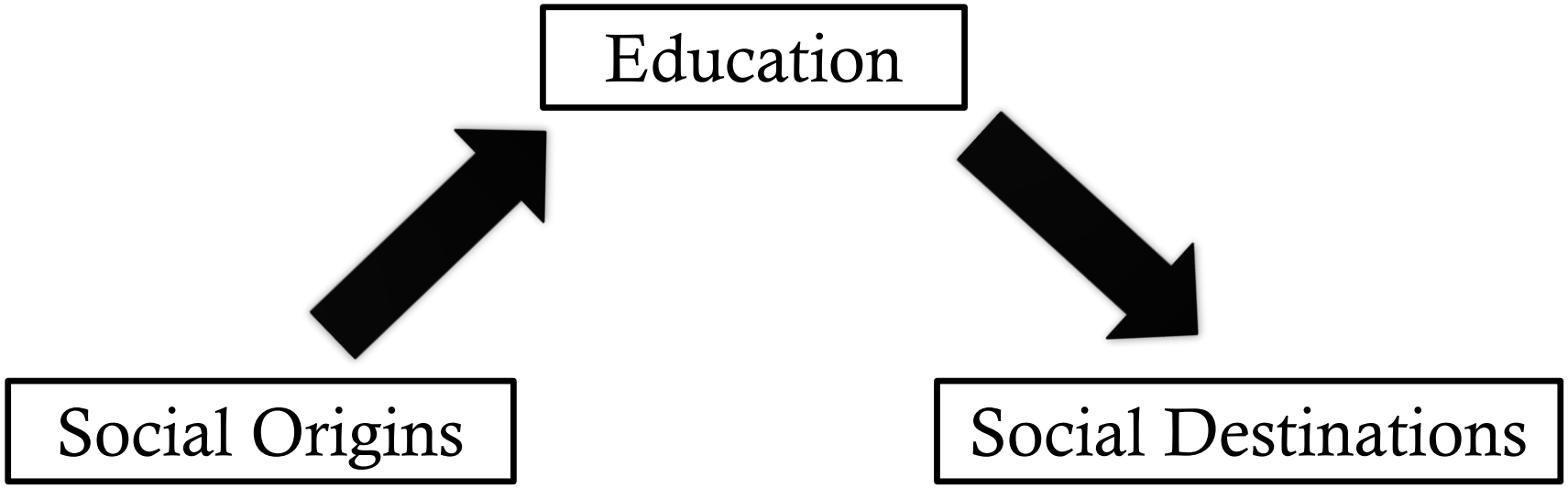
- First Generation: A college graduate who does not have a parent who attended college

- Multi Generation: A college graduate who has one or more parents who attended college

First Generation college students

- Rates of application, academic preparedness, enrollment, engagement, persistence and graduation

Status Attainment paradigm in sociology



Blau and Duncan 1967; Sewell, Haller and Portes 1969; Haller and Portes 1973; Hout 1980; Hout 1985

"Origin status affects destination status among workers who do not have bachelor's degrees, but college graduation ***cancels*** the effect of background status."

Hout, 1988, p1358, emphasis added

What about skills?

- Status attainment assumes the education attainment is a proxy for skills

Research Questions

- RQ1. Is there a difference in skills (numeracy scores) between first-generation college graduates and multi-generation college graduates?
- RQ2. Is college graduate generational status related to labor market outcomes after controlling for skills (numeracy score)?

Significance

- Add nuance to the Status Attainment Paradigm
- Track First Generation College graduates post-college

Analytic Strategy

RQ1. Is there a difference in skills (numeracy scores) between first-generation college graduates and multi-generation college graduates?

Dependent variable: Numeracy (OLS regression)

Covariates: Gender, Age, Race/Ethnicity, Nativity, Grad school attendance

Multiple imputation to account for missing data

Appropriate weights and plausible values were used

Analytic Strategy

RQ2. Is college graduate generational status related to labor market outcomes after controlling for skills (numeracy score)?

Dependent variables:

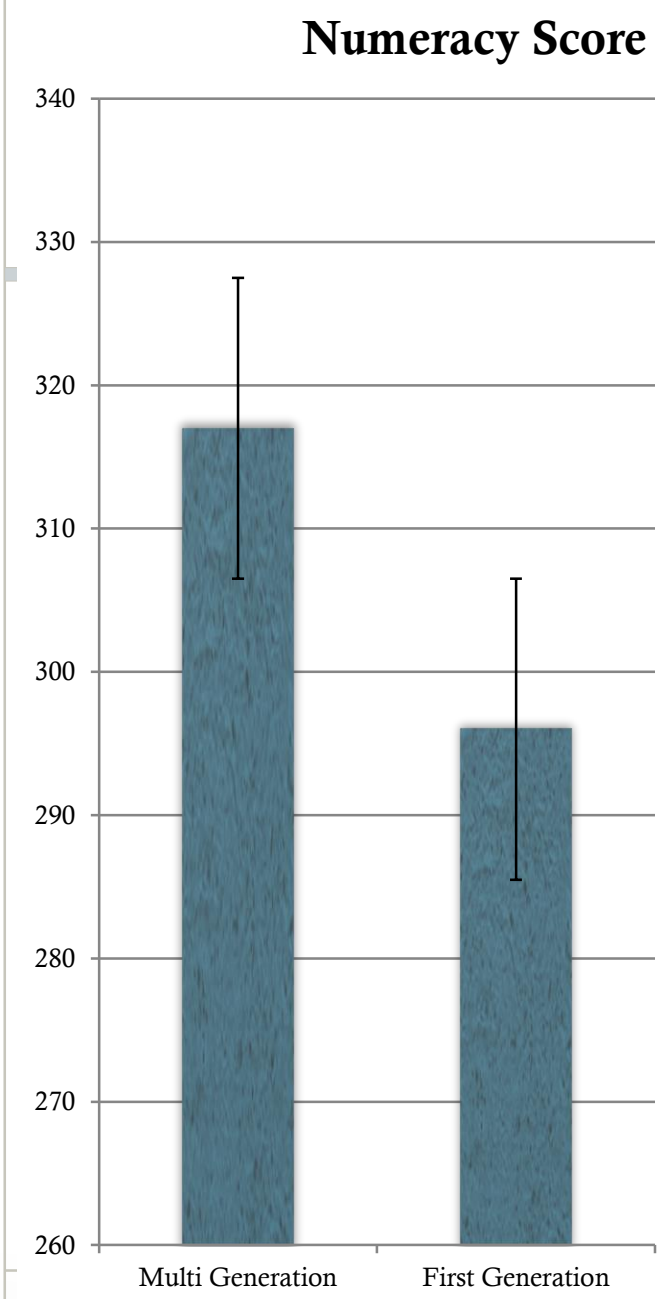
- Monthly earnings (OLS regression)
- Employment status (Logistic regression)
- Occupational prestige (OLS regression)
- Major-occupation match (Logistic regression)

Covariates: Numeracy skill, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance

Multiple imputation to account for missing data
Appropriate weights and plausible values were used

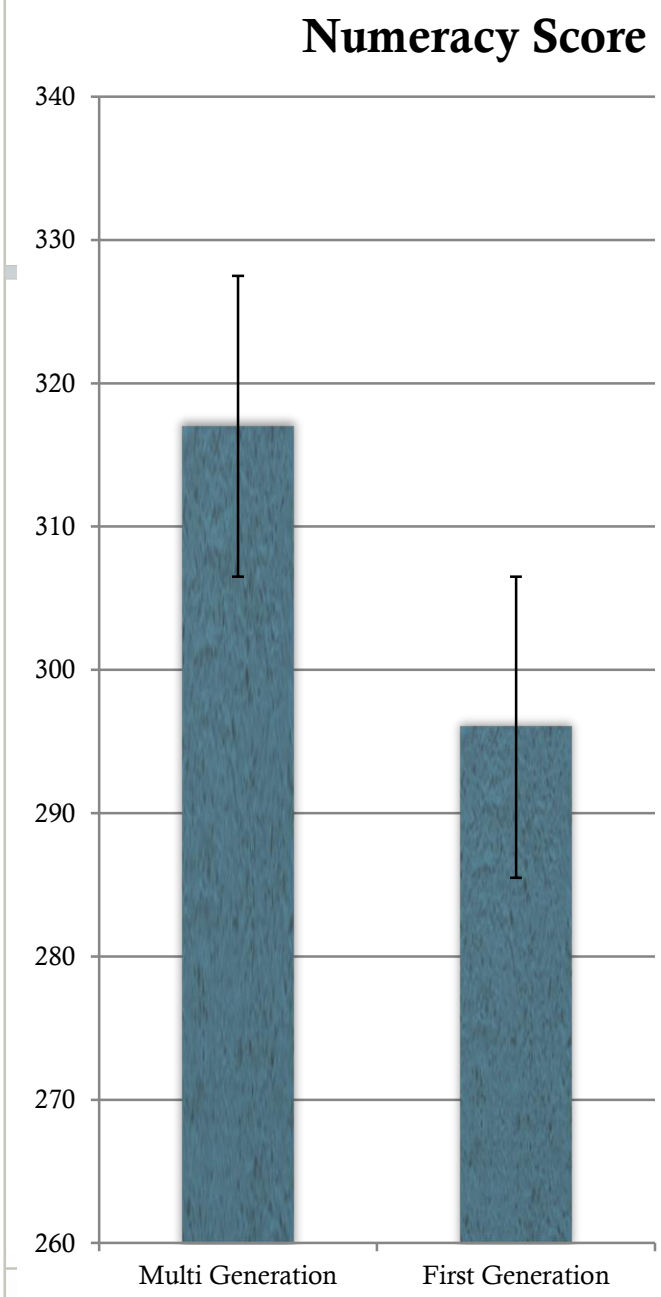
Sample

- USA PIAAC data
- College graduates (Bachelor's degree)
- Age 25 to 54
- N = 1,035



OLS model coefficients predicting Numeracy

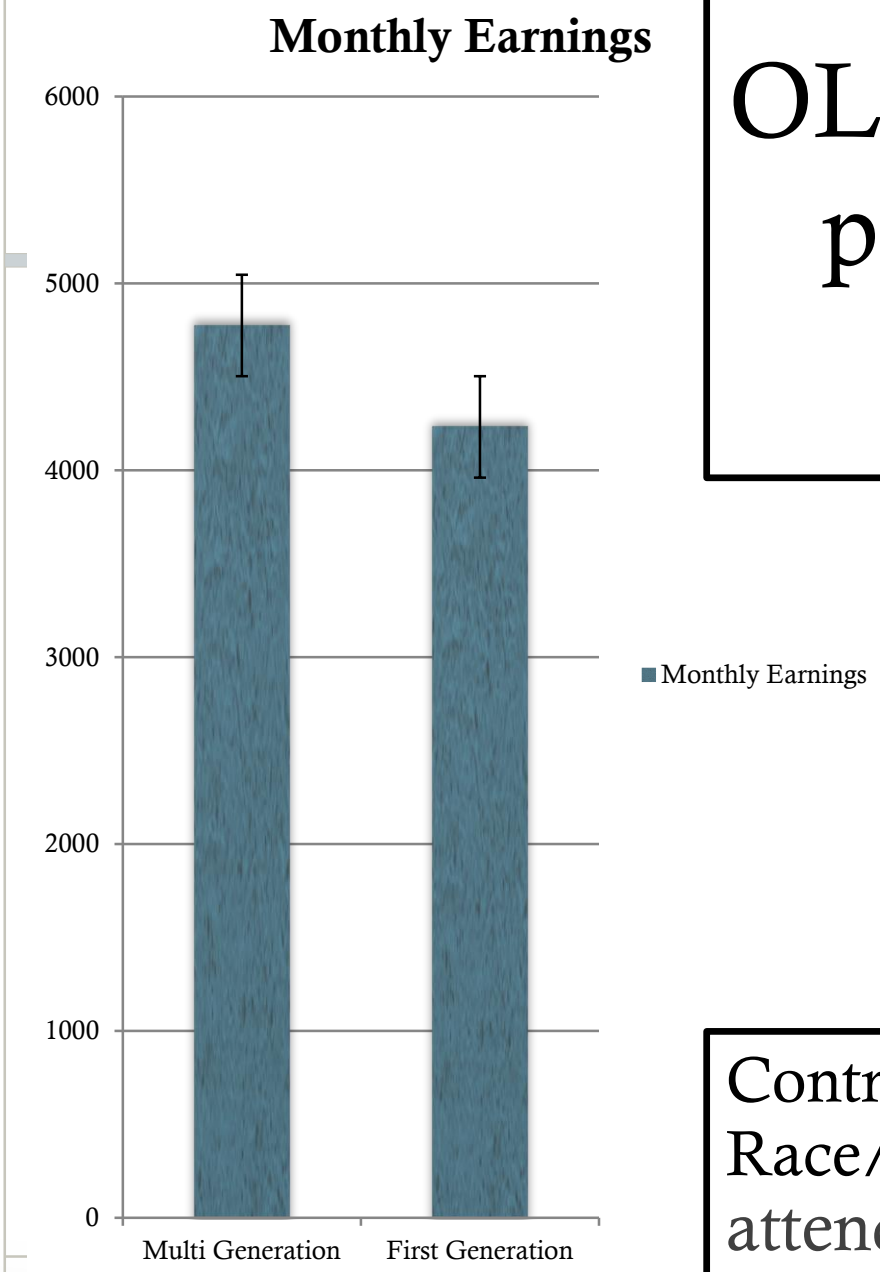
Control variables: Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



OLS model coefficients predicting Numeracy

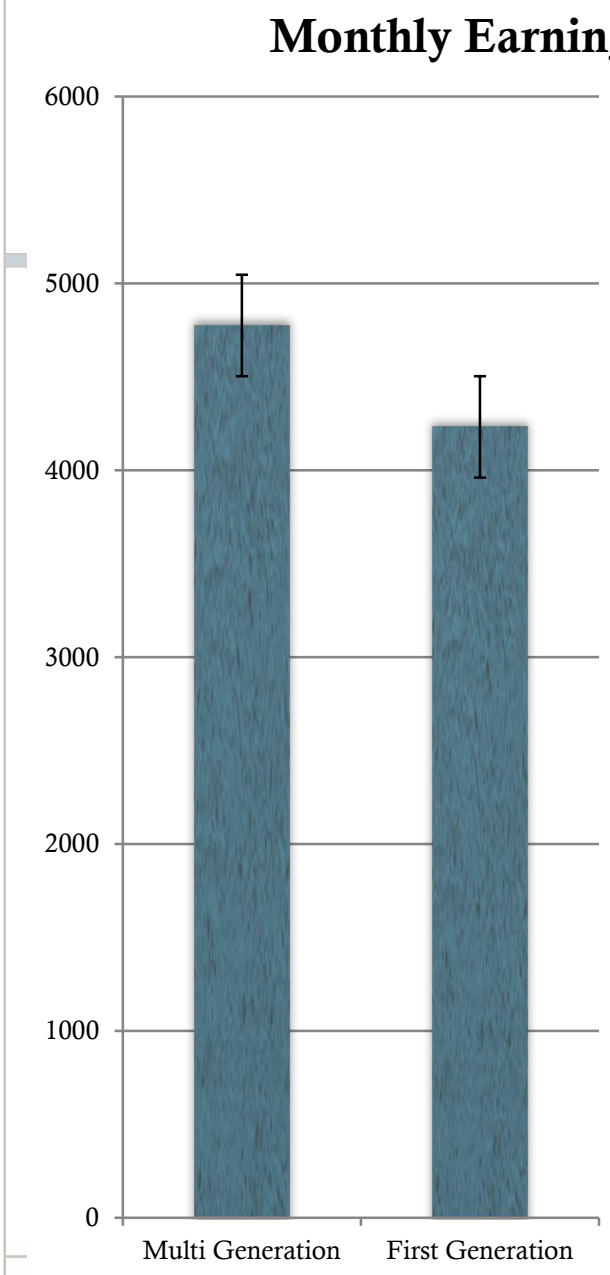
Multi-Generation college graduates out-score First-Generation college graduates by over 20 points

Control variables: Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



OLS model coefficients predicting Monthly Earnings

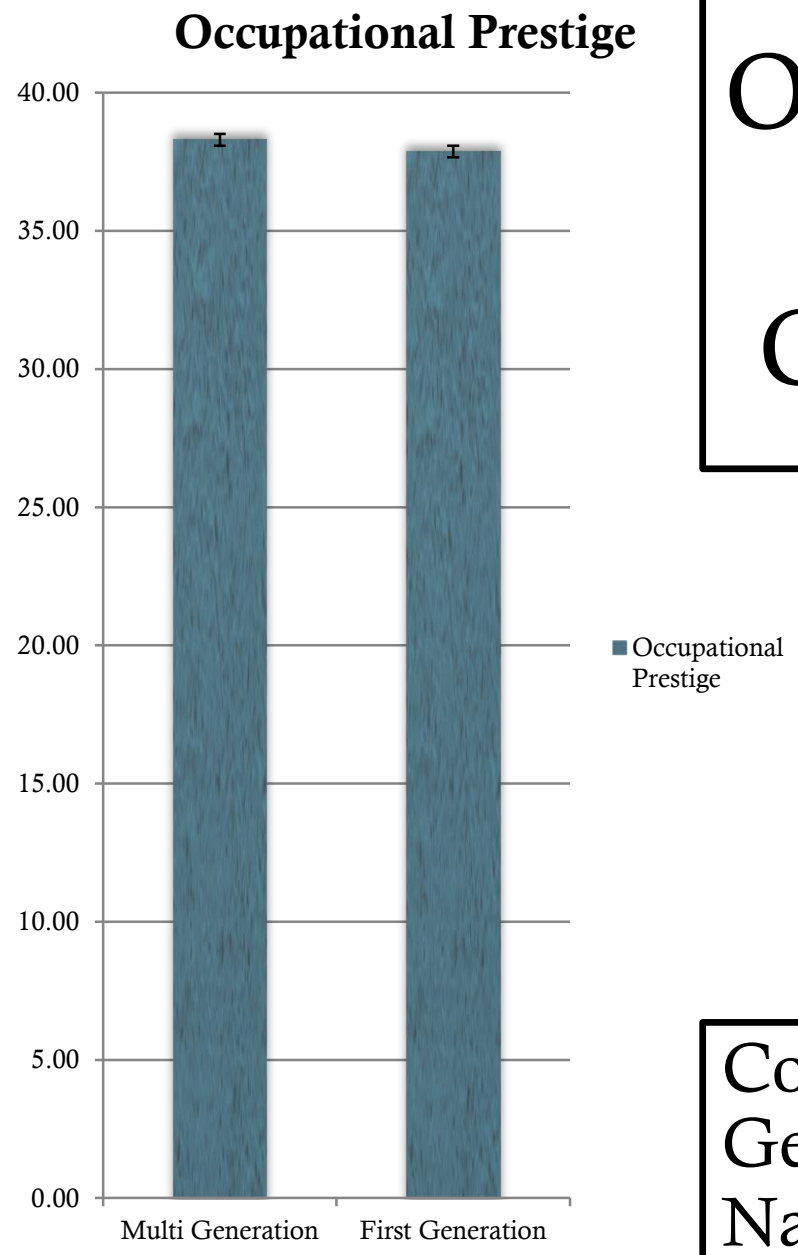
Control variables: Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



OLS model coefficients predicting Monthly Earnings

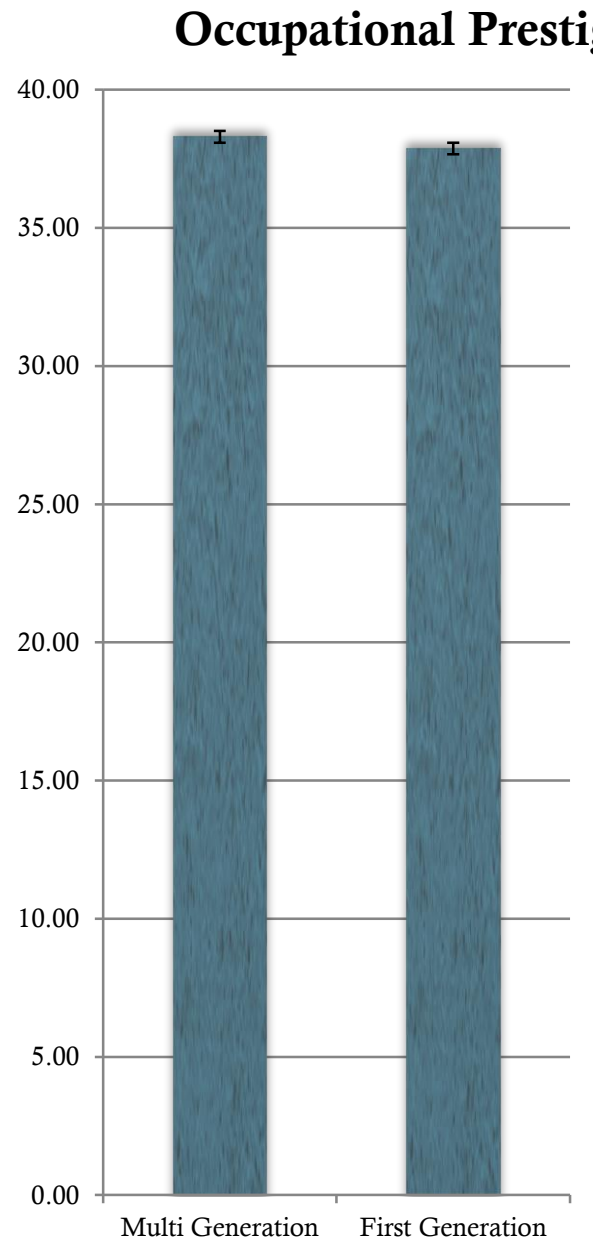
Non-significant difference in monthly earnings for Multi-Generation and First-Generation college graduates

Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



OLS model coefficients predicting Occupational Prestige

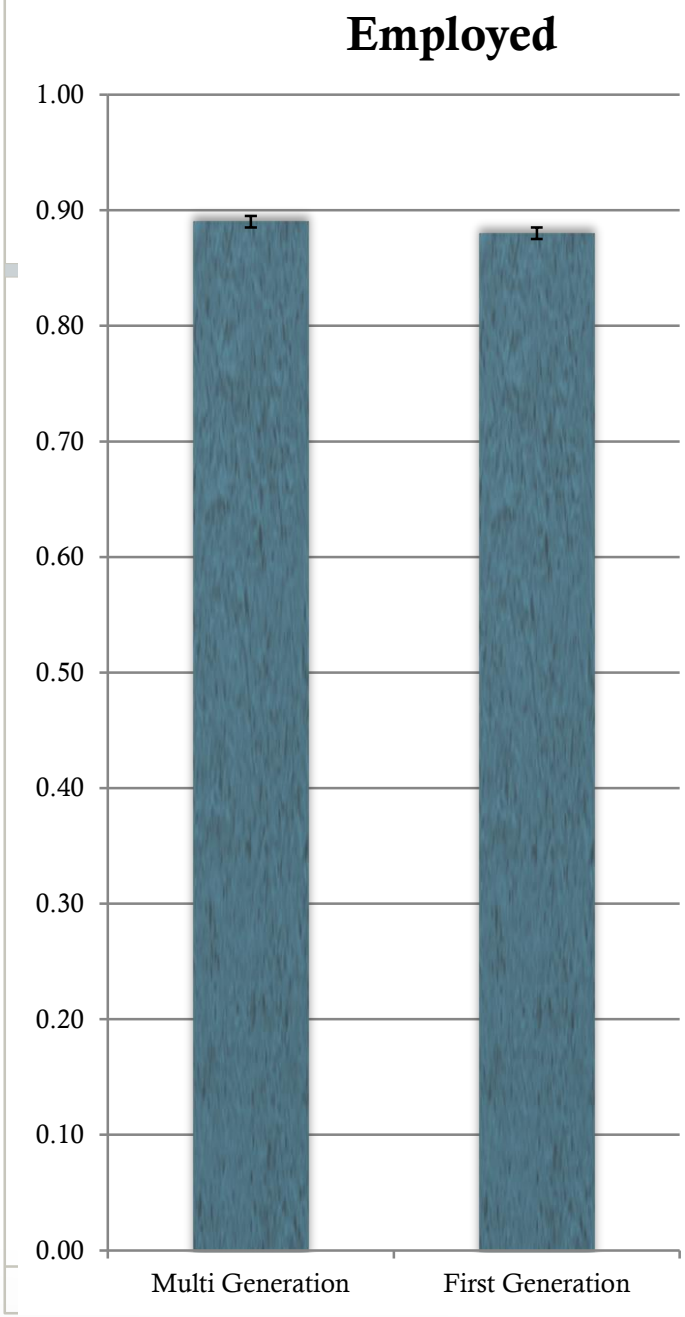
Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



OLS model coefficients predicting Occupational Prestige

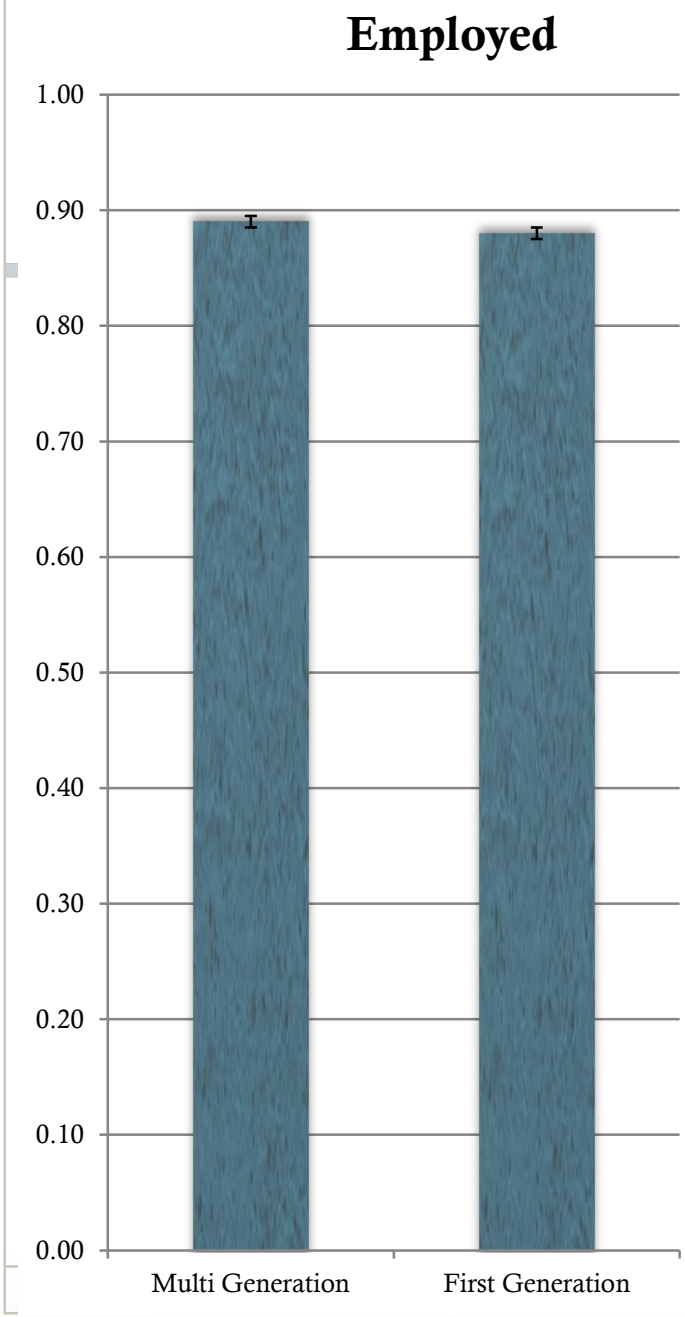
Non-significant difference in occupational prestige for Multi-Generation and First-Generation college graduates. Both had average occupational prestige scores of around 40.

Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



Log Odds (converted into probability) of being employed

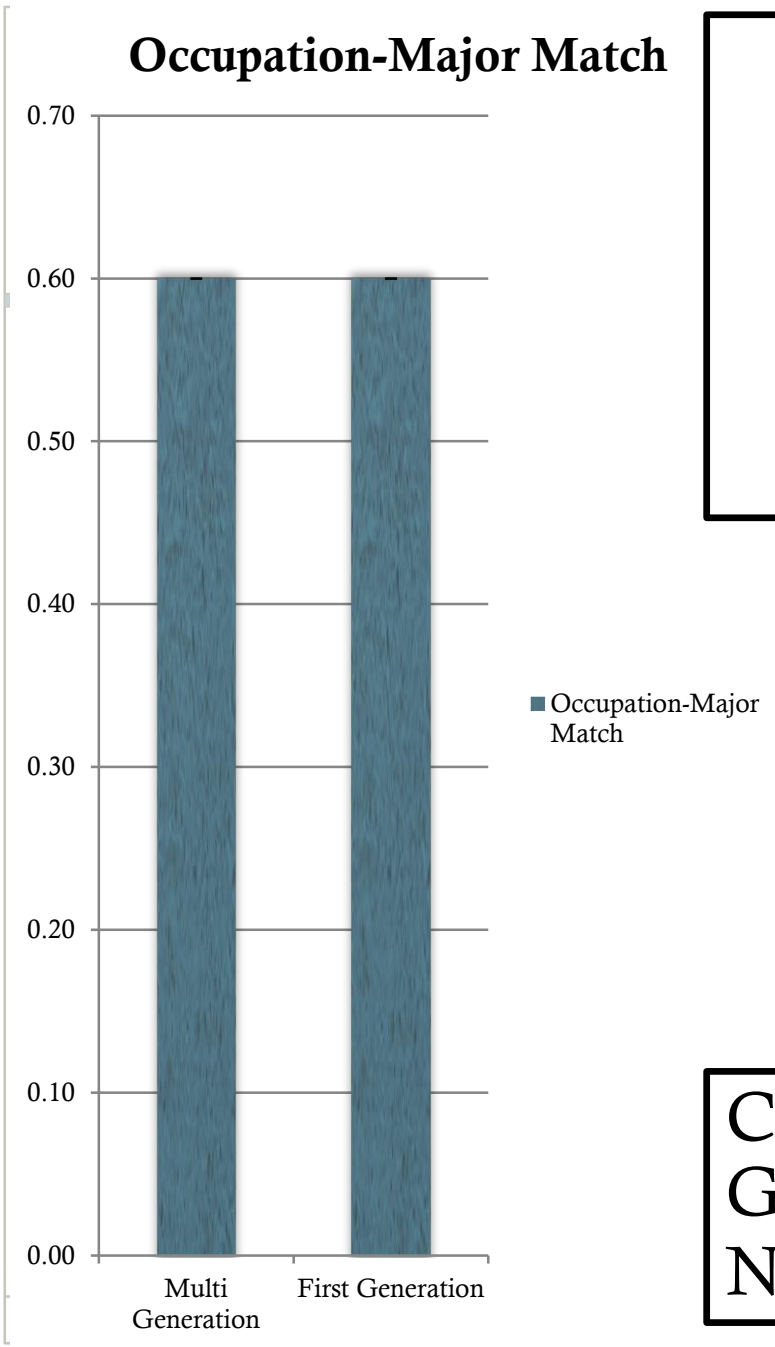
Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



Log Odds (converted into probability) of being employed

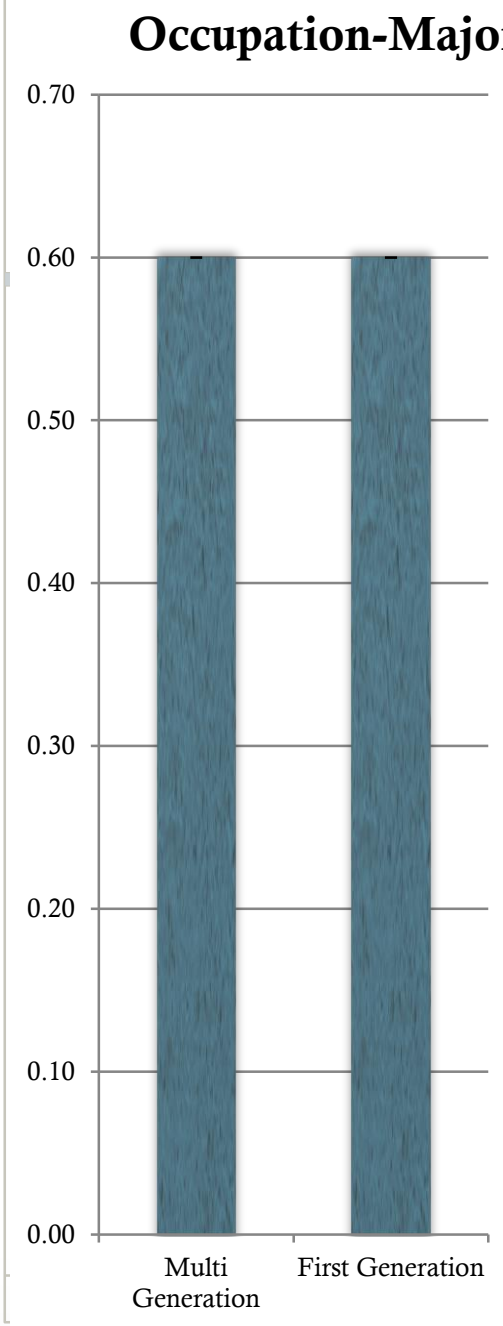
Non-significant difference in likelihood of being employed for Multi-Generation and First-Generation college graduates. Both have around a 90% likelihood of being employed.

Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



Log Odds (converted into probability) of Major-Occupation Match

Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



Log Odds (converted into probability) of Major-Occupation Match

Non-significant difference in likelihood of a Occupation-Major Match for Multi-Generation and First-Generation college graduates. Both have 60% likelihood of matching.

Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance

Discussion

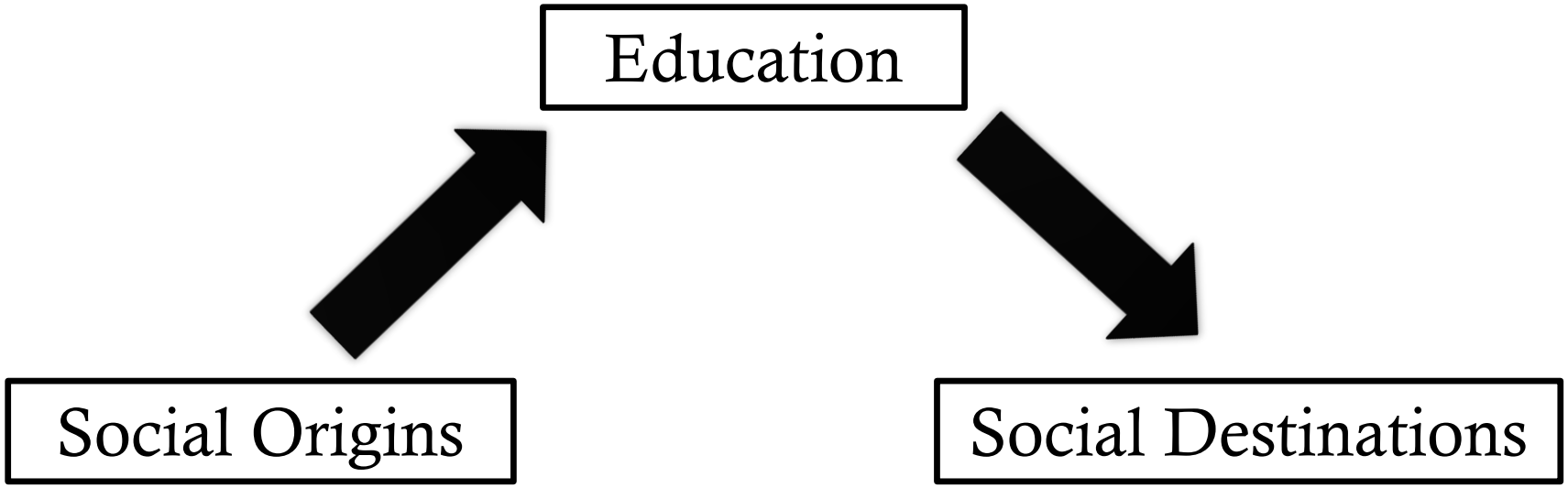
- When controlling for skill, First generation and Multi generation college graduates have similar labor market outcomes:
  - Earnings
  - Occupational prestige
  - Rates of employment
  - Major-Occupation match

Discussion

- When controlling for skill, First generation and Multi generation college graduates have similar labor market outcomes:
  - Earnings
  - Occupational prestige
  - Rates of employment
  - Major-Occupation match

- Multi generation college graduates out-score First generation college graduates in measures of numeracy skill

Status Attainment paradigm in sociology



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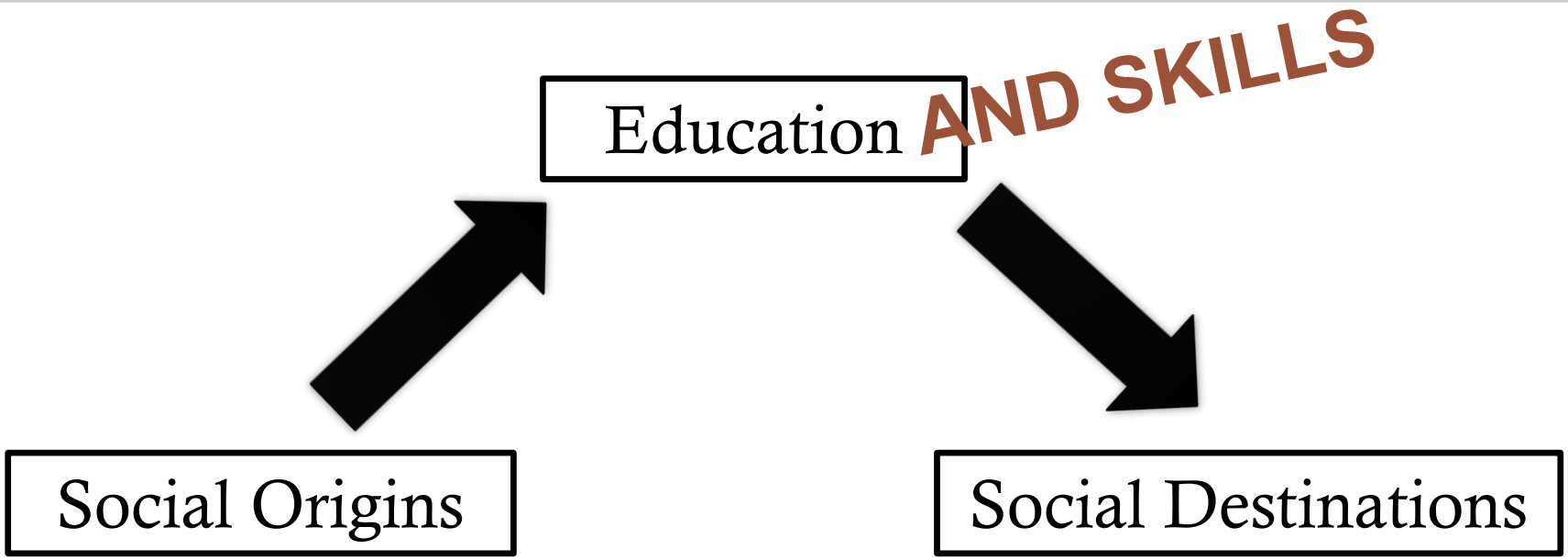

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Policy Implications

- College does not entirely close skill gaps that exist pre-college
  - Identify and reward colleges that close skill gap for first generation students
- Skills gained in college (and post-college) matter for labor market outcomes.
  - More than social origins; i.e. First generation vs Multi generation status
- Surveys (like PIAAC) should collect the name of the college/university attended so that institutional comparisons can be made

Thank you!

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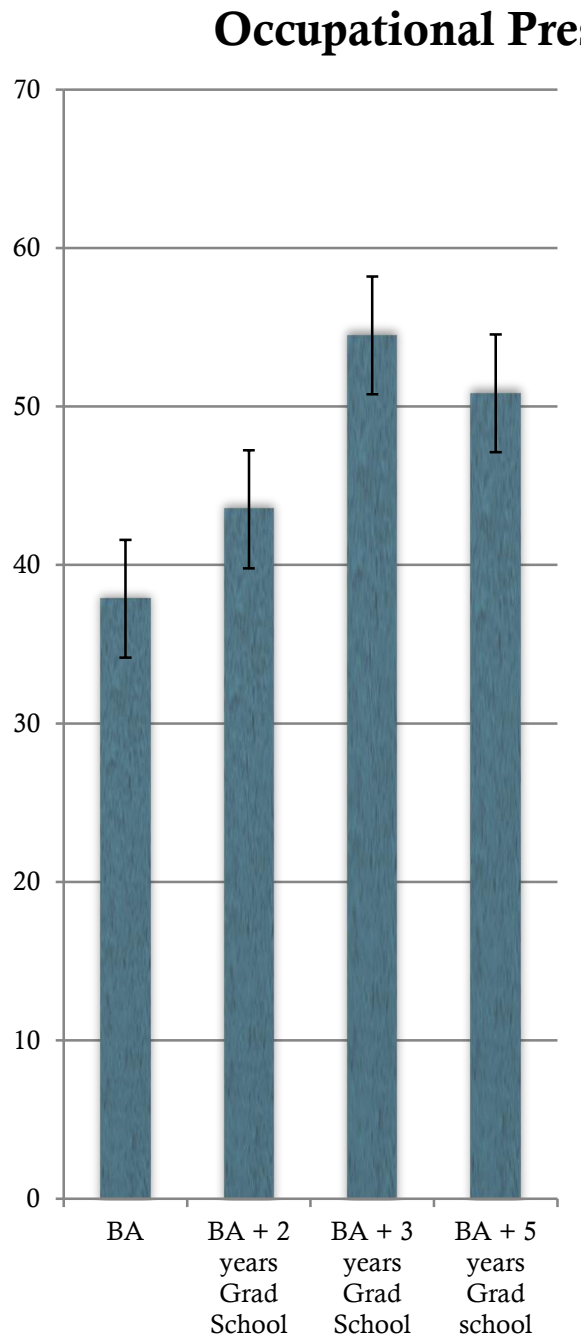
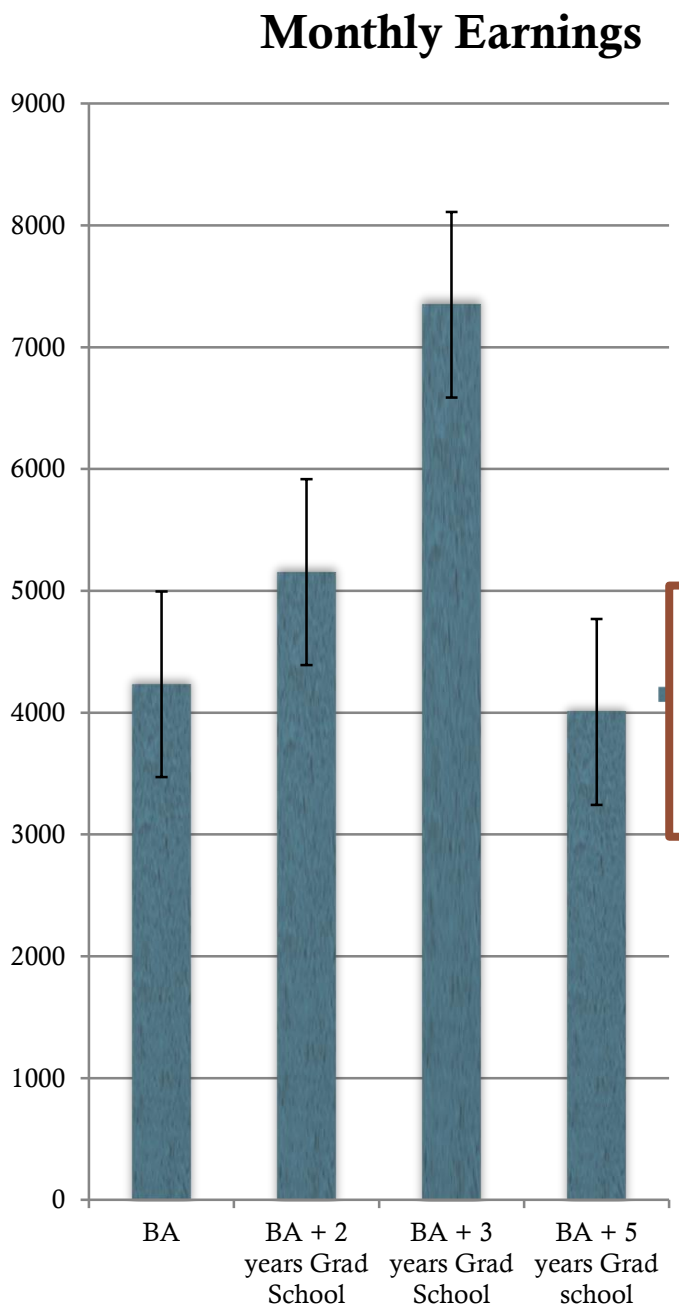


OLS model coefficients predicting Occupational Prestige

Significant differences in occupational prestige by graduate degrees.

Hint: PhD is a wise choice!

Control variables: Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance



OLS model coefficients predicting Monthly Earnings

Significant differences in monthly earnings by graduate degrees.
Hint: PhD is not the wisest choice!

Control variables: First generation status, Numeracy Skills, Gender, Age, Race/Ethnicity, Nativity, Grad school attendance