PISA Stats in Brief Proposal

Introduction

**Main variable: science careers**

In PISA 2015, 15-year-old students answered “what kind of job [they] expect to have when they are about 30 years old” (ST114). Answers to this open-ended question were coded into respective ISCO-08 codes. These codes were used to define science careers (for the purposes of deriving science career expectations) in the following manner, which is the same way that the OECD has defined science careers:

* All science and engineering professionals (except product and garment designers, graphic and multimedia designers)
* All health professionals (except traditional and complementary medicine professionals)
* All information and communications technology professionals
* Science technicians and associate professionals:
  + Physical and engineering science technicians
  + Life science technicians and related associate professionals
  + Air traffic safety electronic technicians
  + Medical and pharmaceutical technicians except medical and dental prosthetic technicians
  + Telecommunications engineering technicians

More broadly, science-related career expectations are defined as those career expectations (whose realization requires further engagement with the study of science beyond compulsory education, typically in formal tertiary education settings).

**Student demographic variables**

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* On average, U.S. students who want to pursue science careers perform 29 score points higher on the PISA science assessment than do their peers with non-science professional interests.
* Boys outperform girls by 7 points on average, but girls are 10 percentage points more likely to envision a science career: 45% of 15-year-old girls imagines a science careers vs. 35% of boys.
  + More than one in three 15-year-old girls sees herself working in medicine (37%), whereas less than one in ten boys (9%) expects to do so.
  + ~~Despite being more likely to want to pursue science professionally,~~ girls are less likely to express interest in engineering and tech fields: though 26% of boys are interested in these fields, only 8% of girls are. In no PISA-participating country are girls more likely to see themselves in engineering/tech than boys.
  + Girls striving for engineering/tech careers performed at the same level as their male counterparts ~~peers with the same professional interests~~. Similarly, boys and girls who weren’t interested in science-related careers also showed no significant differences in PISA science scores. However, on average, boys interested in careers in medicine outperformed their female peers by 41 score points.
    - Among girls, there is no statistically significant difference between those interested in medicine and those not interested in any kind of science career.
    - Among boys, those interested in medicine outscore their peers interested in non-science careers by 44 score points.
* Career interest differences vary less by student immigrations status. For instance, 16% of students native to the U.S. imagine themselves working in engineering/tech versus 19% of second-generation students and 18% of first-generation students. As for medicine, 23%, 26%, and 25% of native, second-generation, and first-generation students indicate their interest in the field.
* RACE/ETHNICITY:…. (CONTROL FOR SES)
* SCIENCE INTERESTS:….

**Other student variables**