Title
Education and Income in Rhode Island: Important Considerations

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Subject(s)

Income, education

Grade Level
Junior/Senior

Short Description
In this module students will observe the relationship between income and education in a select state in the United States, using data from the American Community Survey. Students will examine how income is distributed in the state and then understand how the same can vary by education, gender, race or age.

Summary

American Community Survey is a very user friendly teaching resource. Many of the topics which are embedded in it from immigration to income, fertility and labor force participation are extremely important for students. If the data can be narrowed to the state where the course is offered, it becomes a relevant and an engaging experience for undergraduates. For this module I restricted the data to the state of Rhode Island, which is one of the more economically disadvantaged states in New England.

Social data in this module can be used two different ways. First through weekly computer lab assignments students can learn about frequency distribution, visual representation of data, measures of central tendency, bi-variate analysis, hypothesis testing, as well as analysis of variance. Second, students could also develop a short research project based on the survey topics. The idea is for students to first learn about statistical skills used in social science research using American Community Survey as a practice tool. Second, students apply this knowledge to examine a research topic.

Learning Goals
Education and Income in Rhode Island: Important Considerations

1. Understand the overall distribution of income and education in the state by tabulating frequency distributions,
2. Be able to interpret the frequencies, percentages, cumulative frequencies, cumulative frequency percentages,
3. Be able to visually represent education and income trends in the state,

4. Understand measures of central tendency pertaining to educational attainment and income (modal income and education categories, mean and median attainments of education and income),
5. Understand how income can vary across levels of educational attainment, gender, race, age,
6. Be able to articulate independent and dependent variable using the relationship between education and income as an example,
7. Be able to generate cross tabulations to demonstrate how levels of income can vary by categories of race, gender, age,
8. Be able to run chi square tests to examine significant associations (if any) between the variables,
9. Run independent samples t test to understand mean differences in income by levels of education, categories of race, gender, age.

Context for Use

This module was developed in a Research methods class at Rhode Island College. The 400 level class can be considered one of the capstone requirement for Sociology and Justice Studies majors after they have enrolled in Research Methods I. Typically the class is capped at 24. Rhode Island College is a masters granting academic institution where many of the social science majors come with different levels of quantitative competency. Classes during a typical semester meet twice a week for 1 hour 50 minute in a computer lab with SPSS.

Students work on a lab assignment weekly. For the weekly lab assignments, the students could work in a group of two. Students typically work on the assignment in class using SPSS, and copy paste their findings to a word document. They collaborate outside of class through emails to fine tune data interpretation, and turn in their assignments online end of the week. Furthermore, students also work on a research project using the same data and in the process, accomplish much of the findings and analysis through the lab assignments.

Description of Teaching Materials

Advanced research methods classes where the module can be used should already have a downloaded a partially coded data set of select variables. This can be retrieved through the IPUMS website: https://usa.ipums.org/usa/

Teaching Notes and Tips

The module can be extended to any social science class from the introductory, intermediate, advanced undergraduate to graduate level classes. For some more lower level classes the American fact finder resource can be extremely useful while for the advanced levels, instructors should download American Community Survey data from websites including IPUMS. However, the downloaded data sets are often large, and instructors could narrow the scope of the data by selecting fewer variables. It is also important that the data be cleaned and

recoded. For this specific module I recoded the total personal income variable to generate categories of income for better data tabulation and representation)

It is also possible to change the data applications by level of rigor in the classes. For the more basic classes which are not embedded in social data analysis, instructors might be able to limit exercises to data tabulations, graphs etc. In the more advanced assignments, measures of association or causality can be introduced.

As I have used education and income to demonstrate quantitative training, instructors could pick race, immigration, poverty, healthcare, disability amongst a wide array of topics.

Assessment

Pretest: Ask students to write a brief low stake writing assignment in class explaining the relationship between income and education, providing a justification of their understanding. These should typically include questions on what causes income differences amongst different social groups for instance.

Posttests: The short research paper using the American Community Survey data set could be used as a platform to evaluate student learning after the semester. Instructors are able to compare student understanding of income during the beginning of the semester to their explanations in the discussion section of the research paper turned in at the end of the semester.

References and Resources

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