

MITx: 14.310x Data Analysis for Social Scientists

Help



- Module 1: The Basics of R and Introduction to the Course
- ► Entrance Survey
- Module 2:

 Fundamentals of
 Probability, Random
 Variables,
 Distributions, and Joint
 Distributions
- Module 3: Gathering and Collecting Data, Ethics, and Kernel Density Estimates
- Module 4: Joint,
 Marginal, and
 Conditional
 Distributions &

Module 12: Endogeneity, Instrumental Variables, and Experimental Design > Endogeneity and Instrumental Variables > Constructing Meaningful Estimates - Quiz

Constructing Meaningful Estimates - Quiz

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Question 1

1.0/1.0 point (graded)

From the example, the estimated effect of going to secondary school on cognitive scores is equal to:

- a. The effect of the scholarship on going to secondary school divided by the effect of the scholarship on cognitive scores
- b. The effect of the scholarship on going to secondary school multiplied by the effect of the scholarship on cognitive scores
- c. The effect of the scholarship on cognitive scores divided by the effect of the scholarship on going to secondary school. ✓

Explanation

<u>Functions of Random</u> Variable

- Module 5: Moments of a Random Variable,
 Applications to
 Auctions, & Intro to
 Regression
- Module 6: Special
 <u>Distributions, the</u>
 <u>Sample Mean, the</u>
 <u>Central Limit Theorem,</u>
 and Estimation
- Module 7: Assessing and Deriving Estimators -Confidence Intervals, and Hypothesis Testing
- Module 8: Causality,
 Analyzing Randomized
 Experiments, &
 Nonparametric
 Regression

Your estimated effect is given by $\hat{\beta} = \frac{E[Y_i \mid Z_i = 1] - E[Y_i \mid Z_i = 0]}{E[A_i \mid z_i = 1] - E[A_i \mid z_i = 0]}$ where Y_i denotes cognitive scores, Z_i is a dummy variable equal to 1 if assigned to the treatment group and 0 otherwise, and A_i denotes whether individual i goes to secondary school.

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You have used 1 of 1 attempt

Question 2

1.0/1.0 point (graded)

For men, the scholarship increases the chances of completing secondary school by 38.3% and increases cognitive scores by .158 standard deviations, so the estimated effect of secondary school on cognitive scores is:

- \circ a. 38.3/.158 standard deviations increase in cognitive scores
- $^{\circ}$ b. .383/.158 standard deviations increase in cognitive scores
- ullet c. .158/.383 standard deviations increase in cognitive scores ullet
- \circ d. .158/38.3 standard deviations increase in cognitive scores

Explanation

- Module 9: Single and Multivariate Linear
 Models
- Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias
- Module 11: Intro to
 Machine Learning and
 Data Visualization
- Module 12:

 Endogeneity,
 Instrumental

 Variables, and
 Experimental Design

Endogeneity and Instrumental Variables

Finger Exercises due Dec 14, 2016 05:00 IST

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Experimental Design

Finger Exercises due Dec 14, 2016 05:00 IST

Module 12: Homework

This is the correct answer, because the estimated effect of secondary school on cognitive scores will be equal to the effect of the scholarship on cognitive scores divided by the effect of the scholarship on going to secondary school ($\hat{\beta} = \frac{E[Y_i|Z_i=1]-E[Y_i|Z_i=0]}{E[A_i|Z_i=1]-E[A_i|Z_i=0]}$)

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You have used 1 of 2 attempts

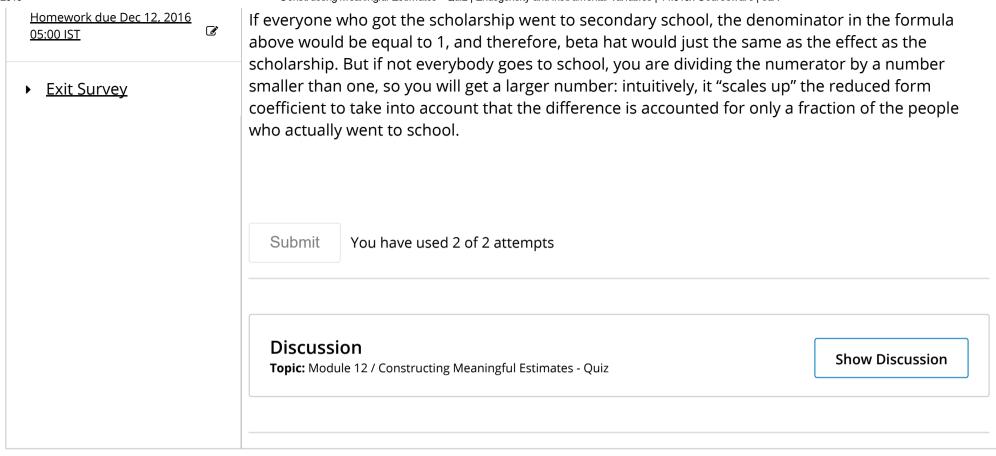
Question 3

0.0/1.0 point (graded)

Your IV estimate for the effect of education on cognitive scores is going to be ______ the effect of scholarships on cognitive scores.

- a. Smaller than, or equal to
- b. Smaller than
- c. Larger than
- d. Larger than, or equal to

Explanation



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