

MITx: 14.310x Data Analysis for Social Scientists

Heli



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# An Introduction to Causality - Quiz

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## **Question 1**

0/1 point (graded)

Which of the following are true about the meaning of the counterfactual? (Select all that apply.)

- a. The counterfactual cannot be directly observed
- b. The counterfactual refers to facts that surround a causal statement, in other words, the
  assumptions or facts that we keep in the back of our minds when thinking of possible chains of
  causality
- c. Sometimes the counterfactual occurs, sometimes it does not occur
- d. By definition, the counterfactual did not occur, since it refers to the state of the world that we would have observed absent a specific cause or program or condition



### **Explanation**

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

#### **Causality**

due Nov 21, 2016 05:00 IST

<u>Analyzing Randomized</u> <u>Experiments</u>

due Nov 21, 2016 05:00 IST

The counterfactual refers to the state or the world that did not occur, in other words, the state of the world that would have been observed absent the cause or program or policy or condition of interest. We cannot directly observe this state of the world. For example, if you are curious whether a tutoring program increased learning outcomes for a group of students, the relevant counterfactual outcome would be learning outcomes for the students in the state of the world where they did not receive tutoring, which is the state of the world that did not occur (since the group children received tutoring), and hence cannot be directly observed.

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You have used 2 of 2 attempts

**★** Incorrect (0/1 point)

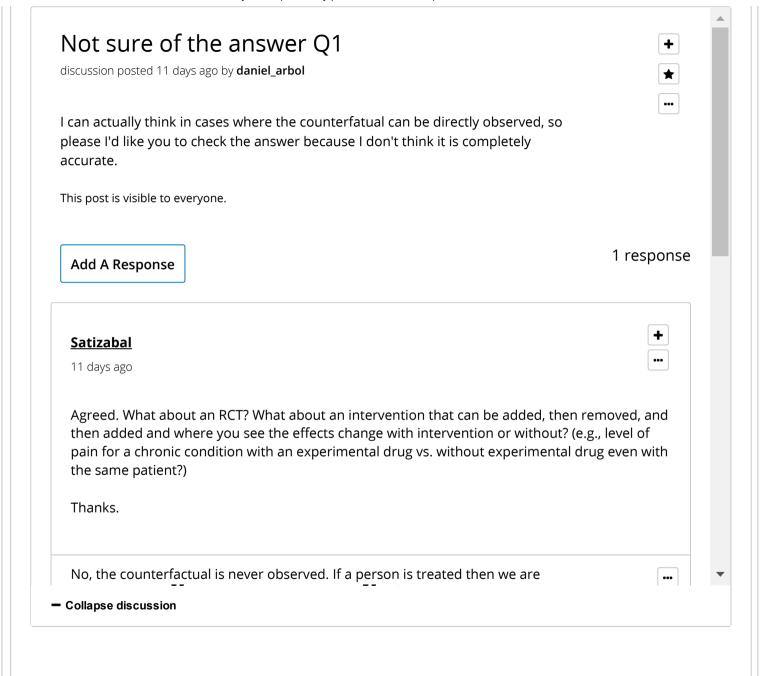
# Question 2

1.0/1.0 point (graded)

One helpful way to think about causality is as \_\_\_\_\_\_, where we find a strategy to compare with \_\_\_\_\_.

- a. The effect of manipulating a cause; estimates from before the cause; estimates from after the cause
- b. The effect of manipulating a cause; (our best approximation of) what would have happened absent that cause; what actually did happen ✓
- c. A theoretical construct ; what we think we know about the world ; what we directly observe

Use of Randomization and • d. A theoretical construct; predictions or theories about what will happen from a range fields or **Nonparametric Regression** disciplines; what actually did happen due Nov 21, 2016 05:00 IST **Module 8: Homework** Ø. due Nov 14, 2016 05:00 IST Module 9: Single and Multivariate Linear Submit You have used 1 of 2 attempts Models Exit Survey Discussion **Hide Discussion Topic:** Module 8 / An Introduction to Causality - Quiz Add a Post



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