

MITx: 14.310x Data Analysis for Social Scientists

Heli



#### **Bookmarks**

- 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 &
   Functions of Random
   Variable

Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias > Omitted Variable Bias > Regression Discontinuity Design - Quiz

# Regression Discontinuity Design - Quiz

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### **Question 1**

1/1 point (graded)

A regression discontinuity approach is appropriate in cases where:

- a. One uses a locally linear regression
- b. The hypothesized functional form is non-linear
- c. The probability of a particular outcome being realized shifts discontinuously with a running variable
- d. An outcome variable shifts discontinuously

## **Explanation**

This discontinuous shift in treatment across some running variable creates an opportunity to test the effect of the treatment on a given outcome variable.

- 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
- Module 9: Single and Multivariate Linear Models
- Module 10: Practical Issues in Running

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You have used 1 of 2 attempts

✓ Correct (1/1 point)

### Question 2

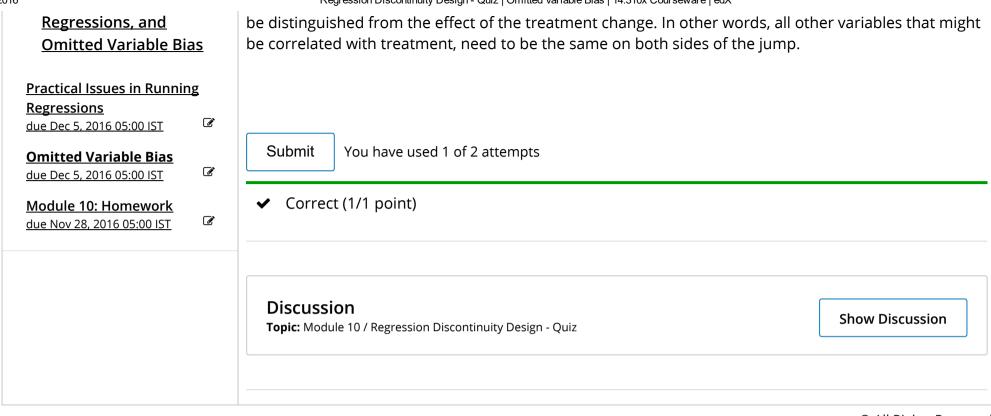
1/1 point (graded)

What assumption underlies regression discontinuity designs?

- a. There is no other reason for a discontinuous jump in the outcome variable at the threshold other than that the treatment has changed. ✓
- b. The running variable has no effect on the outcome variable before or after the threshold.
- c. There are no variables that are correlated with both the running variable and the outcome variable.
- d. The running variable is not correlated with your outcome variable.

#### **Explanation**

The running variable or other variables may have an effect on the outcome variable as long as the effect does not change discontinuously at the threshold. However, if there is a reason for the outcome variable to discontinuously jump at the threshold besides the treatment change, then this jump cannot



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