Quiz Day 2

EGAP Latin America Hub Learning Days

08 August 2023

Question 1

Question 1: What is an individual causal effect (individual treatment effect)?

Question 2

Question 2: What is the fundamental problem of causal inference?

Question 3

Question 3: Can we learn the true average treatment effect?

Question 4

Which of the core assumptions for causal inference are more likely to be violated in this scenario? A researcher wants to learn the

effect of a campaign against vaccine hesitancy on vaccine uptake. The researcher proposes to make a list of all adults in a village and randomly select 50% to visit with the campaign, then come back 2 months later and compare vaccine uptake rate for the two groups.

Which of the core assumptions for causal inference are violated in this scenario?. . .

- Random assignment of treatment
- SUTVA (non-interference)
- Excludability

Question 5

A researcher has partnered with the Ministry of Agriculture and they have collected data from a random sample of farmers. The survey asked two main questions. (1) Have you made use of extension services in the last year? (2) What was your yield per hectare in the last two years? The researcher finds that the yield is twice as high for those who used extension services than for those who did not. He tells the Ministry that extension services increase yields and that they should scale up the extension services to all farmers.

- Is the researcher's recommendation supported by this analysis?

Question 6

Which of the following is an instance of random assignment?

a. The DHS survey randomly selects 5 individuals per village to participate in their survey.
b. Higher-than-average rainfall haphazardly washes out some roads but not others.
c. Medical researchers randomly allocate 15 patients with a rare disease to a new treatment and 15 patients with the same disease to receive a placebo.
d. In advance of an election, polling firms randomly select phone numbers to ask potential voters whether they plan to vote or not.

Question 7

Consider these:

- Mezcal tastes great
- Drinking Mezcal increases your happiness
- Drinking Mezcal either increases, decreases, or has no effect on your happiness
- Drinking Mezcal is good for you because it strengthens your character in very fundamental ways that you could never measure

Now: a. Just one of these is not a hypothesis. Which one? b. Just one of these is a good hypothesis. Which one?