Finger Exercises due Sep 18, 2024 07:30 CST   Completed

5.1

1/1 point (graded)
With the fundamental problem of causal inference, which work-around can we use to answer causal questions for human subjects? Select all that apply.

- [ ] Postulate temporal stability.

- [ ] Postulate reversibility.

- [ ] Postulate unit homogeneity.

- [ ] Estimate causal effects for populations rather than for individuals.
  ✔

Explanation
For human subjects, neither (1) temporal stability and causal transience nor (2) unit homogeneity are plausible. However, we can instead measure causal effects for populations rather than for individuals.

Submit   You have used 1 of 2 attempts

ⓘ Answers are displayed within the problem

5.2

1/1 point (graded)
What does the following formula represent?

$$T* = E\left[Y_1 - Y_0 | X = 1\right]$$

- ○ Average Treatment Effect (ATE)

- ○ Average Treatment Effect for the Treated (ATT)
  ✔

- ○ Average Treatment Effect for the Untreated (ATU)

- ● Treatment effect for individual x

Explanation
This formula represents the expected difference between two potential outcomes for those who are treated. In other words, it is the average treatment effect for the treated (ATT).

Submit   You have used 1 of 2 attempts

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5.3

1/1 point (graded)
Fill in the blank. It is a ____ idea to compare E[Y|X = 1] and E[Y|X = 0] by convenience sampling ((i.e., treated and untreated units are selected for the study because they are the easiest to access)) to estimate the average treatment effect for the treated (ATT).

- ● good

- ○ bad
  ✔

Explanation
This is not a good idea because the resulting treatment and control groups are most likely not similar. In the example of surveying people on the street, the group of people who say that they are taking cholesterol medicine (the treated) are probably very different from the first bunch of people that you meet who do not take the drug. The difference in average health of the two groups is not the treatment effect but rather the consequence of all their differences.

Submit   You have used 1 of 1 attempt

ⓘ Answers are displayed within the problem

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