



PCORI Methodology Standards Academic Curriculum

Self-Assessment for Category 8: Standards for Causal Inference Methods

1. Which of the following is a benefit of an RCT? (*Select the single best answer.*)
 - a. Potential outcomes for each unit are available.
 - b. Comparisons of outcomes are not confounded by observed or unobserved covariates.
 - c. Comparisons of outcomes are not confounded by observed covariates.
 - d. The results are always relevant to target populations.

2. What are the properties of a confounder? (*Select all that are correct.*)
 - a. Moderates treatment effects
 - b. Related to the exposure of interest
 - c. On the causal pathway between exposure and outcomes
 - d. Related to the outcome of interest

3. Which of the following is not an example of a nonexperimental study design? (*Select the single best answer.*)
 - a. Propensity score matching
 - b. Comparative interrupted time series
 - c. Instrumental variables
 - d. Fidelity assessment

4. Which of these designs can be used to estimate a causal effect with data from just one unit? (*Select the single best answer.*)
 - a. Regression discontinuity
 - b. Instrumental variables
 - c. Interrupted time series
 - d. Propensity score matching

5. To control for a posttreatment variable, such as medication adherence, in a randomized trial, can it be included as a predictor in the outcome model?
 - a. Yes
 - b. No



6. Are the assumptions underlying instrumental variables analyses fully testable?
 - a. Yes
 - b. No

7. In a randomized trial it is okay to subset the data analyzed to those individuals in the treatment group who were fully adherent to the treatment under study.
 - a. Yes
 - b. No

8. Does a good instrument directly affect the outcomes of interest?
 - a. Yes
 - b. No

9. Which of the following designs takes advantage of a treatment that was administered on the basis of a threshold on some predictor variable? (*Select the single best answer.*)
 - a. Propensity scores
 - b. Instrumental variables
 - c. Randomized experiment
 - d. Regression discontinuity

10. Does the propensity score represent the probability of experiencing the outcome of interest?
 - a. Yes
 - b. No

11. Which of the following is not a useful diagnostic for propensity score methods? (*Select all that apply.*)
 - a. Overlap between propensity score distributions in exposed and unexposed groups
 - b. Assessment of the validity of the exclusion restriction
 - c. The standardized difference in means between exposed and unexposed groups on a covariate
 - d. The standardized difference in means between exposed and unexposed groups on the outcome

12. Which of the following is not a benefit of using propensity score methods? (*Select the single best answer.*)
 - a. Adjusting for observed confounders
 - b. Adjusting for observed and unobserved confounders
 - c. Helping analysts see the overlap between exposed and unexposed groups
 - d. Reducing sensitivity to specific regression models by reducing extrapolation



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Answer Key for Category 8: Standards for Causal Inference Methods

1. b
2. b, d
3. d
4. c
5. b
6. b
7. b
8. b
9. d
10. b
11. b, d
12. b