Instrument Validity: Deworming and Other Examples - Quiz

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Question 1

1/1 point (graded)

Why would a child being in a school that was randomly assigned to receive deworming pills (only about half the kids in a treatment school actually receive the pills) be an invalid instrument for the effect of being dewormed on cognitive scores? (Hint: worms are highly contagious)

- (●) a. Even the children who are not dewormed in the treatment school benefit, because the children around them are less likely to give them worms ✔
- ( ) b. The treatment and control schools might be different
- ( ) c. It is a valid instrument
- ( ) d. Even the children who are not dewormed in the treatment school benefit, because the children around them are more likely to give them worms.

Explanation

Since the children who are not dewormed benefit, simply being in a treatment school (the instrument) directly affects cognitive scores (the outcome) which violates the exclusion restriction. The treatment and control schools should not be different because of random assignment. D simply makes no sense, given that deworming is highly contagious.

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✔ Correct (1/1 point)

Question 2

1/1 point (graded)

Say you are interested in the effect of years of education on test scores. Why would the random assignment of laptops to students probably be a bad instrument for years of education?

- a. Some children may not know how to use the laptops
- b. Laptops may improve cognitive abilities independently of their effect on years of education ✔
- c. Laptops may also improve the test scores of the siblings of the child
- d. Some laptops may break

Explanation
Lack of knowledge about how to use the laptops and laptops breaking would only weaken the first stage regression. If laptops improved cognitive abilities independent of their effect on years of education, then this would violate the exclusion restriction. Laptops improving the test scores of siblings should not be a problem as long as the siblings are not in our sample.

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