

# Practice Question 1

## Causal Inference

E P Swens

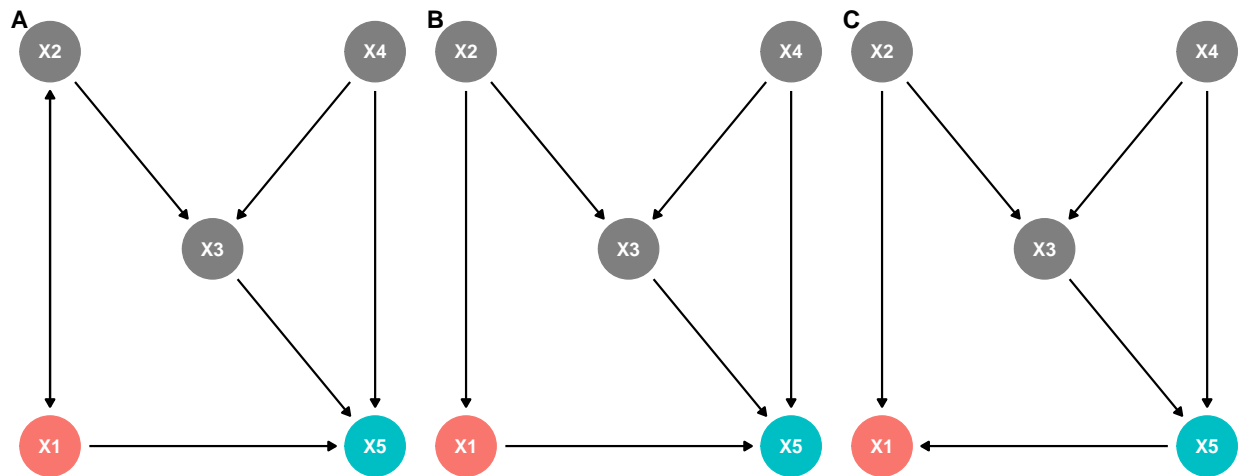


Figure 1: Directed Acyclic Graph (Exposure X1, Outcome X5)

### A. Directed Acyclic Graph

In figure 1, which diagram represents a directed acyclic graph?

- A) A
- B) B
- C) C

### B. Continued

Why are the other options not DAG?

### C. Causal Paths

What is the number of path(s) in the DAG of figure 1?

- A) 0
- B) 1
- C) 2
- D) 3
- E) 4

#### D. Closed Paths

How many of those path(s) are closed?

- A) 0
- B) 1
- C) 2
- D) 3
- E) 4

#### E. Back-Door Criterion

How many paths adhere to the back-door criterion?

- A) 0
- B) 1
- C) 2
- D) 3
- E) 4

#### F. Valid Adjustment Sets

Which set(s) adhere to the back-door criterion? (Multiple options are possible)

- A)  $\emptyset$
- B)  $\{X_2\}$
- C)  $\{X_3\}$
- D)  $\{X_4\}$
- E)  $\{X_2, X_3\}$
- F)  $\{X_2, X_4\}$
- G)  $\{X_3, X_4\}$
- H)  $\{X_2, X_3, X_4\}$