

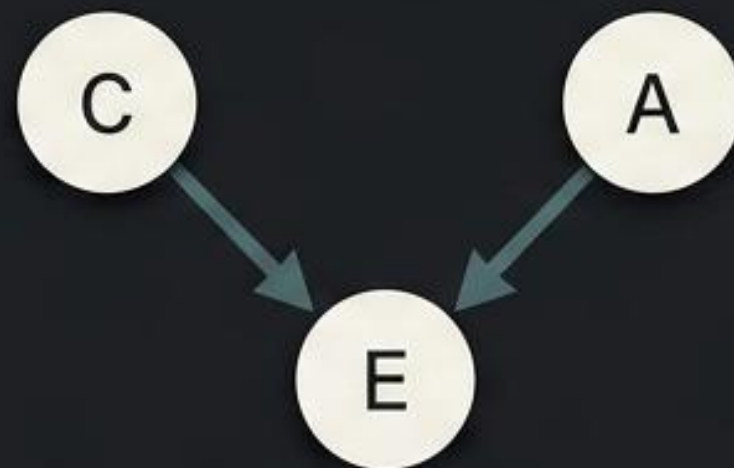
Recognizing Estimation-Relevant Structural Differences in Predictive Causal Reasoning

Core question: When the causal model changes between situations do lay people recognize which kind of changes may lead to a bias in initial estimates?

**Example:
Confounding**

Source Environment

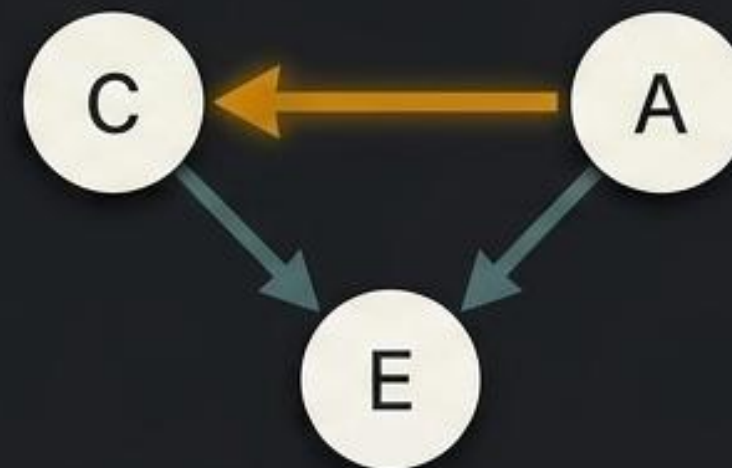
Independent Structure



C and A independently cause E.

Target Environment

Confounded Structure



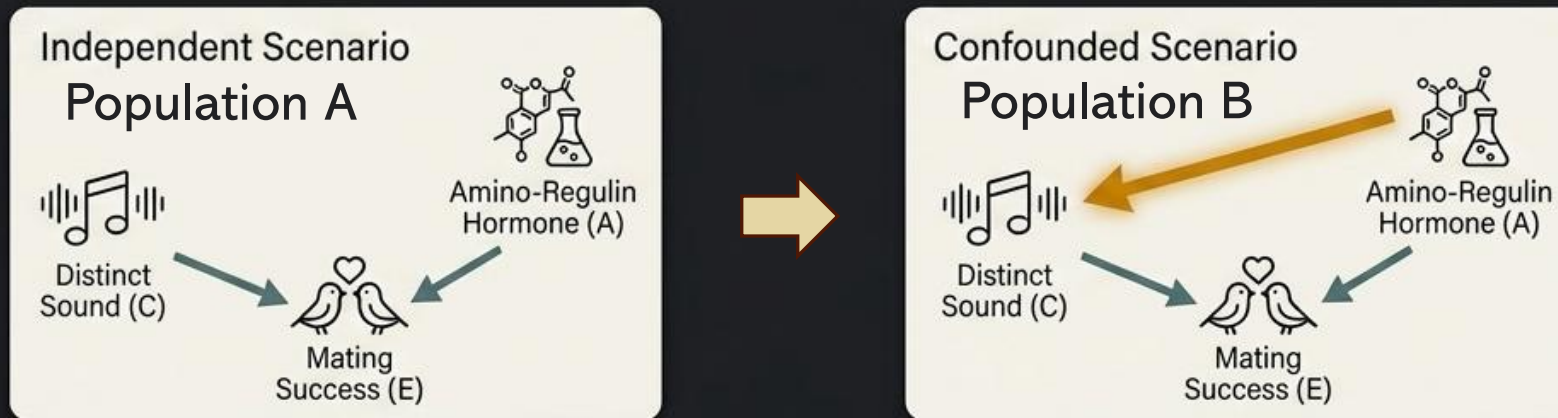
A also causes C.

$$P(e|c) = ?$$

In a confounded environment, the target effect (E) becomes more probable when C is observed, because C acts as a diagnostic indicator for the alternative cause (A) of the effect (E).

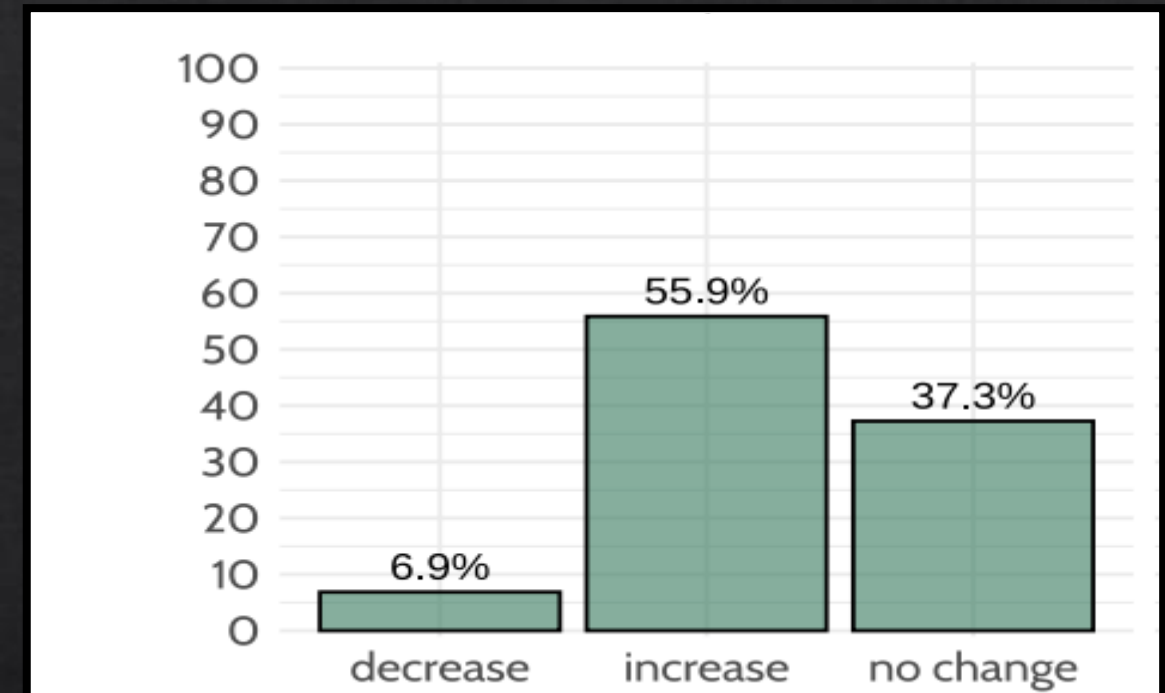
Experiment: Do lay people recognize this?

Scenario: In a species of birds of paradise, being able to produce a specific sound attracts mating partners. Having a specific hormone also attracts mating partners.



What's the probability that a bird able to produce the distinct sound will find a mating partner?

Results



Overall sensitivity to the predictive implications of confounding, but many act as if that link didn't exist.