Inference From Explanation

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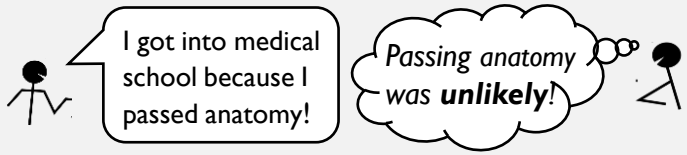
INTRO

What do we learn from causal explanations?



… features that would have made this explanation an appropriate thing to say, e.g. *normality*.

Normality and **Causal Structure** influence people's causal explanations.

Gerstenberg & Icard, 2019
Icard et al., 2017

HYPOTHESES

When given a causal explanation …

(I) People infer the cited cause to be *abnormal / normal* if the underlying causal structure is *conjunctive / disjunctive*.

(II) People infer the causal structure to be *conjunctive / disjunctive* if the cited cause is *abnormal / normal*.

References

Gerstenberg, T., & Icard, T. (2020). Expectations affect physical causation judgments. *Journal of Experimental Psychology: General*, 149(3), 599–607.

Icard, T. F., Kominsky, J. F., & Knobe, J. (2017). Normality and actual causal strength. *Cognition*, 161, 80-93

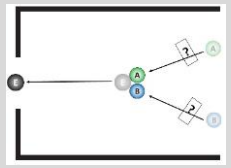
Woodward, J. (2006). Sensitive and insensitive causation. Philosophical Review, 115, 1–50.

METHODS

Inferring Normality

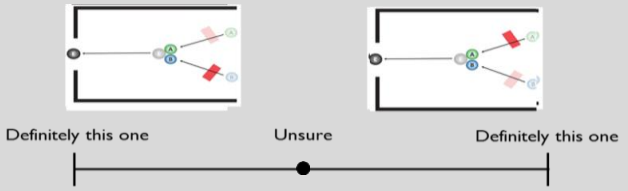
EXP 1

Statistical / Prescriptive normality



+ Ball E went through the gate because Ball **A** went through the motion block.

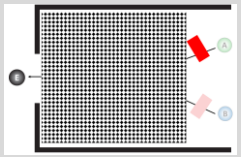
Inference Task



Inferring Structure

EXP 2

Statistical / Prescriptive normality



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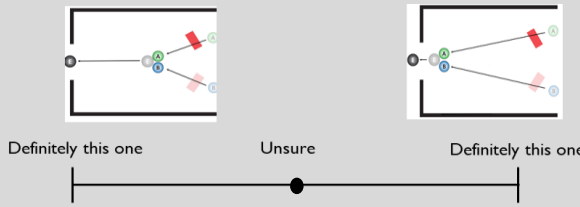
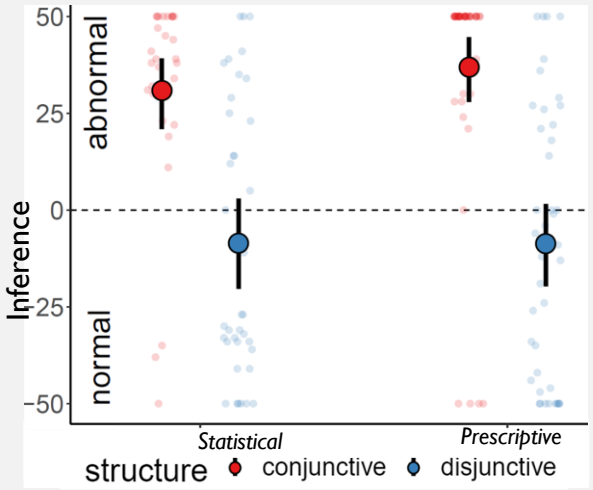
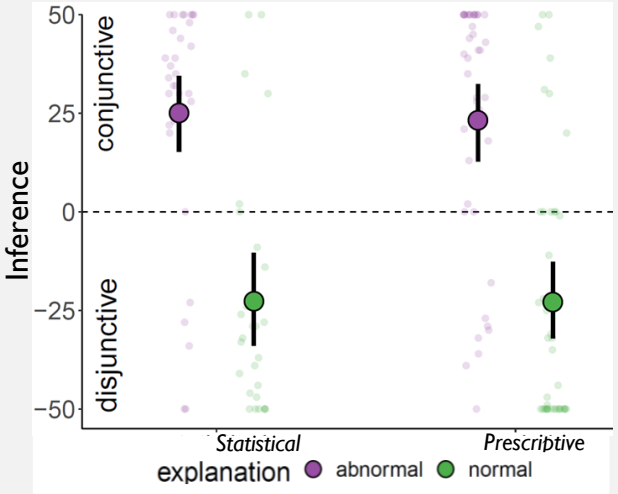
Inference Task



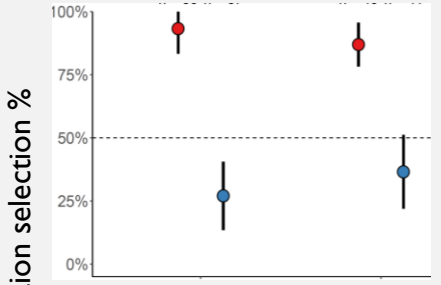
RESULTS EXP 1



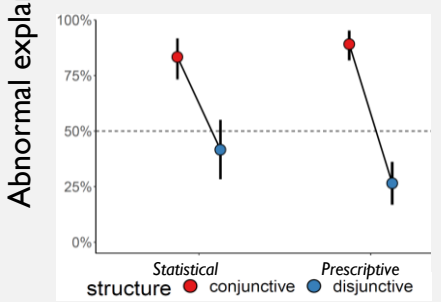
RESULTS EXP 2



EXPLANATION SELECTION EXP I



EXP 2



GD

People make systematic inferences about normality and structure from explanations. The communicative dimension of explanations **might help elucidate the role of normality**: For example, communicating *optimal interventions*.

Woodward, 2006