Causation on a continuum: normality effects on causal judgments

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Abstract

Imagine that a river becomes polluted if two plants generate too much waste. One might be more inclined to say that a plant caused the river to become polluted when it produced more waste than expected. While similar normality effects on causal judgments have been observed in cases with binary variables, little work has focused on cases with continuous variables. To test whether the statistical normality of continuous variables influences causal judgments, we had participants learn statistical norms over repeated iterations of a vignette and make a causal judgment about an instance of that vignette. Following Icard et al. (2017), we manipulated the causal structure and the normality of each cause. By testing whether normality effects on causal judgment generalize to cases with continuous variables, our results help determine whether these effects are central to human cognition, or simply apply to a subset of cases studied thus far.

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