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The surprising consequences of engaging in contrastive explanation

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Abstract

When we explain a fact or event, we typically contrast it with a specific set of counterfactual alternatives. For example, an explanation of why Alex (as opposed to somebody else) ate the cake will seek to identify relevant factors that vary across agents, rather than across food items. The contrastive nature of explanation has been widely appreciated, but its cognitive consequence have not. We report a study with 340 adults examining how commitment to a particular explanatory contrast (agent- or patient-based) affects discovery of noisy patterns. Maximum predictive accuracy could be achieved by detecting predictive regularities along multiple dimensions. We found that engaging in contrastive explanation (committing to a particular contrast) impeded the discovery of alternative patterns that predicted the outcome. While explaining is likely to be beneficial in many contexts, seeking an explanation with a single contrast could interfere with peoples ability to identify real structure in the world.