

# Latent Cause Inference in Social Biases

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**Presentation Abstract Summary** How can rare negative events gain prominence in the overall impression of people? We hypothesize that such seemingly irrational biases may result from a normative inference of latent causes--causal structures of the world that generate a set of observations-- and heuristic averaging over these causes. For instance, the sparsity of events may lead to an inference of unique latent causes for such events. This tendency to separate rare events to small latent causes, while grouping common events in large latent causes that explain multiple events, can cause overweighting of rare events in learning, if later averaging is across unweighted latent causes rather than individual events. We tested this hypothesis by manipulating sparsity of non-overlapping event distributions in model simulations and a behavioral decision-making experiment. Subjects observed a sequence of coin donations and were subsequently asked to estimate the average donation. As predicted by the latent-cause model, average estimation was biased toward sparse distributions. These results suggest that social biases that have been found in empirical social cognition research may be the results of a semi-rational Bayesian latent cause inference process.

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