What remains of ”belief bias” once we generalise logic to probabilities?

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Abstract

A key phenomenon in the psychology of reasoning is belief bias, a tendency to accept the conclusion of an argument based on whether it is believable, regardless of logical status. The traditional notion of belief bias assumes a contrast between logic and beliefs: we are either logical, or we are biased away from logic by our beliefs. But this contrast is unnecessary in probabilistic theories of reasoning that generalise logic to cover uncertain degrees of belief. An experiment examined whether reasoners inferences about conditional syllogisms conform to principles of probabilistic coherence and whether this was affected by the believability of argument premises. Inferences for a majority of syllogisms showed above-chance coherence regardless of the believability of argument premises. When deviations from coherence did occur these most often reflected underconfidence in arguments with unbelievable premises. These results show that positing two distinct reasoning processes is not necessary to explain belief bias.