

1. What are the research questions?

This study aims to investigate how people learn about cause and effect relationships. We are interested in people's ability to detect real and spurious relationships between the cues and outcomes shown on screen.

2. How does this study extend previous research on this topic?

Previous research has shown that people are fairly accurate at learning about causal relationships when a real relationship is present. However it is unclear how different prior beliefs and the frequency of the cue and outcome occurring might interact in influencing causal judgements.

3. What are some potential real-world implications of this research?

The ability to accurately determine cause and effect relationships between events in the environment is important for species survival. It allows humans and animals to anticipate significant events and avoid undesirable outcomes. Understanding when and how people are biased to form or maintain inaccurate causal beliefs will help us optimise strategies to improve decision making.

4. Briefly describe a potential issue (e.g., ethical, practical) or limitation of the study (e.g., design, ecological validity).

Events in the real world are often more complex and difficult to dichotomise as confirming or disconfirming our prior beliefs. To determine if the findings uncovered in this study are applicable to causal learning in the real world, a replication of the experiment with continuous outcomes that are variable and potentially ambiguous is necessary.

5. Briefly describe the study methodology (e.g., design, dependent/ independent variables, materials).

The study used a between-subjects design. Participants in different groups are exposed to different causal instructions and frequency of the cue and outcome occurring. Instructions and frequency of the events are the primary independent variables of interest. The primary dependent variable is causal judgements made at the end of the experiment, where participants are told to judge the ability of the cue to cause the outcome to occur.

6. Further reading (i.e., a reference to a reading/s related to the current study for curious students).

Alloy, L. B., & Tabachnik, N. (1984). Assessment of covariation by humans and animals: The joint influence of prior expectations and current situational information. *Psychological review*, 91(1), 112.