

Supplemental materials for “Cause and Fault” paper

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Appendix Preregistered Analyses

We preregistered separate hypotheses and analyses for each kind of cause in Experiment 1 and Experiment 2. We report those here. Moreover, in both experiments, our pre-registered hypotheses focus on “caused” versus lexical for children who are between the ages of 4 to 9. Thus our analyses are restricted to this in what follows. For all results reported here, we fit Bayesian logistic mixed effects models. Throughout we report estimates, and in brackets we report 95% credible intervals for the estimate. Lastly, in all results reported lexical was coded 0 and “cause” was coded 1.

Experiment 1: Chains

We will report results for distal causes selections and then proximal cause selection.

Distal cause

We predicted that, for distal causes, there would be a main effect of verb, such that children would be more inclined to select distal causes when the verb was “cause” as opposed to a lexical causative. We fit a model with only verb as a predictor and found that, in line with our prediction, children were overall more likely to select the distal cause when the question used “cause” (3.46 [3.06, 3.89]).

We also fit a separate model with an interaction between verb and age. We predicted that the 95% credible interval of the parameter estimate for “verb” would be positive and not contain 0. We found evidence of this (1.69 [.32, 3.08]). We also predicted that the 95% credible interval for “age” would include 0 and found evidence of this (-.07 [-.24, .11]). And we predicted that the 95% credible interval for the interaction between “verb” and “age” would include 0 but in contrast to our prediction it excluded 0 (.25 [.06, .45]).

Proximal cause

We predicted that, for proximal causes, the effect of “verb” would be negative, indicating that children were more inclined to select the proximal cause when the verb was a lexical causative. We fit a model with only verb as a predictor and found that, in line with our prediction, children were overall more likely to select the proximal cause when the question used a lexical causative (-3.17 [-3.56, -2.79]).

We also fit a separate model with an interaction between verb and age. We predicted that the 95% credible interval of the parameter estimate for “verb” would be negative and

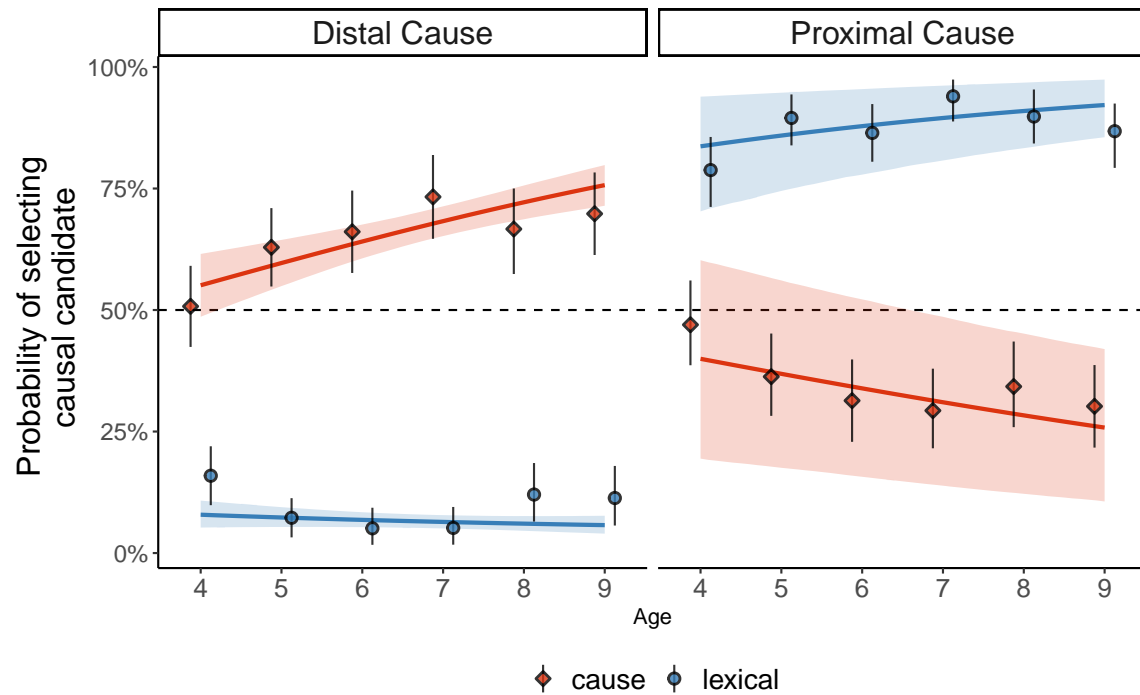


Figure A1

Experiment 1: Probability of selecting a distal or proximal cause in the chain condition. Regression lines show the fits of Bayesian logistic mixed effects models with 80% credible intervals. Large points show the percentage with which each age group selected either referent. Error bars show 95% bootstrapped confidence intervals.

not contain 0. We didn't find evidence of this (-1.00 [-2.29, .27]). We also predicted that the 95% credible interval for "age" would include 0 but didn't find evidence of this (.18 [.01, .35]). And we predicted that the 95% credible interval for the interaction between "verb" and "age" would include 0 but in contrast to our prediction it excluded 0 (-.32 [-.52, -.14]).

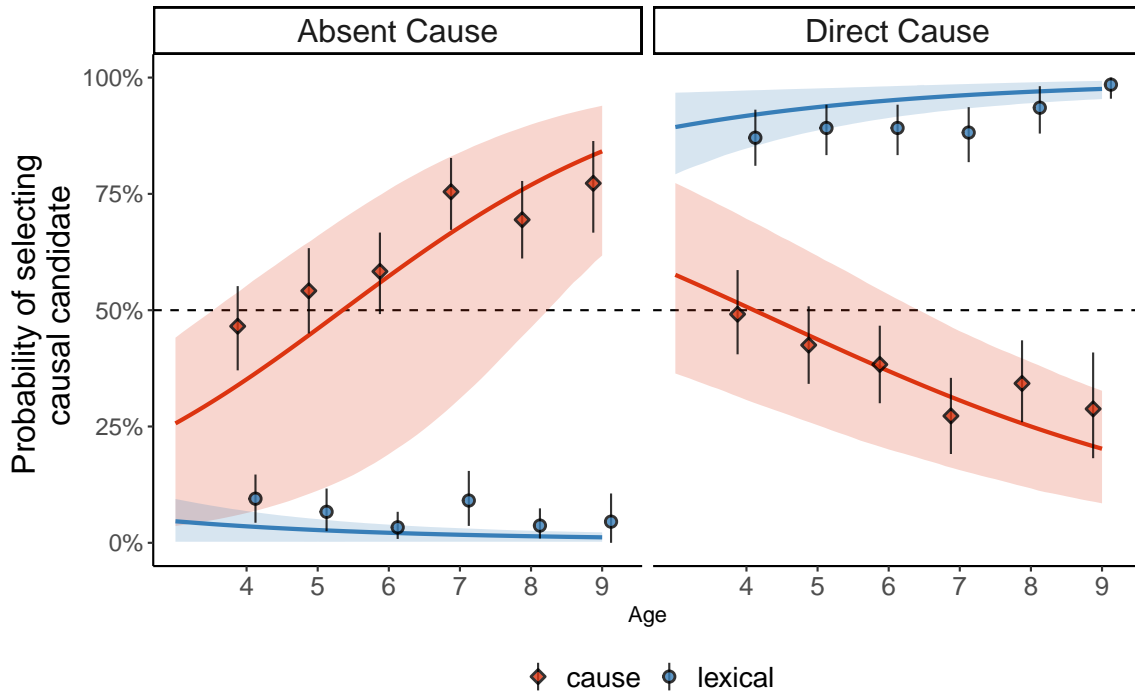


Figure A2

Experiment 2: *Probability of selecting a direct or absent cause. Regression lines show the fits of Bayesian logistic mixed effects models with 80% credible intervals. Large points show the percentage with which each age group selected either referent. Error bars show 95% bootstrapped confidence intervals.*

Experiment 2: Absences

We will report results for absent causes selections and then direct cause selection.

Absent cause

We fit a model with an interaction between verb and age. We predicted that the 95% credible interval of the parameter estimate for “verb” would be positive and not contain 0. We didn’t find evidence of this (.00 [-2.02, 1.85]). We also predicted that the 95% credible interval for “age” would exclude 0 but didn’t find evidence of this (-.21 [-.52, .06]). And we predicted that the 95% credible interval for the interaction between “verb” and “age” would be positive and exclude 0 and found evidence of this (.74 [.44, 1.07]).

Direct cause

We fit a model with an interaction between verb and age. We predicted that the 95% credible interval of the parameter estimate for “verb” would be positive and not contain 0. We didn’t find evidence of this (-.26 [-1.96, 1.42]). We also predicted that the 95% credible interval for “age” would exclude 0 and found evidence of this (.27 [.02, .53]). And

we predicted that the 95% credible interval for the interaction between “verb” and “age” would be negative and exclude 0 and found evidence of this (-.58 [-.85, -.33]).