Supplements

A Target and control items

Target items This list shows the 20 clauses of the target items with their lower and higher probability facts, respectively:

1. Mary is pregnant. Facts: Mary is a middle school student / Mary is taking a prenatal yoga class
2. Josie went on vacation to France. Facts: Josie doesn't have a passport / Josie loves France
3. Emma studied on Saturday morning. Facts: Emma is in first grade / Emma is in law school
4. Olivia sleeps until noon. Facts: Olivia has two small children / Olivia works the third shift
5. Sophia got a tattoo. Facts: Sophia is a high end fashion model / Sophia is a hipster
6. Mia drank 2 cocktails last night. Facts: Mia is a nun / Mia is a college student
7. Isabella ate a steak on Sunday. Facts: Isabella is a vegetarian / Isabella is from Argentina
8. Emily bought a car yesterday. Facts: Emily never has any money / Emily has been saving for a year
9. Grace visited her sister. Facts: Grace hates her sister / Grace loves her sister
10. Zoe calculated the tip. Facts: Zoe is 5 years old / Zoe is a math major
11. Danny ate the last cupcake. Facts: Danny is a diabetic / Danny loves cake
12. Frank got a cat. Facts: Frank is allergic to cats / Frank has always wanted a pet
13. Jackson ran 10 miles. Facts: Jackson is obese / Jackson is training for a marathon
14. Jayden rented a car. Facts: Jayden doesn't have a driver's license / Jayden's car is in the shop
15. Tony had a drink last night. Facts: Tony has been sober for 20 years / Tony really likes to party with his friends
16. Josh learned to ride a bike yesterday. Facts: Josh is a 75-year old man / Josh is a 5-year old boy
17. Owen shoveled snow last winter. Facts: Owen lives in New Orleans / Owen lives in Chicago
18. Julian dances salsa. Facts: Julian is German / Julian is Cuban
19. Jon walks to work. Facts: Jon lives 10 miles away from work / Jon lives 2 blocks away from work
20. Charley speaks Spanish. Facts: Charley lives in Korea / Charley lives in Mexico

In the target items of the projection and at-issueness blocks, eventive predicates, like *discover* and *hear*, were realized in the past tense and stative predicates, like *know* and *be annoyed*, were realized in the present tense. The direct object of *inform* was realized by the proper name *Sam*. Each clause-embedding predicate was paired with a unique subject proper name. The speaker of the target items was realized by a randomly sampled unique proper name.

Control and filler items The not-at-issueness and projection blocks included 6 control trials each. The full set of control items is given in (7). The content of these items was expected to be at-issue and not to project: For example, (7f) the speaker is asking about the main clause content, that is, whether Samantha has a new hat, and the speaker is not committed to the main clause content, that Samantha has a new hat. The same 6 main clauses were also used to form 6 filler trials in the prior block. These filler items were not used to assess participants' attention.

(7) a. Do these muffins have blueberries in them? Fact: Muffins are sold at the bakery.
b. Does this pizza have mushrooms on it? Fact: Pizza is sold at the pizzeria.

c. Was Jack playing outside with the kids? Fact: Many children like ice cream.

d. Does Ann dance ballet? Fact: Ballet is a type of dance.

e. Were Carl's kids in the garage? Fact: Garages are used to store cars and other things.

f. Does Samantha have a new hat? Fact: Hats are worn on the head.

B Data exclusion

Exp. 1. We excluded the data from 16 participants who did not self-identify as native speakers of American English. We also excluded the data from one participant who always clicked on the same point of the scale across the target trials, as well as the data from 78 participants whose response means on the 6 not-at-issueness and projection control items were was more than 2 sd above the group means.

Exp. 2. We excluded the data from 27 participants who did not self-identify as native speakers of American English. We also excluded the data from 5 participants who always clicked on the same point of the scale across the target trials, as well as the data from 60 participants whose response means on the 6 not-at-issueness and projection control items were was more than 2 sd above the group means.

C Manipulation of prior beliefs in Exp. 1

Fig. A1 shows the mean prior probability ratings of the 20 contents by fact from Exp. 1. As shown, contents presented with the higher probability fact received higher prior probability ratings than contents presented with the lower probability fact. This result is confirmed by a mixed-effects linear regression model that predicts prior probability slider ratings from dummy-coded fact type (reference level: 'lower probability') and random by-content and by-participant intercepts and slopes for fact type. The mean prior probability of any content was rated as higher when it was presented with its higher probability fact than when it was presented with its lower probability fact ($\beta = 0.51$, $SE = 0.03$, $t = 17.41$, $p < .0001$). This result suggests that the manipulation of the prior probability of the 20 contents was successful.

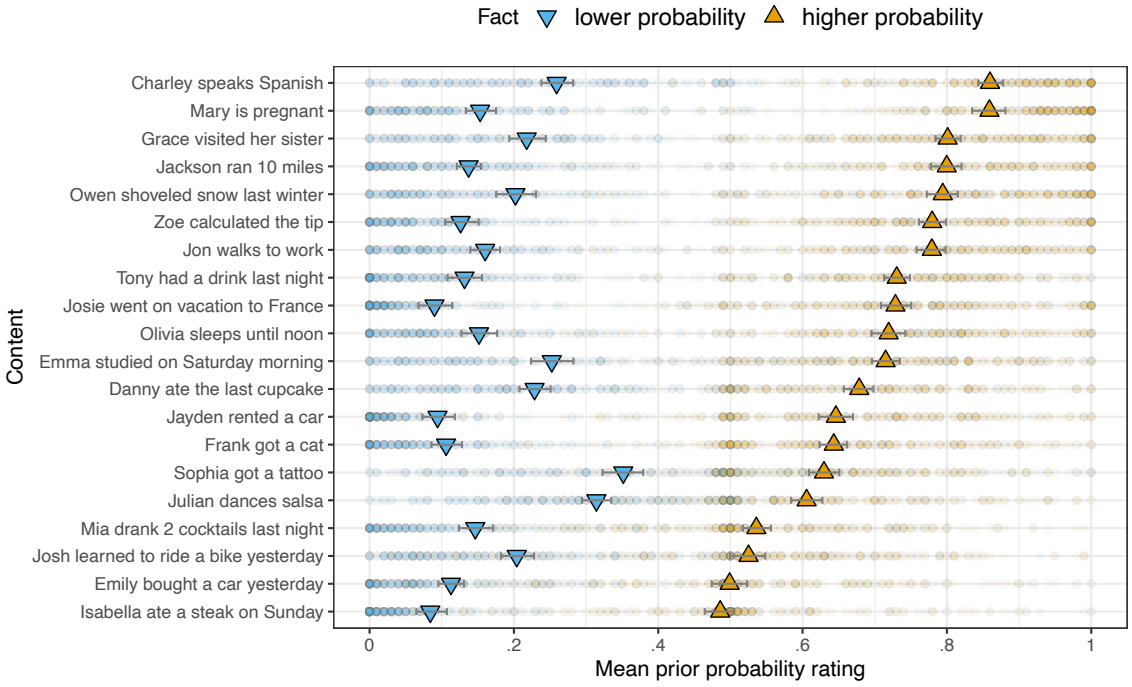
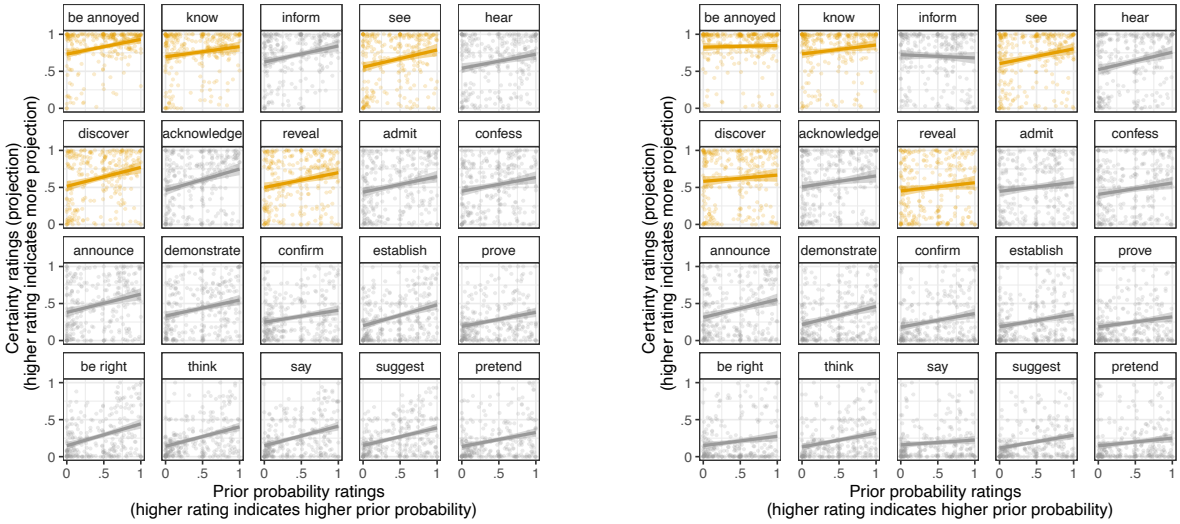


Figure A1: Mean prior probability rating by content and fact in Exp. 1. Error bars indicate 95% bootstrapped confidence intervals. Transparent dots indicate individual participant ratings.

D Exp. 1: Results by block order

The figures in this section present the results of Exp. 1 by block order, with the results for the two blocks side-by-side.

D.1 Exp. 1: Certainty against prior probability ratings, by block order

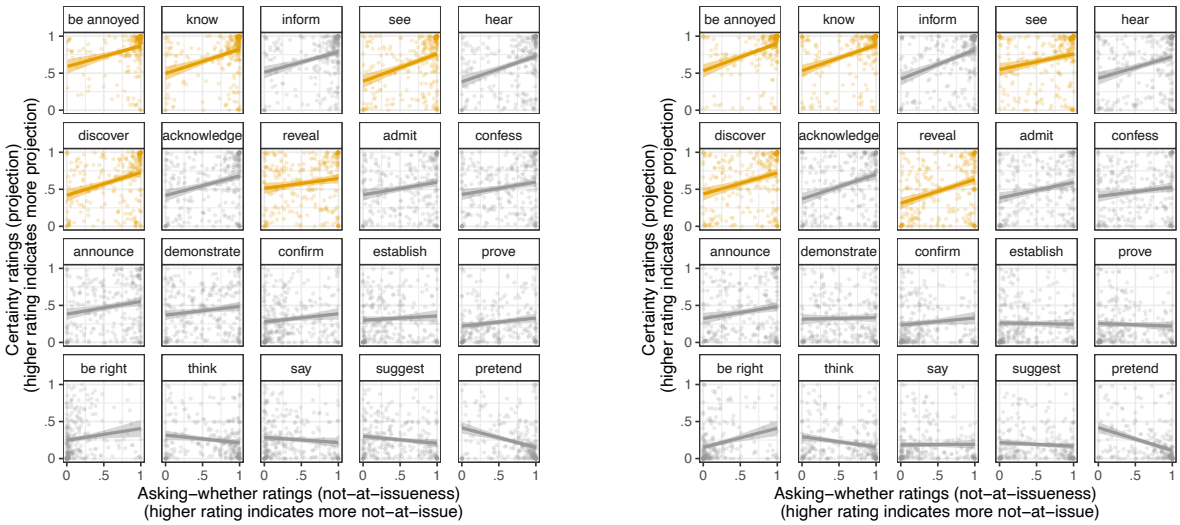


(a) Proj/ai dataset.

(b) Ai/proj dataset.

Figure A2: Participants' certainty ratings (measuring projection) against prior probability ratings in Exp. 2: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid. Predicates are ordered by projection mean, with purportedly factive predicates in orange.

D.2 Exp. 1: Certainty against asking-whether ratings, by block order

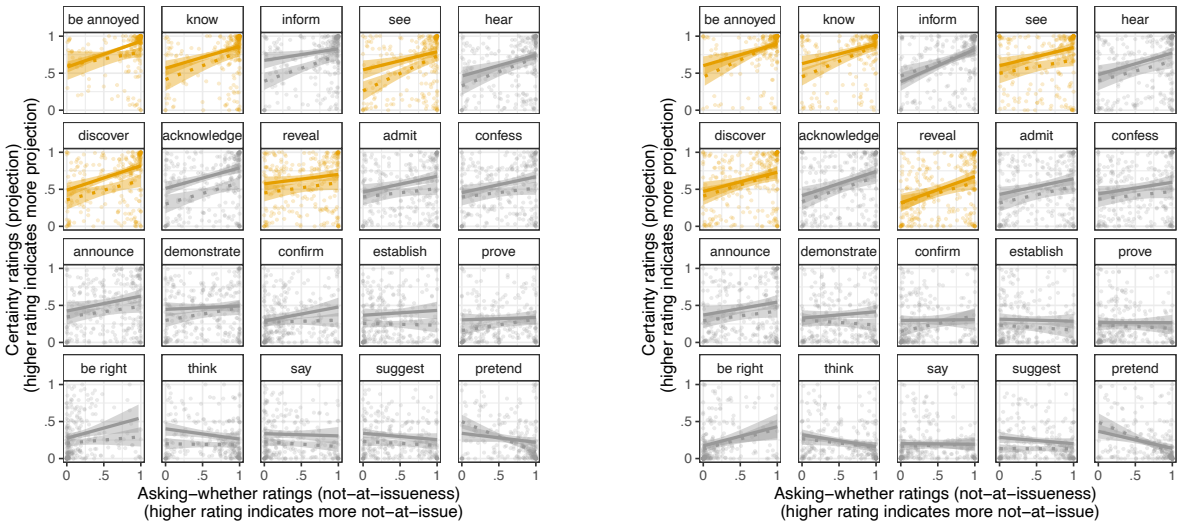


(a) Proj/ai dataset.

(b) Ai/proj dataset.

Figure A3: Participants' certainty ratings (measuring projection) against asking-whether ratings (measuring projection) in Exp. 1: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid. Predicates are ordered by projection mean, with purportedly factive predicates in orange.

D.3 Exp. 1: Certainty against asking-whether ratings by prior probability, by block order

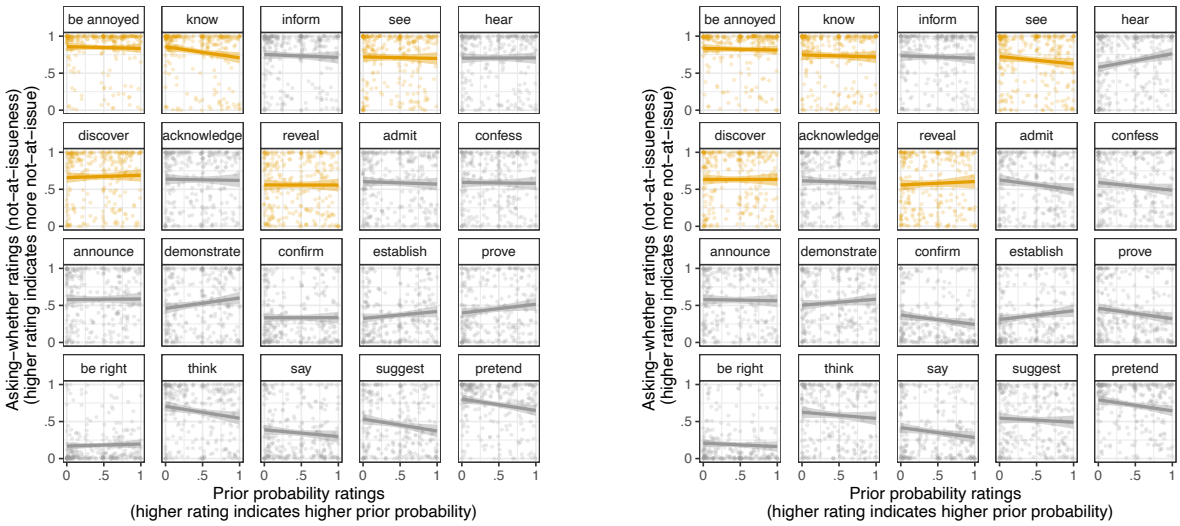


(a) Proj/ai dataset.

(b) Ai/proj dataset.

Figure A4: Participants' certainty ratings (measuring projection) against asking-whether ratings (measuring at-issueness) by high (solid line: —) and low prior probability fact (dotted line: ⋯) in Exp. 1: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid Predicates are ordered by projection mean, with purportedly factive predicates in orange.

D.4 Exp. 1: Asking-whether against prior probability ratings, by block order



(a) Proj/ai dataset.

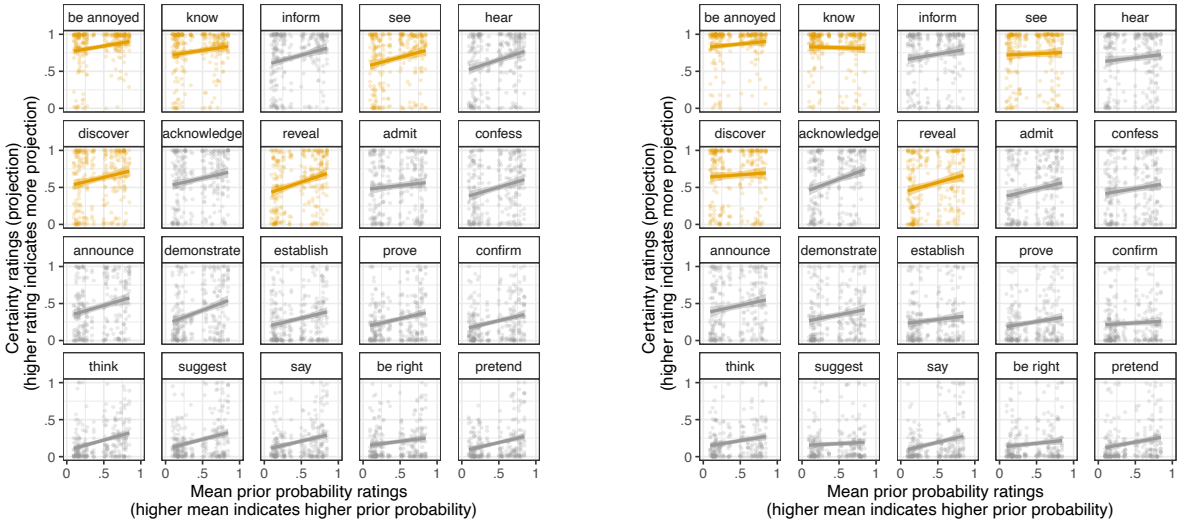
(b) Ai/proj dataset.

Figure A5: Participants' asking-whether ratings (measuring at-issueness) against prior probability ratings in Exp. 1: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid. Predicates are ordered by projection mean, with purportedly factive predicates in orange.

E Exp. 2: Results by block order

The figures in this section present the results of Exp. 2 by block order, with the results for the two blocks side-by-side.

E.1 Exp. 2: Certainty against mean prior probability ratings, by block order

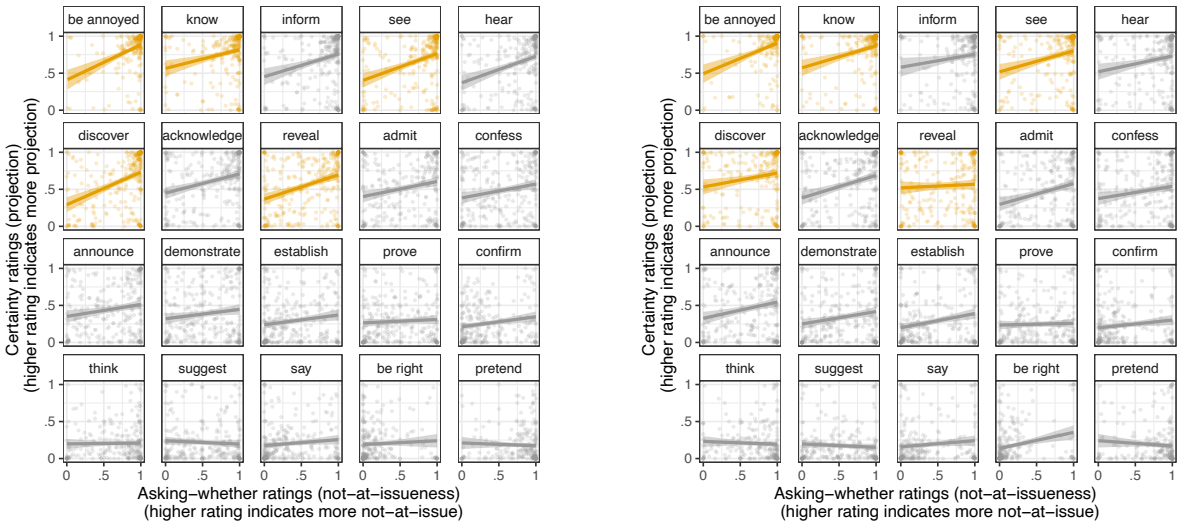


(a) Proj/ai dataset.

(b) Ai/proj dataset.

Figure A6: Participants' certainty ratings (measuring projection) against mean prior probability ratings in Exp. 2: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid. Predicates are ordered by projection mean, with purportedly factive predicates in orange.

E.2 Exp. 2: Certainty against asking-whether ratings, by block order

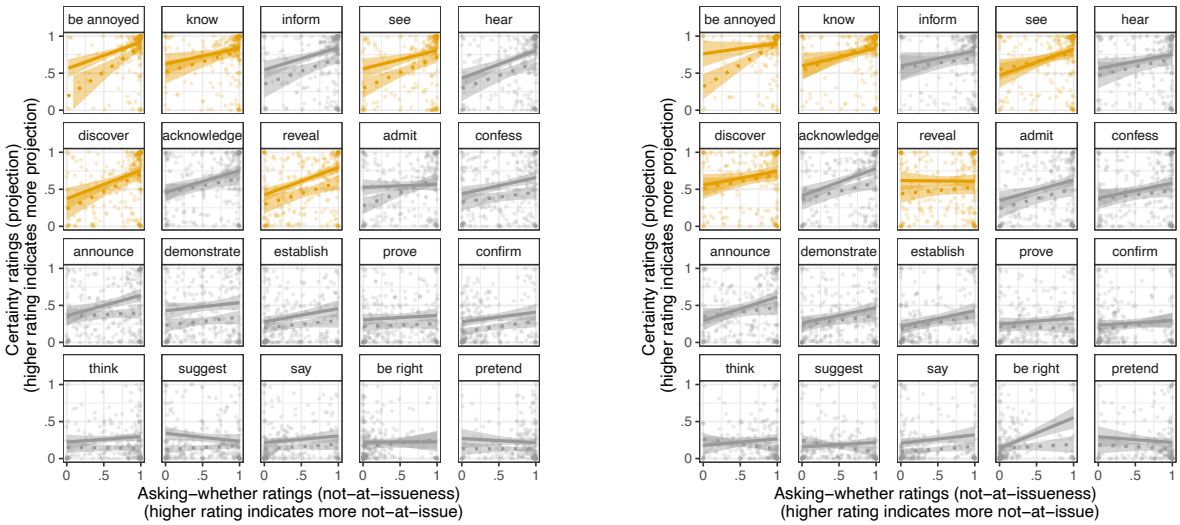


(a) Proj/ai dataset.

(b) Ai/proj dataset.

Figure A7: Participants' certainty ratings (measuring projection) against asking-whether ratings (measuring projection) in Exp. 2: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid. Predicates are ordered by projection mean, with purportedly factive predicates in orange.

E.3 Exp. 2: Certainty against asking-whether ratings by prior probability, by block order

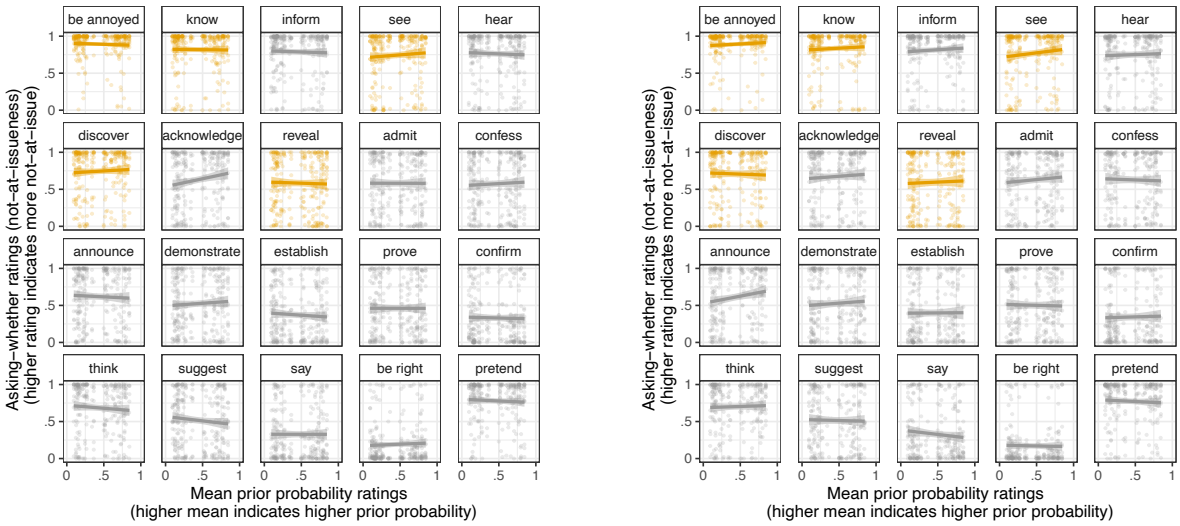


(a) Proj/ai dataset.

(b) Ai/proj dataset.

Figure A8: Participants' certainty ratings (measuring projection) against asking-whether ratings (measuring at-issueness) by high (solid line: —) and low prior probability fact (dotted line: ⋯) in Exp. 1: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid Predicates are ordered by projection mean, with purportedly factive predicates in orange.

E.4 Exp. 2: Asking-whether against prior probability ratings, by block order

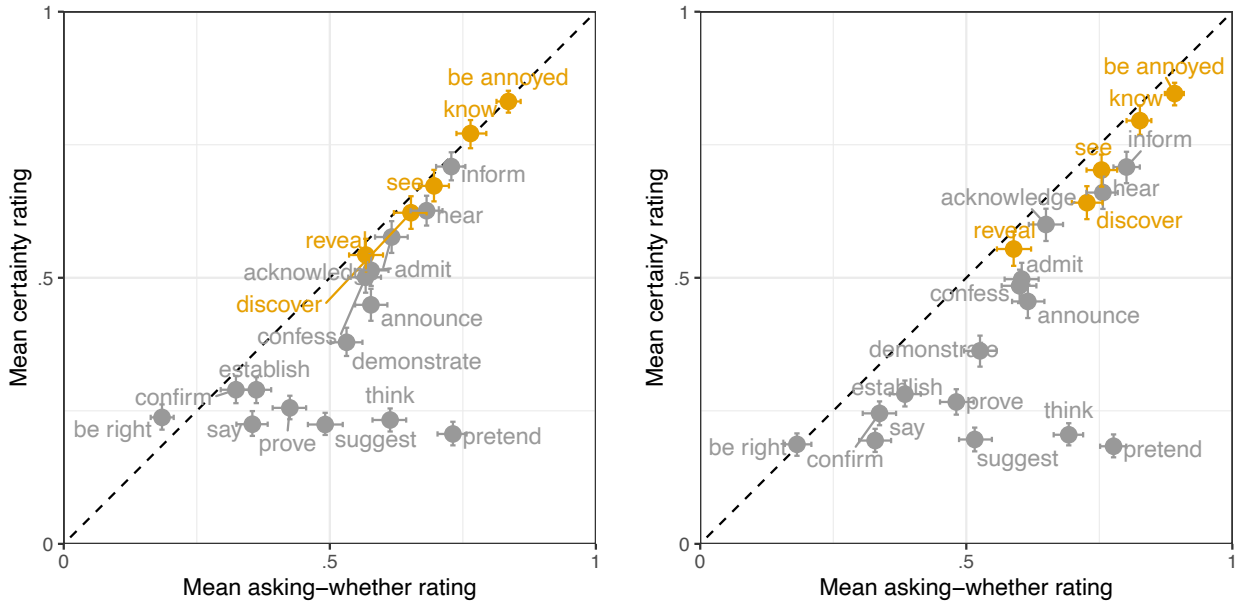


(a) Proj/ai dataset.

(b) Ai/proj dataset.

Figure A9: Participants' asking-whether ratings (measuring at-issueness) against mean prior probability ratings in Exp. 2: (a) Proj/ai dataset, (b) Ai/proj dataset. Linear smoothers with 95% confidence intervals overlaid. Predicates are ordered by projection mean, with purportedly factive predicates in orange.

F By-predicate mean projection against mean not-at-issueness



(a) Exp. 1

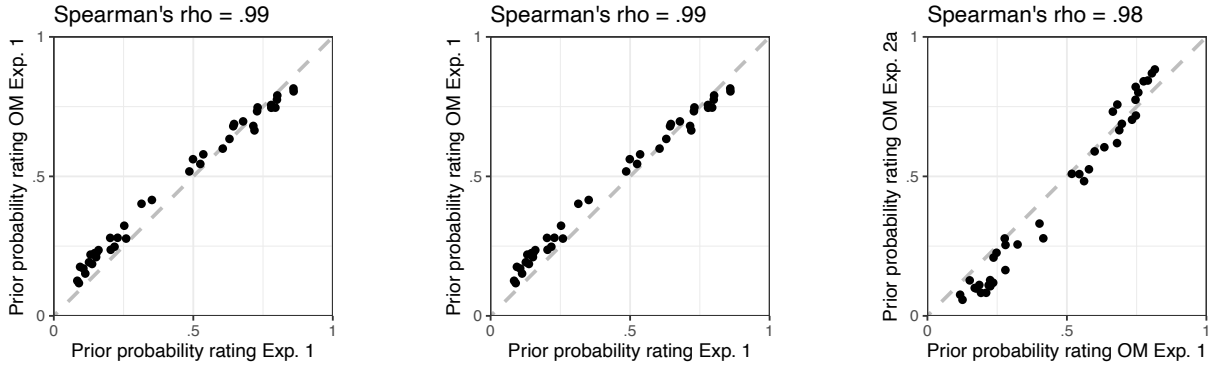
(b) Exp. 2

Figure A10: By-predicate mean projection against mean at-issueness. Purportedly factive predicates in orange. Error bars indicate 95% bootstrapped confidence intervals.

G Cross-experiment comparisons of ratings

G.1 Prior belief ratings

Fig. A11 compares the mean by-content/fact prior probability ratings from Exp. 1 and the two experiments in Degen and Tonhauser 2021 (referred to as DT1 and DT2). For each content/fact combination, there was a mean of 252 ratings in Exp. 1, a mean of 143 ratings in DT1, and a mean of 38 ratings in DT2.

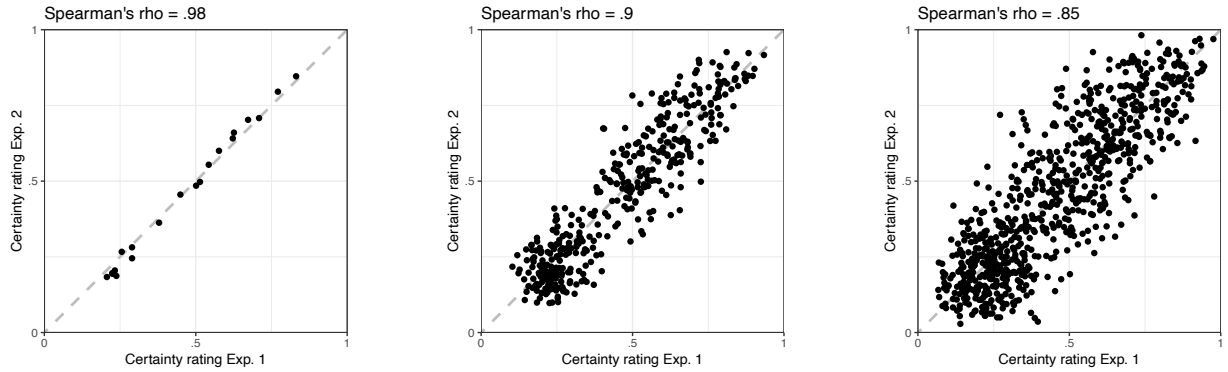


(a) Exp. DT1 against Exp. 1 (b) Exp. DT2 against Exp. 1. (c) Exp. DT2 against Exp. DT1

Figure A11: Comparisons of 40 mean by-content/fact prior belief ratings in Exp. 1 and the two experiments in Degen and Tonhauser 2021 (abbreviated DT1 and DT2), with Spearman rank effects in the title. Error bars indicate 95% bootstrapped confidence intervals.

G.2 Certain-that ratings (projection)

Fig. A12 compares the certainty ratings from Exps. 1 and 2. For each predicate, there were 505 ratings in Exp. 1 and 500 ratings in Exp. 2. For each predicate/content combination, there was a mean of 25 ratings in both Exps. 1 and 2. For each predicate/content/fact combination, there was a mean of 13 ratings in both Exps. 1 and 2.

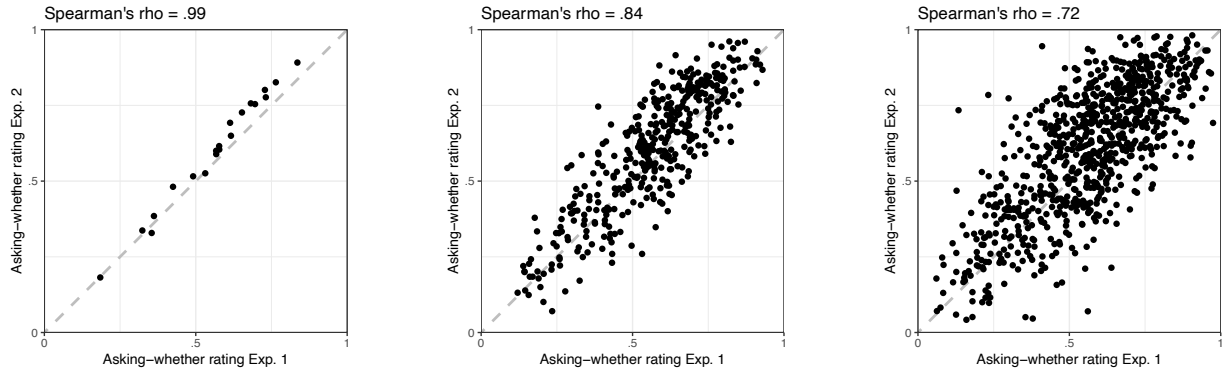


(a) By-predicate means (b) By-predicate/item means (c) By-predicate/item/fact means

Figure A12: Comparisons of (a) 20 mean by-predicate, (b) 400 by-predicate/item certainty ratings, and (c) 800 by-predicate/item certainty ratings from Exps. 1 and 2, with Spearman rank effects in the title. Error bars indicate 95% bootstrapped confidence intervals.

G.3 Asking-whether ratings (at-issueness)

Fig. A13 compares the certainty ratings from Exps. 1 and 2. For each predicate, there were 505 ratings in Exp. 1 and 500 ratings in Exp. 2. For each predicate/content combination, there was a mean of 25 ratings in both Exps. 1 and 2. For each predicate/content/fact combination, there was a mean of 13 ratings in both Exps. 1 and 2.



(a) By-predicate means (b) By-predicate/item means (c) By-predicate/item/fact means

Figure A13: Comparisons of (a) 20 mean by-predicate, (b) 400 by-predicate/item certainty ratings, and (c) 800 by-predicate/item asking-whether ratings from Exps. 1 and 2, with Spearman rank effects in the title. Error bars indicate 95% bootstrapped confidence intervals.