

Supplemental material

Overcoming ideology-consistent biases: Does it help to make things easier? Philip U. Gustafsson, Torun Lindholm, Freja Isohanni, Ola Svenson & Sophia Appelbom

For an overview of the location of preregistered hypotheses and where they are tested, please see supplemental material “Guide to supplemental material”.

Experiment 1

Preregistered hypotheses not reported in the main manuscript

For preregistered hypotheses not reported in the paper, please see figures, tables and analyses below. There is some overlap across the preregistered hypotheses. Below, we list all hypotheses that include a specific expectation. Qualitative data for preregistered hypotheses 3 have not been coded or analyzed yet.

1 a) We expect participants high in numeric ability to be more correct and *more certain overall* across the four scenarios. *For accuracy, see Figure 4 in the main manuscript. For certainty (i.e., confidence), see below...*

Confidence

High numeracy = 5.46

Low numeracy = 4.81

$p < .001$ (t test)

1c) We expect a similar result, that is no systematic ideologically based biases on the initial conclusions for people who do, or who do not see Islam as compatible with the British way of life. *See Figure S1 and Table S1 below.*

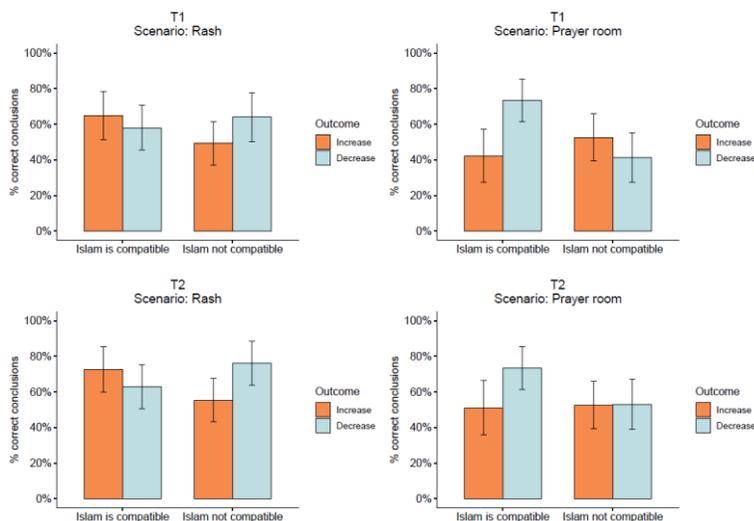


Figure S1. Percentage of accurate conclusions in Experiment 1 in the different conditions. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Top row displays results when the participants were presented with the problem for the first time (“T1”), bottom row displays the second time the problem was presented, now containing the calculations needed to reach the correct conclusion. Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively. Islam is [not] compatible indicates participants +/-1 SD above mean.

Table S1. Parameter estimates (and standard errors) for predictors in models of conclusion accuracy in answers in Experiment 1

| Predictor | |
|---------------------------------------|-----------------|
| Fixed effects | |
| Intercept | 0.21 (0.24) |
| Numeric ability | 0.60 (0.06) *** |
| Islam/British compatibility | -.13 (0.06)* |
| Scenario | -0.78 (0.18) * |
| Outcome | 0.56 (0.18) ** |
| Time | 0.73 (0.13)*** |
| Islam/democracy*Scenario*Outcome | 0.47 (0.24) |
| Islam/democracy*Scenario*Outcome*Time | 0.11 (0.14) |

1 d) However, we predict that participants who draw conclusions in line with their ideology/beliefs (RWA, Islam/democracy compatibility), whether correct or erroneous, will be more certain in their conclusion than those who draw correct or erroneous conclusions counter to their ideology/beliefs. See *Figures S2-3 & Tables S2-3* below.

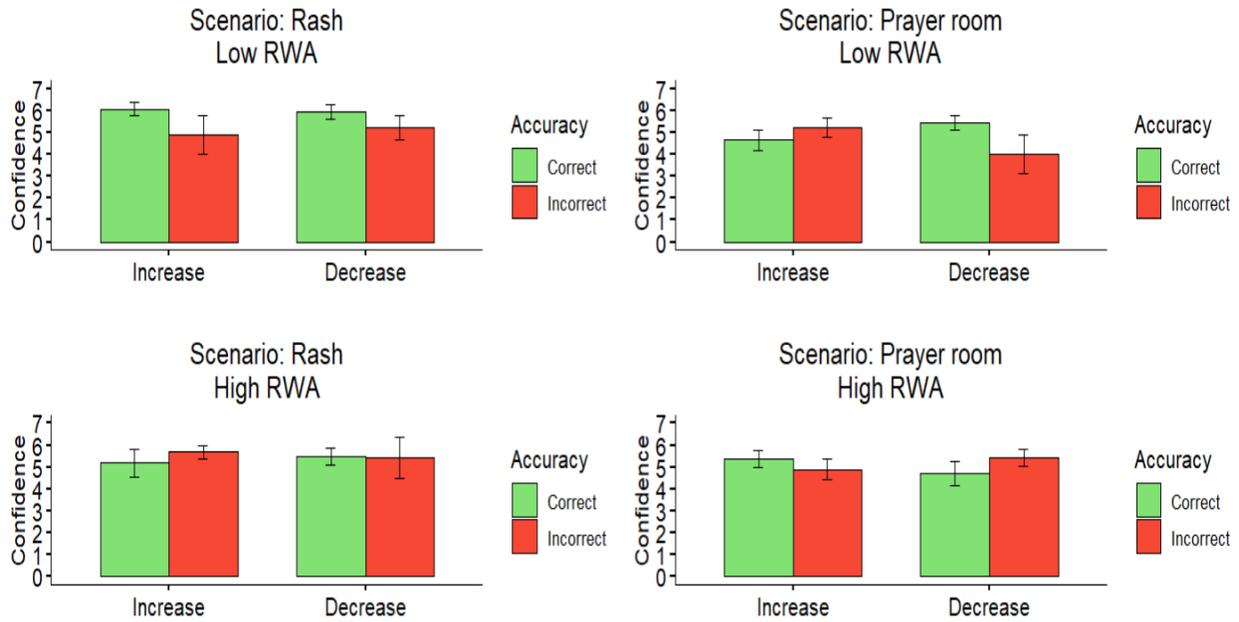


Figure S2. Confidence in conclusion in Experiment 1 in the different conditions. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Top row displays results for participants -1 SD below mean on RWA, bottom row displays participants +1 SD above mean on RWA. Legend (“Outcome”) displays accuracy of conclusion. X-axis display outcome of the specific scenario.

Table S2. Parameter estimates (and standard error) for predictors in models of certainty in answers in Experiment 1

| Predictor | |
|---|-----------------|
| Fixed effects | |
| Intercept | 4.77 (0.12) |
| Numeric ability | 0.16 (0.02)*** |
| RWA aligned with outcome | -0.03 (0.10) |
| Scenario | -0.60 (0.12)*** |
| Outcome | -0.05 (0.12) |
| Time | 0.45 (0.05)*** |
| RWA not aligned with outcome*Scenario*Outcome | -0.21 (0.28) |
| RWA aligned with outcome*Scenario*Outcome | 0.67 (0.29)* |
| RWA not aligned with outcome*Scenario*Outcome* Time | 0.06 (0.13) |
| RWA aligned*Scenario*Outcome*Time | -0.30 (0.15)* |

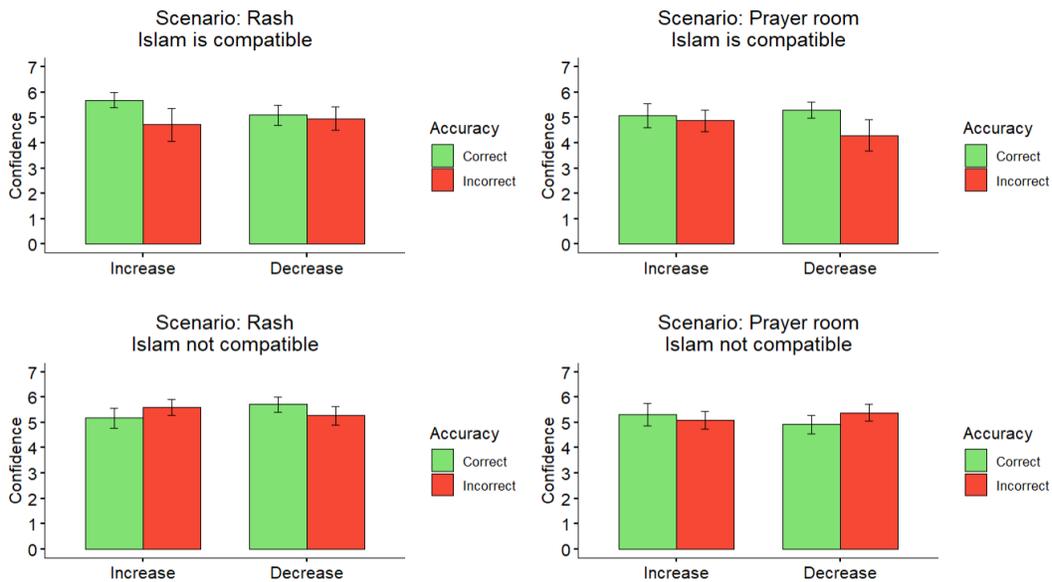


Figure S3. Confidence in conclusion in Experiment 1 in the different conditions. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer rooms on support for extremism). Top row displays results for participants -1 SD below mean on “Islam compatibility”-item, bottom row displays participants +1 SD above mean. Legend (“Outcome”) displays accuracy of conclusion. X-axis display outcome of the specific scenario.

Table S3. Parameter estimates (and standard error) for predictors in models of certainty in answers in Experiment 1

| Predictor | |
|--|-----------------|
| Fixed effects | |
| Intercept | 4.88 (0.15) *** |
| Numeric ability | 0.14 (0.24) *** |
| Islam compatibility view aligned with outcome | -.023 (0.12) |
| Scenario | -0.57(0.12) *** |
| Outcome | -0.11 (0.13) |
| Time | 0.48 (0.06)*** |
| Islam compatibility view not aligned with outcome*Scenario*Outcome | -0.17 (0.27) |
| Islam compatibility view aligned with outcome*Scenario*Outcome | 0.94 (0.38)* |
| Islam compatibility view not aligned with outcome*Scenario*Outcome* Time | 0.05 (0.13) |
| Islam compatibility view aligned with outcome *Scenario*Outcome*Time | -0.29 (0.20)* |

1 e) We do not expect any effects of ideology/beliefs (RWA, Islam/democracy compatibility) on conclusions or certainty for the neutral scenarios. For RWA, see main manuscript and Supplemental material 2. For Islam/democracy compatibility, see Figure S1, Table S1, Figure S3 and Table S3.

2 a) We hypothesize that participants, after given information about the correct conclusion, will be more willing to correct an incorrect conclusion, if the correct conclusion is consonant with their ideology/belief. Thus, people high in RWA will be more willing to correct an erroneous conclusion, and be more certain of their conclusion, if the correct conclusion is that generous rules for Muslim prayer rooms increase rather than decrease support for Islamic extremism. For participants low in RWA we expect the opposite pattern. See Figures S4-5 and Tables S4-5 below.

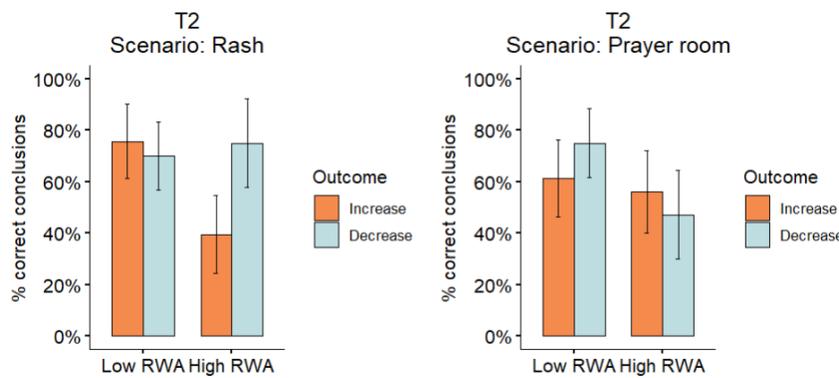


Figure S4. Accuracy of conclusion in Experiment 1, Time 2. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Legend (“Outcome”) displays conditions in which the correct conclusion

was an increase (e.g. increased support for extremism) or decrease, respectively. High/low RWA indicates participants +/-1 SD above mean.

Table S4. Values for predictors in models of conclusion accuracy in answers in Experiment 1

| Predictor | Mean sq | F-value | p |
|----------------------|---------|---------|------|
| Fixed effects | | | |
| RWA | 3.35 | 15.09 | .001 |
| Scenario | .07 | .31 | .58 |
| Outcome | .46 | 2.07 | .15 |
| RWA*Scenario | .0 | .02 | .89 |
| RWA*Outcome | .14 | .62 | .43 |
| Scenario*Outcome | .16 | .70 | .41 |
| RWA*Scenario*Outcome | 1.81 | 8.15 | .005 |

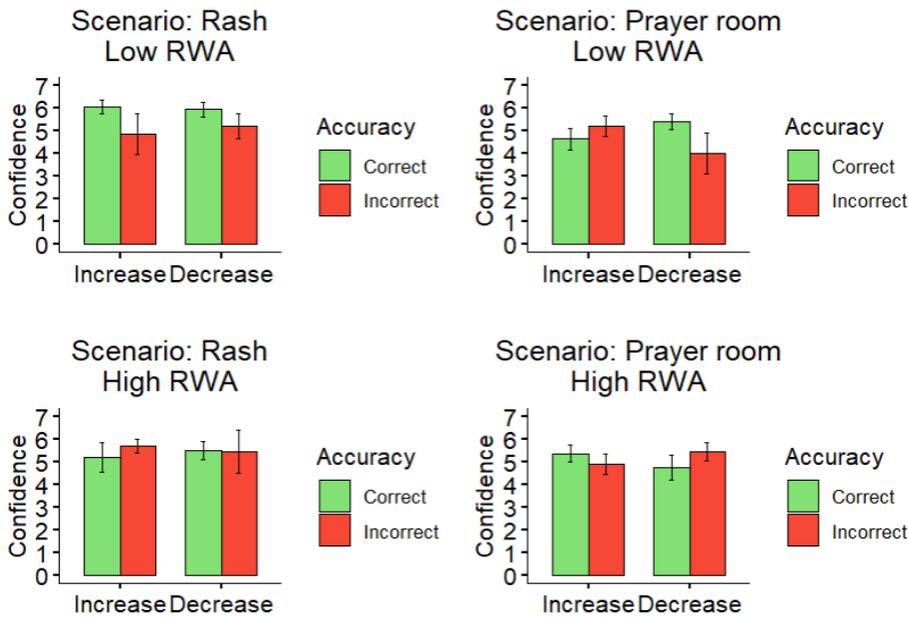


Figure S5. Confidence in conclusion in Experiment 1, Time 2. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively. High/low RWA indicates participants +/-1 SD above mean. X-axis display outcome of the specific scenario.

Table S5. Values for predictors in models of conclusion certainty in answers in Experiment 1

| Predictor | Mean sq | F-value | p |
|----------------------|---------|----------|--------|
| Fixed effects | | | |
| RWA | 4.36 | 2.19 | 0.14 |
| Scenario | 31.64 | 15.84*** | 0.0001 |
| Outcome | 2.02 | 1.01 | 0.32 |
| RWA*Scenario | 1.05 | .053 | 0.47 |
| RWA*Outcome | .24 | .12 | 0.73 |
| Scenario*Outcome | .02 | .00 | 0.93 |
| RWA*Scenario*Outcome | 0.21 | .11 | 0.75 |

2 b) We also predict that participants who draw conclusions in line with their ideology/beliefs (RWA), whether correct or erroneous, will be more certain of their conclusion than those who draw correct or erroneous conclusions counter to their ideology/beliefs. *See 1 d) above*

2 c) Participants who see Islam as incompatible with the British way of life will be more willing to correct an erroneous conclusion, and be more certain of their conclusion, if the correct conclusion is that generous rules for Muslim prayer rooms increase rather than decrease support for Islamic extremism. For participants who see Islam as compatible with British life we expect the opposite pattern. *See Figures S6-7 and Tables S6-7.*

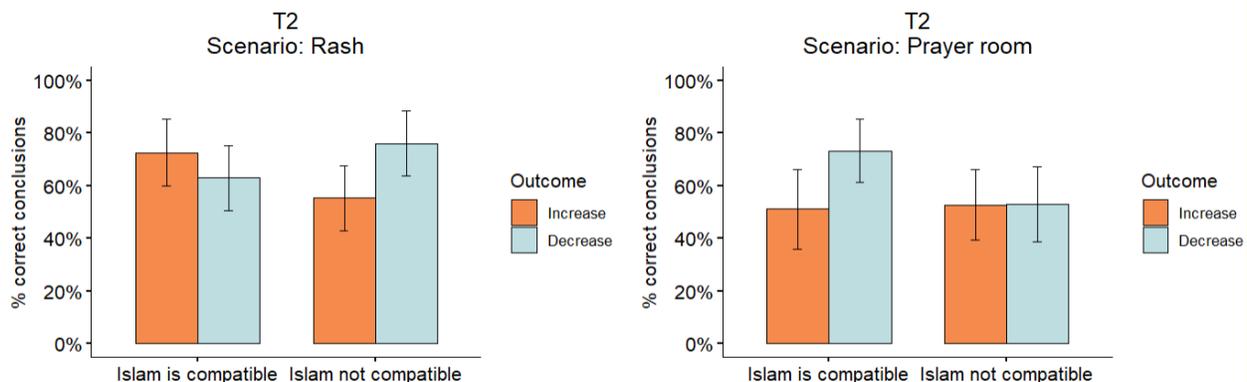


Figure S6. Accuracy of conclusion in Experiment 1, Time 2. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively. Islam is [not] compatible indicates participants +/-1 SD above mean.

Table S6. Values for predictors in models of conclusion accuracy in answers in Experiment 1

| Predictor | Mean sq | F-value | p |
|--------------------------------------|---------|---------|------|
| Islam compatibility | 1.88 | 8.42 | .004 |
| Scenario | .07 | .29 | .59 |
| Outcome | .49 | 2.18 | .14 |
| Islam compatibility *Scenario | .00 | .00 | .97 |
| Islam compatibility *Outcome | .08 | .35 | .55 |
| Scenario*Outcome | .16 | .70 | .41 |
| Islam compatibility*Scenario*Outcome | 2.82 | 2.82 | .004 |

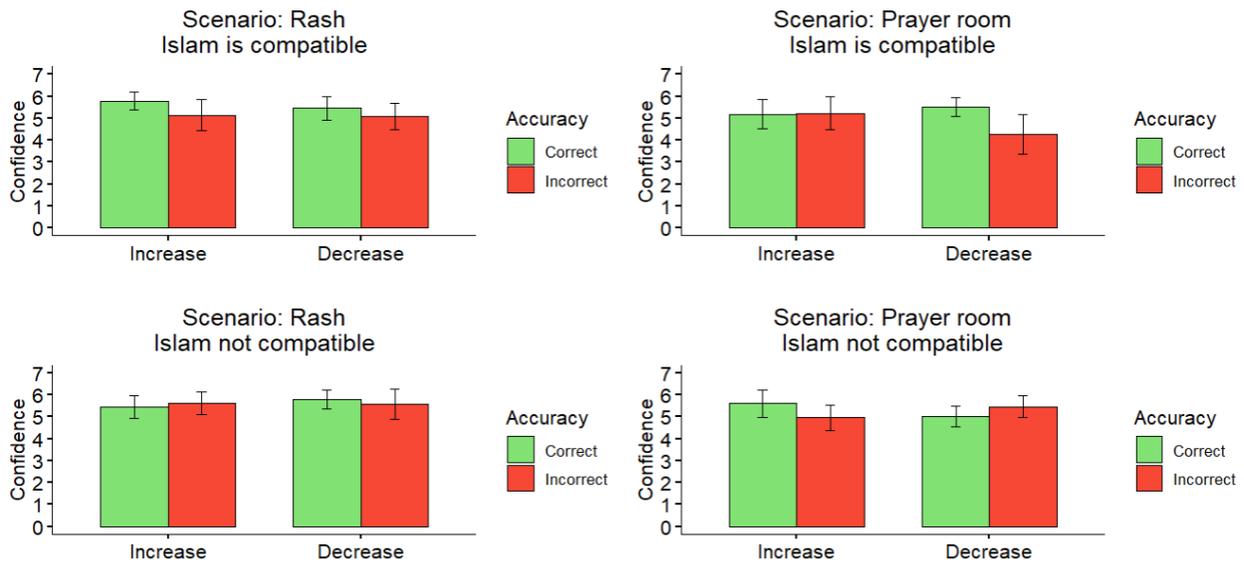


Figure S7. Confidence in conclusion in Experiment 1, Time 2. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively. Islam is [not] compatible indicates participants +/-1 SD above mean. X-axis display outcome of the specific scenario.

Table S7. Values for predictors in models of confidence in answers in Experiment 1

| Predictor | Mean sq | F-value | p |
|--------------------------------------|---------|---------|------|
| Islam/British compatibility | .27 | .14 | .71 |
| Scenario | 31.9 | 15.91 | .59 |
| Outcome | .49 | 1.24 | .14 |
| Islam compatibility *Scenario | .00 | .44 | .97 |
| Islam compatibility*Outcome | .08 | .01 | .55 |
| Scenario*Outcome | .16 | .04 | .41 |
| Islam compatibility*Scenario*Outcome | 2.82 | .24 | .004 |

2 d) See 2 c)

2 e) We predict that participants high in numeric ability will be better able to override ideological and belief biases than those low in numeric ability (see Lind et al., 2018). Hence, numeric ability is expected to interact with ideology/beliefs (RWA, Islam/democracy compatibility) in the prayer room scenario, such that the effect of beliefs on biased conclusions will only be evident among participants low in numeric ability. See Figures S8. Note: Statistical analysis not sensible for RWA as participants become less than 60 per group. Analysis and plot cannot be run for Islam/British compatibility for the same reason - too few subjects when removing NAs.

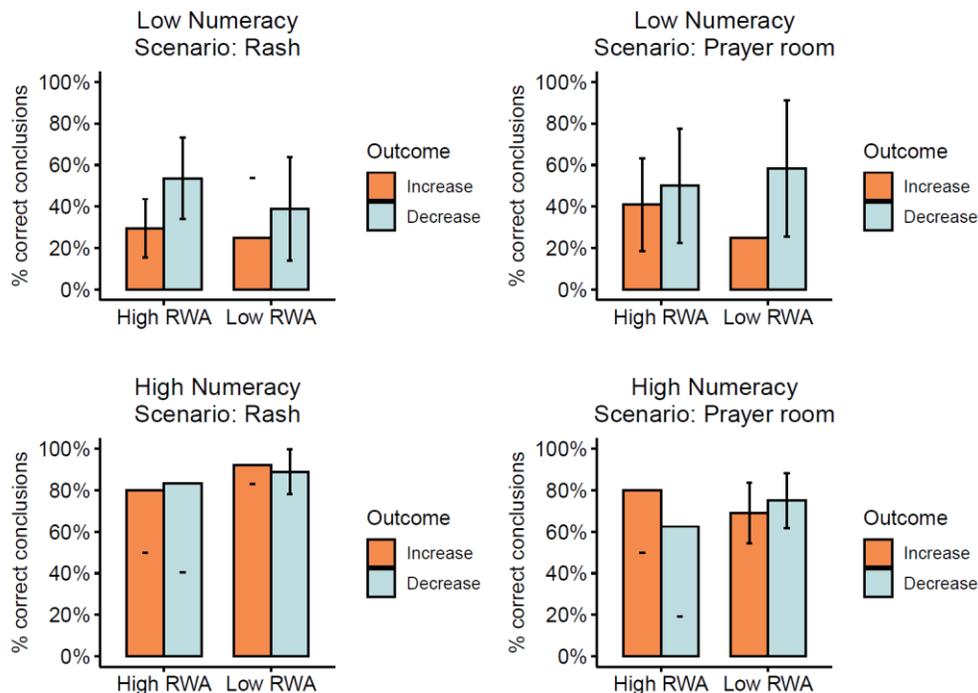


Figure S8. Accuracy of conclusion in Experiment 1. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Top row displays results for low numeracy (-1SD below mean), bottom row displays results for high numeracy (+1SD above mean). Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively. High/low RWA indicates participants +/-1 SD above mean.

2 f) see 1e

3) In this final step, we further expect that participants who don't change an erroneous conclusion in line with their ideological beliefs will give a variety of arguments for not changing related to factors about low source credibility, poor study quality, and scientists' conspiracies.

Qualitative data for this hypothesis have not been coded or analysed yet.

Experiment 2

Preregistered hypotheses not reported in the main manuscript

1 d) See Supplemental material 2

1e) We hypothesize that participants' certainty will predict their accuracy, such that they will be more certain when their responses are correct rather than incorrect. However, based on our previous results, we predict that this effect will be conditioned on ideological biases. Thus, we expect that in the polarized scenarios, participants who are more certain in their response will show a higher probability of being correct when the findings are in line with their ideology, and lower probability of being correct when the findings contradicted their ideology. Thus, for people scoring high in RWA we expect increased certainty in the response to predict greater accuracy in the prayer room scenario when the findings indicate an increase in extremism, but poorer accuracy in the decrease scenario, and vice versa for people scoring low in RWA. See Figure S8 and Table S8 below.

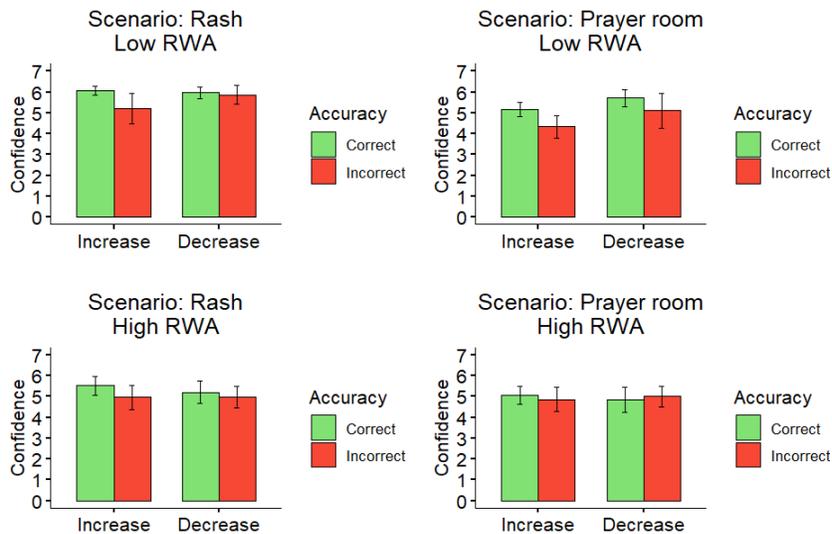


Figure S8. Confidence in accurate vs. inaccurate conclusion in Experiment 2 in the different conditions. Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer rooms on support for extremism). Top row displays results for participants -1 SD below mean on RWA, bottom row displays participants +1 SD above mean on RWA. Legend (“Outcome”) displays accuracy of conclusion. X-axis display outcome of the specific scenario.

Table S8. Parameter estimates (and standard errors) for predictors in models of certainty in accurate vs. inaccurate conclusions in Experiment 2

| Predictor | |
|--------------------------------------|-----------------|
| Fixed effects | |
| Intercept | -2.05 (0.35)*** |
| Numeric ability | 0.55 (0.06)*** |
| RWA | -0.16 (0.17) |
| Scenario | -0.42 (0.17)* |
| Outcome | -0.37 (0.17)* |
| Certainty | 0.16 (0.05)** |
| Time | 1.41 (0.15) *** |
| RWA*Scenario*Outcome* Certainty | 0.33 (0.9)*** |
| RWA*Scenario*Outcome* Certainty*Time | 0.15 (0.06)** |

2 a) We expect participants high in cognitive/numeric ability to be more correct and more certain overall across the four scenarios. However, in line with our previous findings, we expect the effect of numeracy to be lower in the polarized vs. neutral problem. *For accuracy, see Table 3 in the main manuscript and Figure 9 below. For certainty, see Figure S10 and Table S9 below.*

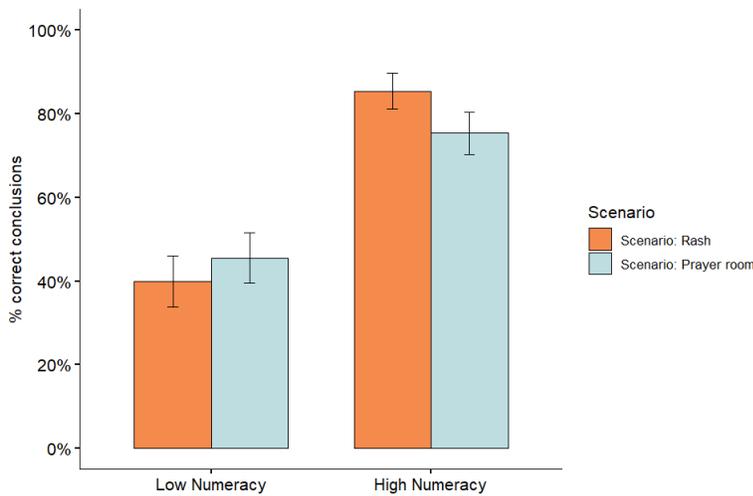


Figure S9. Conclusion accuracy in solving the numerical problem among participants with high and low numeric ability (+/-1SD above mean), in the polarizing and neutral scenario in Experiment 2.

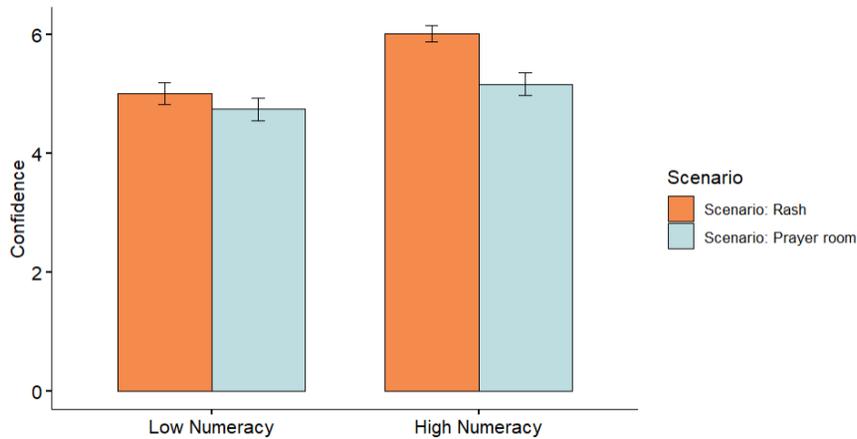


Figure S10. Confidence in conclusion among participants with high and low numeric ability (± 1 SD above mean), in the polarizing and neutral scenario in Experiment 2. *Note.* Scale range 1-7.

Table S9. Parameter estimates (and standard errors) for predictors of certainty in conclusions in Experiment 2.

| Predictor | |
|----------------------|-----------------|
| Fixed effects | |
| Intercept | 4.86 (0.10)*** |
| Numeric ability | 0.20 (0.03)*** |
| RWA | -0.11 (0.06) |
| Scenario | -0.55 (0.08)*** |
| Outcome | -0.12 (0.08) |
| Time | 0.47 (0.04) *** |
| Numeracy*Scenario | -0.09 (0.04)* |

2 b) We also predict that participants high vs. low in numeric ability will be better able to correct their conclusions, and show increased certainty the second time irrespective of scenario version. See Figures S11-12 and Tables S10-11 below.

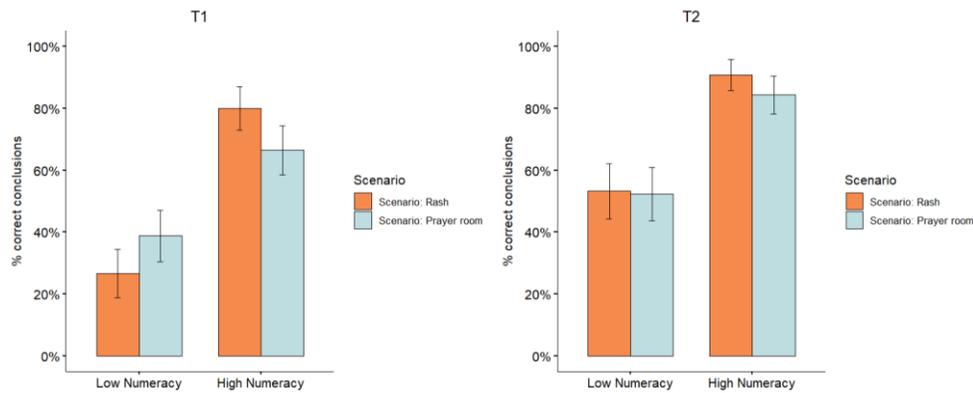


Figure S11. Conclusion accuracy in solving the numerical problem among participants with high and low numeric ability (+/-1SD above mean), in the polarizing and neutral scenario in Experiment 2. Left side show Time 1, right side show Time 2, when the numerical problem contained both frequencies and percentages.

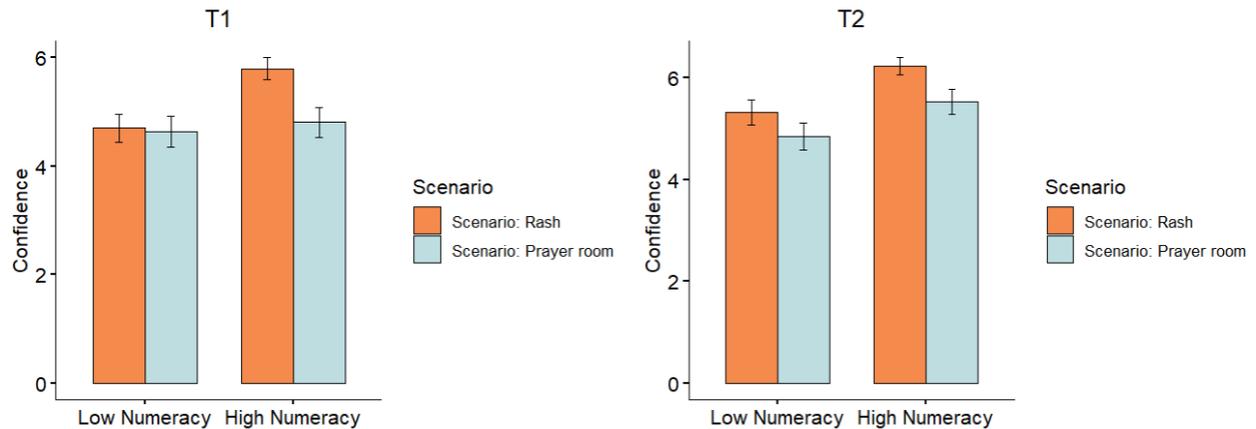


Figure S12. Conclusion accuracy in solving the numerical problem among participants with high and low numeric ability (+/-1SD above mean), in the polarizing and neutral scenario in Experiment 2. Left side show Time 1, right side show Time 2, when the numerical problem contained both frequencies and percentages. *Note.* Scale range 1-7.

Table S10. Parameter estimates (and standard errors) for predictors of accuracy of conclusion in Experiment 2

Predictor

Fixed effects

| | |
|-------------------|-----------------|
| Intercept | -1.29 (0.25)*** |
| Numeracy | 0.78 (0.17)*** |
| RWA | -0.04 (0.11) |
| Scenario | -0.58 (0.17)*** |
| Outcome | 0.35 (0.17)* |
| Time | 1.51 (0.15) *** |
| Numeracy*Scenario | -0.47 (0.23)*** |

| | |
|------------------------|--------------|
| Numeracy*Time | -0.03 (0.11) |
| Numeracy*Scenario*Time | 0.13 (0.14) |

Table S11. Parameter estimates (and standard errors) for predictors of certainty in conclusions in Experiment 2

| Predictor | |
|------------------------|-----------------|
| Fixed effects | |
| Intercept | 4.87 (0.10)*** |
| Numeracy | 0.24 (0.06)*** |
| RWA | -0.04 (0.06) |
| Scenario | -0.55 (0.08)*** |
| Outcome | -0.12 (0.08) |
| Time | 0.47 (0.04) *** |
| Numeracy*Scenario | -0.29 (0.08)*** |
| Numeracy*Time | -0.02 (0.03) |
| Numeracy*Scenario*Time | 0.12 (0.05)** |

3) In this final step, we further expect that participants who don't change an erroneous conclusion in line with their ideological beliefs will give a variety of arguments for not changing related to factors about low source credibility, poor study quality, and scientists' conspiracies. *Coding and analyses have not been conducted yet.*

Table S16. Parameter estimates (standard errors) and exact p-values for predictors in models of conclusion accuracy in Experiment 1

| Predictor | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Fixed effects | | | | | | |
| Intercept | 0.57 (0.09), <i>p</i> < .001 | 0.59 (0.09), <i>p</i> < .001 | 1.24 (0.16), <i>p</i> < .001 | 1.23 (0.16), <i>p</i> < .001 | 0.21 (0.24), <i>p</i> = .379 | 0.33 (0.24), <i>p</i> = .167 |
| Numeric ability | | 0.55 (0.06), <i>p</i> < .001 | 0.54 (0.06), <i>p</i> < .001 | 0.54 (0.06), <i>p</i> < .001 | 0.57 (0.06), <i>p</i> < .001 | 0.57 (0.06), <i>p</i> < .001 |
| Scenario | | | -0.73 (0.17), <i>p</i> < .001 | -0.73 (0.17), <i>p</i> < .001 | -0.78 (0.18), <i>p</i> < .001 | -0.81 (0.18), <i>p</i> < .001 |
| Outcome | | | -0.54 (0.17), <i>p</i> = .001 | -0.53 (0.17), <i>p</i> = .002 | -0.56 (0.18), <i>p</i> = .002 | -0.59 (0.18), <i>p</i> < .001 |
| RWA | | | -0.17 (0.10), <i>p</i> = .072 | -0.32 (0.11), <i>p</i> = .004 | -0.34 (0.12), <i>p</i> = .004 | -0.32 (0.12), <i>p</i> = .006 |
| Scenario*Outcome*RWA | | | | 0.55 (0.21), <i>p</i> = .008 | 0.59 (0.22), <i>p</i> = .008 | 0.80 (0.45), <i>p</i> = .075 |
| Time | | | | | 0.73 (0.13), <i>p</i> < .001 | 0.68 (0.13), <i>p</i> < .001 |
| Scenario*Outcome*RWA*Time | | | | | | -0.17 (0.26), <i>p</i> = .525 |

Table S17. Parameter estimates (standard errors), and exact p-value for predictors in models of conclusion accuracy in answers in Experiment 1

| Predictor | Model 1 |
|--------------------------------------|------------------|
| Fixed effects | |
| Intercept | 1.24 (0.17) *** |
| Numeric ability | 0.62 (0.10) *** |
| RWA | -0.17 (0.10) |
| Scenario | -0.80 (0.17) *** |
| Outcome | 0.52 (0.17) ** |
| Numeric ability*RWA | -0.05 (0.06) |
| Numeric ability*Scenario | -0.32 (0.13) * |
| Numeric ability*Outcome | 0.23 (0.13) |
| Numeric ability*Scenario*Outcome | -0.16 (0.19) |
| Numeric ability*RWA*Scenario*Outcome | -0.06 (0.13) |

Note: n = 323, *p < .05, **p < .01, ***p < .001

Table S18 Parameter estimates (and standard errors), and exact p-values for predictors in models of correct answers in Experiment 2

| Predictor | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 |
|---------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Fixed effects | | | | | | | |
| Intercept | 0.67 (0.08), <i>p</i> < .001 | 0.69 (0.08), <i>p</i> < .001 | 0.76 (0.12), <i>p</i> < .001 | 0.79 (0.12), <i>p</i> < .001 | 0.79 (0.12), <i>p</i> < .001 | -1.29 (0.23), <i>p</i> < .001 | -1.31 (0.24), <i>p</i> < .001 |
| Numeric ability | | 0.48 (0.04), <i>p</i> < .001 | 0.47 (0.05), <i>p</i> < .001 | 0.59 (0.06), <i>p</i> < .001 | 0.57 (0.06), <i>p</i> < .001 | 0.72 (0.08), <i>p</i> < .001 | 0.72 (0.08), <i>p</i> < .001 |
| Scenario | | | -0.41 (0.14), <i>p</i> = .003 | -0.46 (0.14), <i>p</i> < .001 | -0.44 (0.14), <i>p</i> = .001 | -0.81 (0.18), <i>p</i> < .001 | -0.54 (0.17), <i>p</i> = .001 |
| Outcome | | | 0.26 (0.14), <i>p</i> = .056 | 0.26 (0.14), <i>p</i> = .056 | 0.26 (0.14), <i>p</i> = .060 | 0.34 (0.17), <i>p</i> = .041 | 0.34 (0.17), <i>p</i> = .045 |
| RWA | | | -0.04 (0.09), <i>p</i> = .664 | -0.03 (0.09), <i>p</i> = .708 | -0.19 (0.10), <i>p</i> = .672 | -0.22 (0.13), <i>p</i> = .749 | -0.24 (0.13), <i>p</i> = .059 |
| Numeric ability*Scenario | | | | -0.23 (0.08), <i>p</i> = .003 | -0.19 (0.08), <i>p</i> = .013 | -0.27 (0.10), <i>p</i> = .004 | -0.25 (0.10), <i>p</i> = .008 |
| Scenario*Outcome*RWA | | | | | 0.49 (0.18), <i>p</i> = .006 | 0.51 (0.22), <i>p</i> = .020 | 1.62 (0.47), <i>p</i> < .001 |
| Time | | | | | | 1.52 (0.15), <i>p</i> < .001 | 1.52 (0.15), <i>p</i> < .001 |
| Scenario*Outcome*RWA*Time | | | | | | | -0.69 (0.28), <i>p</i> = .012 |

Not preregistered additional analyses. Rerunning the same analyses as the main analyses in the manuscript, substituting RWA with *Party orientation* and *Left-Right orientation*, respectively.

Experiment 1

Table S19. Parameter estimates (and standard errors) for predictors in models using Party orientation as predictor. Dichotomous: Labour /Conservative

| Predictor | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|--|-----------------|-----------------|------------------|------------------|------------------|------------------|
| Fixed effects | | | | | | |
| Intercept | 0.57 (0.09) *** | 0.59 (0.09) *** | 1.25 (0.16) *** | 1.24 (0.16) *** | 0.22 (0.24) | 0.23 (0.24) |
| Numeric ability | | 0.55 (0.06) *** | 0.57 (0.06) *** | 0.58 (0.06) *** | 0.61 (0.06) *** | 0.61 (0.06) *** |
| Scenario | | | -0.73 (0.17) *** | -0.72 (0.17) *** | -0.77 (0.18) *** | -0.77 (0.18) *** |
| Outcome | | | -0.57 (0.17) *** | -0.55 (0.17) ** | -0.58 (0.18) ** | -0.58 (0.18) ** |
| Party orientation | | | 0.03 (0.06) | -0.03 (0.07) | -0.03 (0.08) | -0.03 (0.08) |
| Scenario*Outcome*Party orientation | | | | 0.24 (0.14) | 0.26 (0.15) | 0.56 (0.31) |
| Time | | | | | 0.73 (0.13) *** | 0.73 (0.13) *** |
| Scenario*Outcome* Party orientation*Time | | | | | | -0.20 (0.18) |

Note. *p < .05, **p < .01, ***p < .001

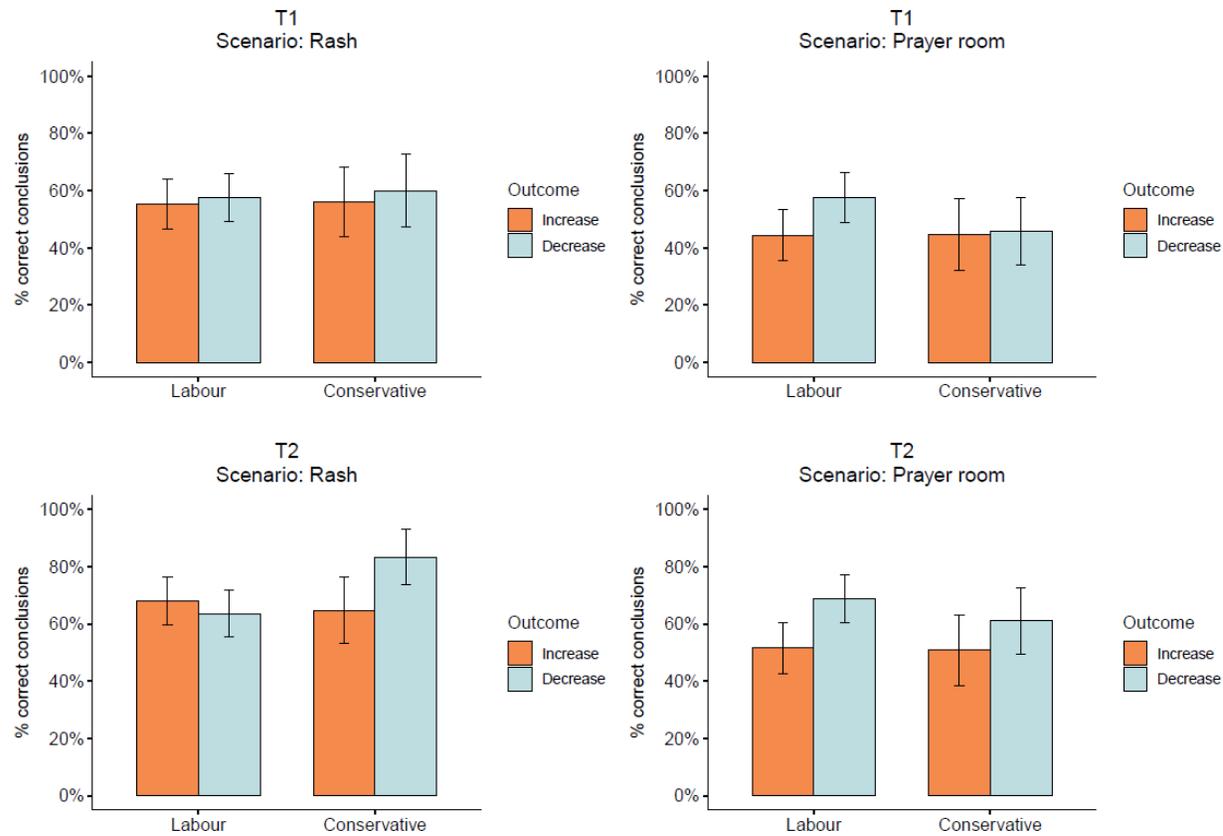


Figure S19. Percentage of accurate conclusions in Experiment 1 for Party orientation (Labour/Conservative). Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Top row displays results when the participants were presented with the problem for the first time (“T1”), bottom row displays the second time the problem was presented, now containing the calculations needed to reach the correct conclusion. Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively.

Table S20. Parameter estimates (and standard errors) for predictors in models using left-right orientation as ideology. Scale from 1 (Far to the left) to 7 (Far to the right).

| Predictor | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|--------------------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| Fixed effects | | | | | | |
| Intercept | 0.57 (0.09) *** | 0.59 (0.09) *** | 1.25 (0.16) *** | 1.24 (0.16) *** | 0.22 (0.24) | 0.23 (0.24) |
| Numeric ability | | 0.55 (0.06) *** | 0.57 (0.06) *** | 0.58 (0.06) *** | 0.61 (0.06) *** | 0.61 (0.06) *** |
| Scenario | | | -0.73 (0.17) *** | -0.72 (0.17) *** | -0.77 (0.18) *** | -0.77 (0.18) *** |
| Outcome | | | -0.57 (0.17) *** | -0.55 (0.17) ** | -0.58 (0.18) ** | -0.58 (0.18) ** |
| Ideology | | | 0.03 (0.06) | -0.03 (0.07) | -0.03 (0.08) | -0.03 (0.08) |
| Scenario*Outcome*Ideology | | | | 0.24 (0.14) | 0.26 (0.15) | 0.56 (0.31) |
| Time | | | | | 0.73 (0.13) *** | 0.73 (0.13) *** |
| Scenario*Outcome*Ideology*Time | | | | | | -0.20 (0.18) |

Note. *p < .05, **p < .01, ***p < .001

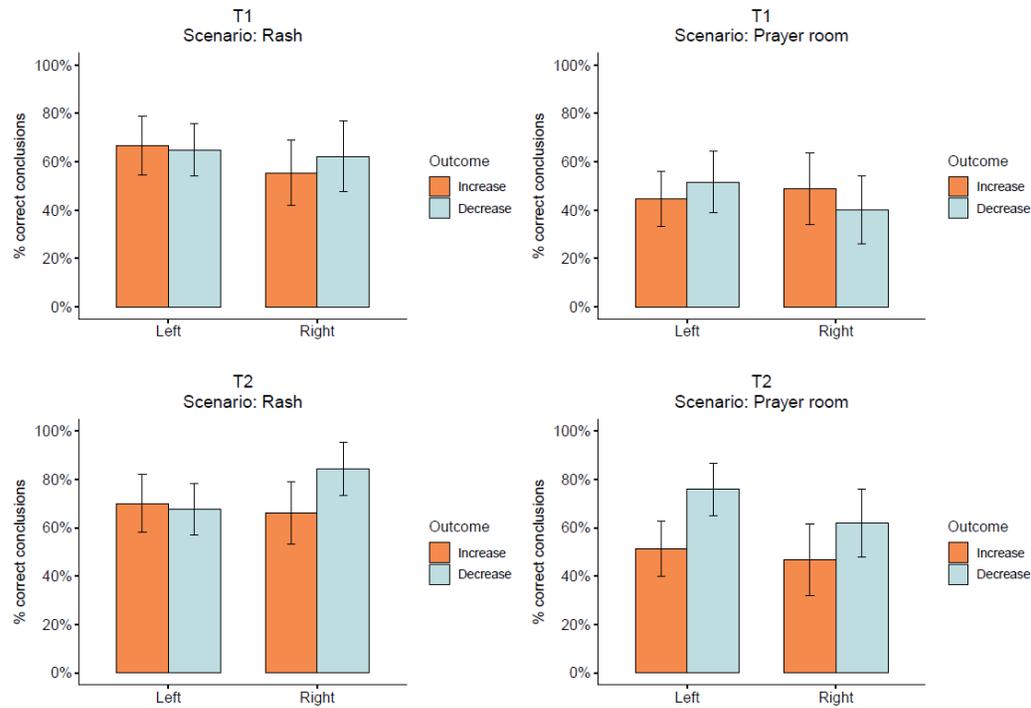


Figure S20. Percentage of accurate conclusions in Experiment 1 for Left/right orientation (Dichotomized as Left/Right [+1SD above mean]). Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Top row displays results when the participants were presented with the problem for the first time (“T1”), bottom row displays the second time the problem was presented, now containing the calculations needed to reach the correct conclusion. Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively.

Experiment 2

Table S21. Parameter estimates (and standard errors) for predictors in models using Party orientation as ideology. Dichotomous: Labour/Conservative

| Predictor | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|
| Fixed effects | | | | | | | |
| Intercept | 0.64 (0.08) *** | 0.64 (0.08) *** | 0.62 (0.14) *** | 0.65 (0.14) *** | 0.65 (0.16) *** | -1.49 (0.29) *** | -1.72 (0.32) *** |
| Numeric ability | | 0.49 (0.05) *** | 0.49 (0.05) *** | 0.60 (0.07) *** | 0.60 (0.07) *** | 0.75 (0.09) *** | 0.78 (0.09) *** |
| Scenario | | | -0.38 (0.15) ** | -0.42 (0.15) ** | -0.29 (0.20) | -0.36 (0.25) | -0.39 (0.26) |
| Outcome | | | 0.17 (0.15) | 0.17 (0.14) | 0.32 (0.21) | 0.40 (0.26) | 0.41 (0.27) |
| Party orientation | | | 0.40 (0.15) ** | 0.37 (0.15) * | 0.18 (0.17) | 0.23 (0.22) | 0.24 (0.22) |
| Numeric ability*Scenario | | | | -0.21 (0.08) * | -0.19 (0.08) * | -0.25 (0.10) * | -0.26 (0.10) |
| Scenario*Outcome*Party orientation | | | | | -0.53 (0.31) | -0.67 (0.39) | 2.94 (0.86) *** |
| Time | | | | | | 1.53 (0.16) *** | 1.72 (0.19) *** |
| Scenario*Outcome* Party orientation*Time | | | | | | | -1.82 (0.48) *** |

Note. *p < .05, **p < .01, ***p < .001

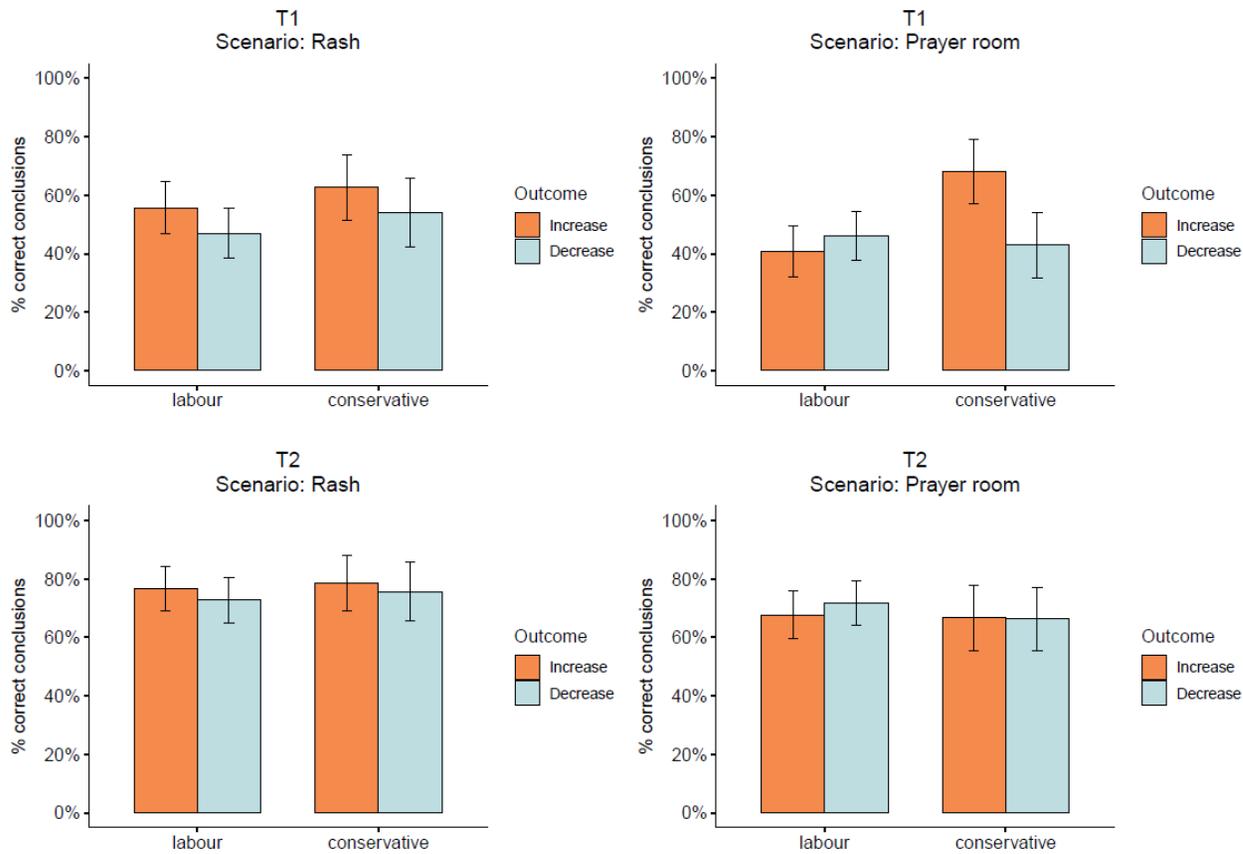


Figure S21. Percentage of accurate conclusions in Experiment 2 for Party orientation (Labour/Conservative). Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Top row displays results when the participants were presented with the problem for the first time (“T1”), bottom row displays the second time the problem was presented, now containing the calculations needed to reach the correct conclusion. Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively.

Table S22. Parameter estimates (and standard errors) for predictors in models using left-right orientation as ideology. Scale from 1 (Far to the left) to 7 (Far to the right).

| Predictor | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|
| Fixed effects | | | | | | | |
| Intercept | 0.67 (0.08) *** | 0.69 (0.08) *** | 0.76 (0.12) *** | 0.79 (0.12) *** | 0.78 (0.12) *** | -1.33 (0.24) *** | -1.30 (0.24) *** |
| Numeric ability | | 0.48 (0.04) *** | 0.48 (0.04) *** | 0.60 (0.06) *** | 0.60 (0.06) *** | 0.74 (0.08) *** | 0.75 (0.08) *** |
| Scenario | | | -0.40 (0.14) ** | -0.44 (0.14) ** | -0.43 (0.14) ** | -0.55 (0.17) ** | -0.55 (0.17) ** |
| Outcome | | | 0.26 (0.14) | 0.26 (0.14) | 0.28 (0.14) * | 0.34 (0.17) * | 0.34 (0.17) * |
| Ideology | | | 0.12 (0.05) * | 0.12 (0.05) * | 0.05 (0.06) | 0.05 (0.07) | 0.07 (0.07) |
| Numeric ability*Scenario | | | | -0.23 (0.08) ** | -0.22 (0.08) ** | -0.27 (0.09) ** | -0.27 (0.10) ** |
| Scenario*Outcome*Ideology | | | | | 0.26 (0.12) * | 0.33 (0.15) * | 1.16 (0.33) *** |
| Time | | | | | | 1.54 (0.15) *** | 1.53 (0.15) *** |
| Scenario*Outcome*Ideology*Time | | | | | | | -0.56 (0.20) ** |

Note. *p < .05, **p < .01, ***p < .001

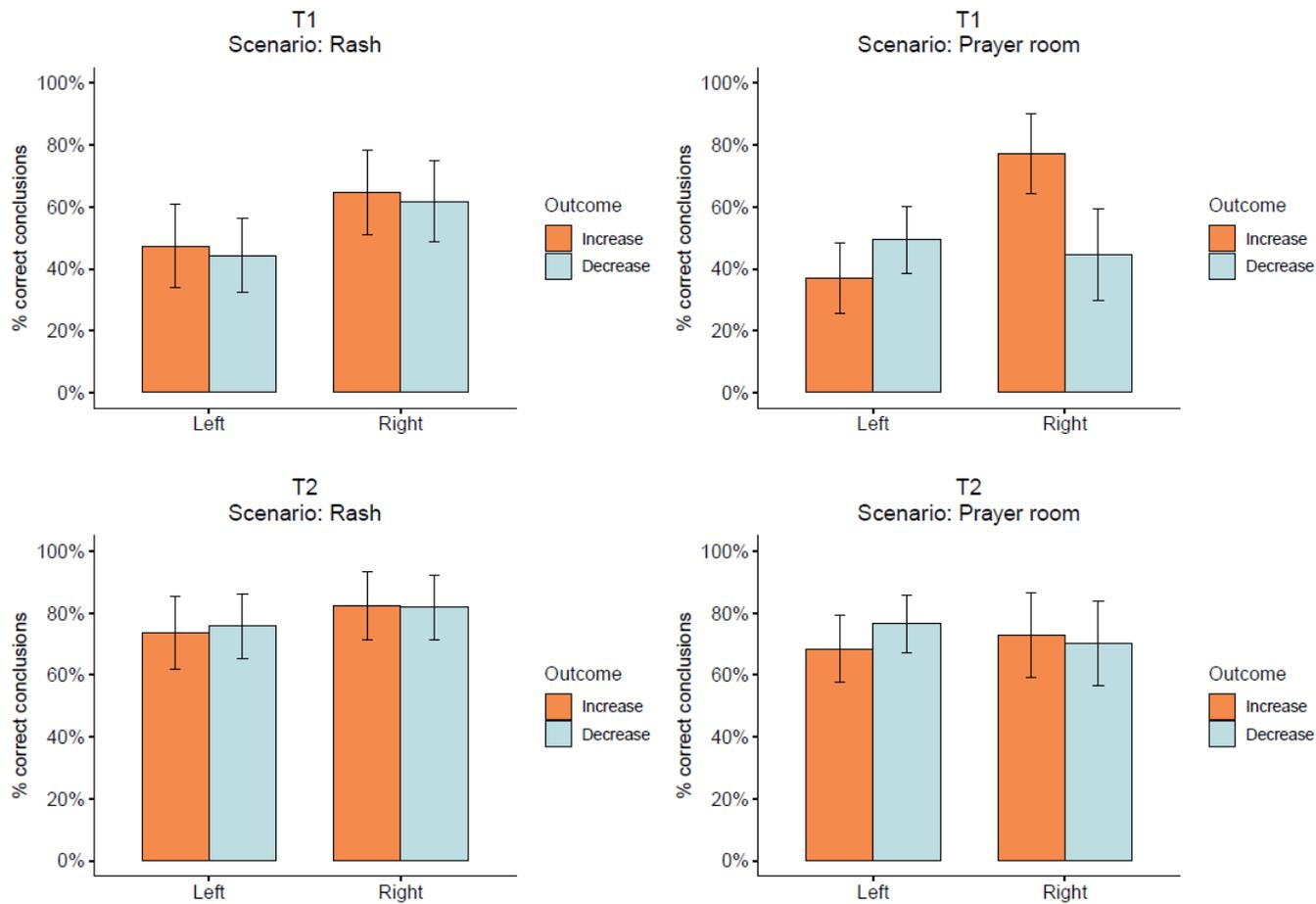


Figure S22. Percentage of accurate conclusions in Experiment 2 for Left/right orientation (Dichotomized as Left/Right [+1SD above mean]). Leftmost column displays results for the neutral scenario (effect of skin cream on skin rash), rightmost column shows results for the polarizing scenario (effect of prayer room on support for extremism). Top row displays results when the participants were presented with the problem for the first time (“T 1”), bottom row displays the second time the problem was presented, now containing the calculations needed to reach the correct conclusion. Legend (“Outcome”) displays conditions in which the correct conclusion was an increase (e.g. increased support for extremism) or decrease, respectively.