SUPPLEMENTAL MATERIALS

**1. Experimental stimuli**

*1.1. Experiment 1a*

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| --- | --- | --- |
| Hot-button | 1. Hurricane Irma | A group of legislators began drafting a bill to create better care packages for Hurricane Irma’s aftermath and brought the bill before **financial** **data scientists** [**human welfare groups]** for consultation. These [**scientists/humanitarians**] examined their plan [**but do not yet/and fully**] understand how it will affect the existing care packages allotted to other people. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].  How well do you understand how the care package improvement for the aftermath of Hurricane Irma will affect qualities of the existing care package? |
| 2. Naturalization (DACA) | A group of congressmen began drafting a bill to expedite a naturalization process for U.S. residents who do not yet have citizenship and brought the plan before [**political scientists/homeland security officers’ union**] for consultation. These [**scientists/union members**] examined their plan [**but do not yet understand/and fully**] understand how it will affect the final ruling for Deferred Action for Childhood Arrivals (DACA). In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the faster naturalization process will affect the final ruling for DACA? |
| 3. Seawall | A group of senate members began discussing a plan to construct seawalls (tetrapods) around natural gas reservoirs in the areas hit by Hurricane Harvey and brought the plan before [**earth scientists/gas station owners’ union**] for consultation. These [**engineers/union members**] examined their plan [**but do not yet/and fully**] understand how it will affect gas price fluctuation. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the seawall construction will affect gas price fluctuation? |
| Non-hot-button | 4. Highway Improvement | A group of congressmen began drafting a bill to spend more money on highways and brought the bill before [**political scientists/town hall committee members**] for consultation. These [**scientists/members**] examined their plan [**but do not yet/and fully**] understand how it will affect Congress’s annual budget and revenue. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the highway improvement will affect Congress’s annual budget and revenue? |
| 5. Education Merger | A group of legislators began discussing a plan to merge grade schools and high schools for centralized learning and brought the plan before [**education scientists/the teachers’ union**] for consultation. These [**scientists/union members**] examined their plan [**but do not yet/and fully**] understand how it will affect student’s learning efficiency. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the merger will affect the learning efficacy? |
| 6. Trade Logistics | A group of congressmen proposed a bill to combine the Commodity Futures Trading Commission and the Securities and Exchange Commission into a single Commission for more efficient management and brought the bill before [**operation research scientists/businessmen from Forbes 500 companies**] for consultation. These [**scientists/businessmen**] examined their plan [**but do not yet/and fully**] understand how it will affect U.S.’ trade logistics. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the merger will affect the trade logistics? |

*1.2. Experiments 1b and 2*

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| --- | --- | --- |
| Hot-button | 1. Hurricane Irma | A group of legislators began drafting a bill to create better care packages for Hurricane Irma’s aftermath and brought the bill before **financial** **data scientists** [**human welfare groups]** for consultation. These [**scientists/humanitarians**] examined their plan [**but do not yet/and fully**] understand how it will affect the existing care packages allotted to other people. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].  How well do you understand how the care package improvement for the aftermath of Hurricane Irma will affect qualities of the existing care package? |
| 2. Naturalization (DACA) | A group of congressmen began drafting a bill to expedite a naturalization process for U.S. residents who do not yet have citizenship and brought the plan before [**political scientists/homeland security officers’ union**] for consultation. These [**scientists/union members**] examined their plan [**but do not yet understand/and fully**] understand how it will affect the final ruling for Deferred Action for Childhood Arrivals (DACA). In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the faster naturalization process will affect the final ruling for DACA? |
| 3. Seawall | A group of Texas state senate members began discussing a plan to construct seawalls (tetrapods) around natural gas reservoirs in the areas hit by Hurricane Harvey and brought the plan before [**earth scientists/gas station owners’ union**] for consultation. These [**engineers/union members**] examined their plan [**but do not yet/and fully**] understand how it will affect gas price fluctuation. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the seawall construction will affect gas price fluctuation? |
| 4. Gun Attachments | A group of Georgia senate members began outlining a bill to prohibit gun owners from adding any external attachments to semiautomatic rifles that could alter the rate of fire and brought the bill before [**political scientists/a group of NRA executives**] for consultation. These [**scientists/executives**] examined their plan [**but do not yet/and fully**] understand how it will affect state revenue from firearms sales. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].  How well do you understand how the prohibition of gun attachments will affect state revenue from firearms sales? |
| Non-hot-button | 5. Highway Improvement | A group of congressmen began drafting a bill to spend more money on highways and brought the bill before [**political scientists/town hall committee members**] for consultation. These [**scientists/members**] examined their plan [**but do not yet/and fully**] understand how it will affect Congress’s annual budget and revenue. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the highway improvement will affect Congress’s annual budget and revenue? |
| 6. Education Merger | A group of legislators began discussing a plan to merge grade schools and high schools for centralized learning and brought the plan before [**education scientists/the teachers’ union**] for consultation. These [**scientists/union members**] examined their plan [**but do not yet/and fully**] understand how it will affect student’s learning efficiency. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the merger will affect learning efficacy? |
| 7. Trade Logistics | A group of congressmen proposed a bill to combine the Commodity Futures Trading Commission and the Securities and Exchange Commission into a single Commission for more efficient management and brought the bill before [**operation research scientists/businessmen from Forbes 500 companies**] for consultation. These [**scientists/businessmen**] examined their plan [**but do not yet/and fully**] understand how it will affect U.S.’ trade logistics. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the merger will affect the trade logistics? |
| 8. Emission Regulation | A group of lobbyists proposed a legislation to regulate formaldehyde emissions for wooden furniture and brought the appeal before [**environmental scientists/members of the Environmental Working Group**] for consultation. These [**scientists/members**] examined their plan [**but do not yet/and fully**] understand how it will affect an ecosystem of densely forested regions. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].  How well do you understand how the emission regulation for wooden furniture will affect an ecosystem of densely forested regions? |

*1.3. Experiment 3*

|  |  |  |
| --- | --- | --- |
| Hot-button | 1. Climate change | A group of U.S. representatives began drafting a bill to build infrastructure that would protect coastal areas from the effects of human-caused climate change and brought the bill before climate scientists for consultation. These scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect coastal areas. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].  How well do you understand how the climate change infrastructure will affect coastal areas? |
| 2. Naturalization (DACA) | A group of congressmen began drafting a bill to expedite a naturalization process for U.S. residents who do not yet have citizenship and brought the plan before political scientists for consultation. These scientists examined their plan [**but do not yet understand/and fully**] understand how it will affect the final ruling for Deferred Action for Childhood Arrivals (DACA). In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the faster naturalization process will affect the final ruling for DACA? |
| 3. Seawall | A group of Texas state senate members began discussing a plan to construct seawalls (tetrapods) around natural gas reservoirs in the areas hit by Hurricane Harvey and brought the plan before earth scientists for consultation. These scientists examined their plan [**but do not yet/and fully**] understand how it will affect gas price fluctuation. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the seawall construction will affect gas price fluctuation? |
| 4. Gun Attachments | A group of Georgia senate members began outlining a bill to prohibit gun owners from adding any external attachments to semiautomatic rifles that could alter the rate of fire and brought the bill before political scientists for consultation. These scientists examined their plan [**but do not yet/and fully**] understand how it will affect state revenue from firearms sales. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].  How well do you understand how the prohibition of gun attachments will affect state revenue from firearms sales? |
| Non-hot-button | 5. Highway Improvement | A group of congressmen began drafting a bill to spend more money on highways and brought the bill before political scientists for consultation. These scientists examined their plan [**but do not yet/and fully**] understand how it will affect Congress’s annual budget and revenue. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the highway improvement will affect Congress’s annual budget and revenue? |
| 6. Education Merger | A group of legislators began discussing a plan to merge grade schools and high schools for centralized learning and brought the plan before education scientists for consultation. These scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect student’s learning efficiency. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the merger will affect learning efficacy? |
| 7. Trade Logistics | A group of congressmen proposed a bill to combine the Commodity Futures Trading Commission and the Securities and Exchange Commission into a single Commission for more efficient management and brought the bill before operation research scientists for consultation. These scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect U.S.’ trade logistics. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].   How well do you understand how the merger will affect the trade logistics? |
| 8. Emission Regulation | A group of lobbyists proposed a legislation to regulate formaldehyde emissions for wooden furniture and brought the appeal before environmental scientists for consultation. These scientists examined their plan [**but do not yet/and fully**] understand how it will affect an ecosystem of densely forested regions. In an interview with a local media outlet, [**they were able to describe the plan but have not yet provided a full explanation of its effects/they described the plan and provided a full explanation of its effects**].  How well do you understand how the emission regulation for wooden furniture will affect an ecosystem of densely forested regions? |

*1.4. Experiment 4*

|  |  |  |  |
| --- | --- | --- | --- |
| *Item type* | *Item* | *Understanding purpose* | *CC purpose* |
| Adaptation | Flood | A group of U.S. representatives began drafting a bill to build flood defenses that would protect coastal areas from rising ocean levels and brought the bill before oceanographers for consultation. These scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect coastal areas. In an interview with a local media outlet, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the flood defense bill will affect coastal areas? | A group of U.S. representatives began drafting a bill to build flood defenses that would protect coastal areas from rising ocean levels due to human-caused climate change and brought the bill before oceanographers for consultation. These scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect coastal areas. In an interview with a local media outlet, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the flood defense bill will affect coastal areas? |
| Drought | Several senators began writing formal legislation requiring the farming of drought-tolerant crops to protect food supplies. To assess the legislation, they brought it before agricultural scientists for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect farmers and agriculture. In a public forum about the proposed changes, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the drought-tolerant plant policy will affect farmers and agriculture? | Several senators began writing formal legislation requiring the farming of drought-tolerant crops to protect food supplies from shortages due to human-caused climate change. To assess the legislation, they brought it before agricultural scientists for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect farmers and agriculture. In a public forum about the proposed changes, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the drought-tolerant plant policy will affect farmers and agriculture? |
| Woodlands | A group of legislators started to draft a bill that would change nation-wide forestry practices to make woodlands less vulnerable to fires. To examine the policy’s possible impact, they brought the bill before ecologists for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect towns near wooded areas. In an interview with a regional newspaper, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the forest fire management bill will affect towns near woodlands? | A group of legislators started to draft a bill that would change nation-wide forestry practices to make woodlands less vulnerable to fires, which are expected to increase due to human-caused climate change. To examine the policy’s possible impact, they brought the bill before ecologists for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect towns near wooded areas. In an interview with a regional newspaper, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the forest fire management bill will affect towns near woodlands? |
| Mitigation | Reforestation | Several U.S. legislators started writing a bill to offset the country’s carbon footprint using reforestation in former mining areas. To get a better sense of the policy’s potential impact, they brought the bill before forestry scientists for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect former mining areas. In a subsequent news conference, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the reforestation bill will affect former mining areas? | Several U.S. legislators started writing a bill to offset the country’s carbon footprint and mitigate human-caused climate change using reforestation in former mining areas. To get a better sense of the policy’s potential impact, they brought the bill before forestry scientists for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect former mining areas. In a subsequent news conference, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the reforestation bill will affect former mining areas? |
| Design | A group of senators began outlining a bill to reduce energy use by mandating certain building design features (e.g., natural skylights, building insulation). To think through the consequences of the policy, they brought the bill before structural engineers for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect future commercial and residential construction. In a discussion with a major news outlet, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how mandating energy-saving design will affect future construction? | A group of senators began outlining a bill to reduce energy use and mitigate human-caused climate change by mandating certain building design features (e.g., natural skylights, building insulation). To think through the consequences of the policy, they brought the bill before structural engineers for consultation. The scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect future commercial and residential construction. In a discussion with a major news outlet, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how mandating energy-saving design will affect future construction? |
| Carbon\_tax | Several representatives started to draft a bill that would impose a carbon tax on coal and other fossil fuels and brought the bill before organizational scientists to discuss its effects. These scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect businesses subject to the tax. In a subsequent interview with a local media outlet, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the carbon tax will affect businesses? | Several representatives started to draft a bill that would impose a carbon tax on coal and other fossil fuels to mitigate human-caused climate change and brought the bill before organizational scientists to discuss its effects. These scientistsexamined their plan [**but do not yet/and fully**] understand how it will affect businesses subject to the tax. In a subsequent interview with a local media outlet, [**the scientists were able to describe the plan but have not yet provided any explanation of its effects/the scientists described the plan and provided a full explanation of its effects**].  How well do you understand how the carbon tax will affect businesses? |

*1.5. Follow-up measures*

*Scientist expertise & policy*

To what extent do you believe that scientists have expertise that should influence policy decisions?

1 = not at all

2 = not so much

3 = somewhat

4 = moderately

5 = very much

*Non-traditional expertise & policy (Experiments 1b & 2 only)*

To what extent do you believe that non-scientist experts (for example, humanitarian group members, union members, executives, businessmen) have expertise that should influence policy decisions?

1 = not at all

2 = not so much

3 = somewhat

4 = moderately

5 = very much

*Ideology*

How would you rate your political leanings?

1 = very conservative

2 = moderately conservative

3 = somewhat conservative

4 = neither conservative nor liberl

5 = somewhat liberal

6 = moderately liberal

7 = very liberal

*Trump support*

To what degree do you support Donald Trump as President of the United States?

1 = strongly support

2 = moderately support

3 = slightly support

4 = neutral

5 = slightly against

6 = moderately against

7 = strongly against

*Climate change policy support (Exp. 3 only)*

How would you rate your support for a bill to build infrastructure that would reduce the impact of climate change on coastal areas?

1 = strongly against

2

3 = neither for nor against

4

5 = strongly support

*DACA policy support (Exp. 3 only)*

How would you rate your support for a bill to increase the speed of the naturalization process for non-U.S. citizens?

1 = strongly against

2

3 = neither for nor against

4

5 = strongly support

*Seawall policy support (Exp. 3 only)*

How would you rate your support for a bill to construct seawalls that would protect natural gas reservoirs?

1 = strongly against

2

3 = neither for nor against

4

5 = strongly support

*Gun policy support (Experiment 3 only)*

How would you rate your support for a bill to ban attachments to semi-automatic rifles that increase their rates of fire?

1 = strongly against

2

3 = neither for nor against

4

5 = strongly support

*Perceived general CC knowledge (Experiment 4 only*)

How well do you understand how global warming and climate change work?

Same rating scale as policy understanding questions

*Support for climate change policies (Experiment 4 only*)

|  |  |
| --- | --- |
| *Policy type* | *Question* |
| Adaptation | How would you rate your support for the bill to build flood defenses meant to protect coastal areas from rising ocean levels? |
| How would you rate your support for the bill to require the farming of drought-tolerant crops to ensure stable food supplies? |
| How would you rate your support for the bill to change national forestry practices in order to reduce forest fires? |
| Mitigation | How would you rate your support for the bill to reforest former mining areas? |
| How would you rate your support for the bill to mandate energy-saving building design? |
| How would you rate your support for the bill to impose carbon taxes on businesses? |

1 = strongly against

2

3 = neither for nor against

4

5 = strongly support

*Ideology of scientists (Experiment 4 only)*

We have discussed the policy understanding of a number of scientists and experts. In general, what sort of political views and beliefs do you think these scientists hold on average?”

1 = very conservative

2 = moderately conservative

3 = somewhat conservative

4 = neither conservative nor liberl

5 = somewhat liberal

6 = moderately liberal

7 = very liberal

*Assessed climate change knowledge (Experiment 4 only)*

Instructions:

|  |
| --- |
| We would like to ask you a few more questions about science. Please answer to the best of your ability without consulting other websites, books, or people. |

Items (adapted from Mumpower, Liu, & Vedlitz [2016], Shi et al. [2016], and Ranney & Clark [2016]):

|  |  |  |
| --- | --- | --- |
| *#* | *Item* | *Correct answer* |
| 1 | The greenhouse effect refers to gases in the atmosphere that trap heat. | T |
| 2 | Ocean currents carry heat from the equator to the north and south poles. | T |
| 3 | The US emits the largest total amount of carbon dioxide. | F |
| 4 | A large amount of atmospheric carbon dioxide and methane cause extra infrared light absorption, further heating Earth. | T |
| 5 | The average yearly temperature of the Earth’s surface is currently above 65°F. | F |
| 6 | The Earth’s climate is warmer now than it has ever been before. | F |
| 7 | The majority of climate scientists agree that the major cause of increased atmospheric concentration of greenhouse gases is human burning of fossil fuels. | T |
| 8 | At the same quantity, carbon dioxide is more harmful to the climate than methane. | F |
| 9 | Nuclear power plants emit carbon dioxide during operation. | F |
| 10 | The global carbon dioxide concentration in the atmosphere has increased during the past 250 years. | T |

**2. Complete ANOVA tables for all experiments**

*2.1. Experiment 1a*

Note: The marginal community knowledge by issue contentiousness interaction, *F*(1, 374) = 3.57, *p* = .06, η*p*2 = .009, was driven by a larger effect of community knowledge for hot-button (*M*no-CK = 2.84, *M*CK = 3.05) than non-hot-button (*M*no-CK = 2.64, *M*CK = 2.70) issues.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | *df* | Mean square | *F* | *p* | η*p*2 |
| Community knowledge | 1, 374 | 14.664 | 4.199 | 0.041 | 0.011 |
| Ideology | 1, 374 | 2.7 | 0.773 | 0.38 | 0.002 |
| Community knowledge x ideology | 1, 374 | 0.001 | 0 | 0.989 | 0 |
| Issue contentiousness | 1, 374 | 3.629 | 11.574 | 0.001 | 0.03 |
| Issue contentiousness x community knowledge | 1, 374 | 1.12 | 3.573 | 0.06 | 0.009 |
| Issue contentiousness x ideology | 1, 374 | 0.1 | 0.318 | 0.573 | 0.001 |
| Issue contentiousness x ideology x community knowledge | 1, 374 | 0.196 | 0.626 | 0.429 | 0.002 |
| Expert type | 1, 374 | 0.001 | 0 | 0.988 | 0 |
| Expert type x community knowledge | 1, 374 | 0.999 | 0.286 | 0.593 | 0.001 |
| Expert type x community knowledge x issue contentiousness | 1, 374 | 0.089 | 0.284 | 0.594 | 0.001 |
| Expert type x ideology x community knowledge | 1, 374 | 0.616 | 0.176 | 0.675 | 0 |
| Expert type x ideology | 1, 374 | 6.481 | 1.856 | 0.174 | 0.005 |
| Expert type x issue contentiousness | 1, 374 | 0.211 | 0.673 | 0.413 | 0.002 |
| Expert type x ideology x issue contentiousness | 1, 374 | 0.059 | 0.187 | 0.666 | 0 |
| Expert type x ideology x community knowledge x issue contentiousness | 1, 374 | 0.1 | 0.32 | 0.572 | 0.001 |

*2.2. Experiment 1b*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | *df* | Mean square | *F* | *p* | η*p*2 |
| Community knowledge | 1, 188 | 332.666 | 73.41 | <.001 | 0.281 |
| Ideology | 1, 188 | 16.225 | 1.125 | 0.29 | 0.006 |
| Community knowledge x ideology | 1, 188 | 0.103 | 0.023 | 0.881 | 0 |
| Issue contentiousness | 1, 188 | 9.834 | 7.769 | 0.006 | 0.04 |
| Issue contentiousness x community knowledge | 1, 188 | 0.265 | 0.284 | 0.595 | 0.002 |
| Issue contentiousness x ideology | 1, 188 | 3.197 | 2.526 | 0.114 | 0.013 |
| Issue contentiousness x ideology x community knowledge | 1, 188 | 5.186 | 5.566 | 0.019 | 0.029 |
| Expert type | 1, 188 | 0.162 | 0.119 | 0.73 | 0.001 |
| Expert type x community knowledge | 1, 188 | 0.145 | 0.153 | 0.696 | 0.001 |
| Expert type x community knowledge x issue contentiousness | 1, 188 | 1.11 | 1.179 | 0.279 | 0.006 |
| Expert type x ideology x community knowledge | 1, 188 | 0.145 | 0.153 | 0.696 | 0.001 |
| Expert type x ideology | 1, 188 | 2.793 | 2.054 | 0.153 | 0.011 |
| Expert type x issue contentiousness | 1, 188 | 3.082 | 2.125 | 0.147 | 0.011 |
| Expert type x ideology x issue contentiousness | 1, 188 | 1.798 | 1.24 | 0.267 | 0.007 |
| Expert type x ideology x community knowledge x issue contentiousness | 1, 188 | 0.036 | 0.039 | 0.844 | 0 |

*2.3. Experiment 2*

Note: The marginal three-way interaction between community knowledge, expert type, and ideology, *F*(1, 137) = 3.4, *p* = .067, η*p*2 = .02, was due to liberals reporting slightly less of an increased understanding from non-traditional experts (*M* = 3.58) than did conservatives (*M* = 3.93).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | *df* | Mean square | *F* | *p* | η*p*2 |
| Community knowledge | 1, 137 | 150.68 | 45.481 | <.001 | 0.249 |
| Ideology | 1, 137 | 13.951 | 1.003 | 0.318 | 0.007 |
| Community knowledge x ideology | 1, 137 | 0.202 | 0.061 | 0.805 | 0 |
| Issue contentiousness | 1, 137 | 6.556 | 0.471 | 0.494 | 0.003 |
| Issue contentiousness x community knowledge | 1, 137 | 0.004 | 0.004 | 0.952 | 0 |
| Issue contentiousness x ideology | 1, 137 | 10.663 | 5.809 | 0.017 | 0.041 |
| Issue contentiousness x ideology x community knowledge | 1, 137 | 1.775 | 1.629 | 0.204 | 0.012 |
| Expert type | 1, 137 | 0.815 | 0.555 | 0.458 | 0.004 |
| Expert type x community knowledge | 1, 137 | 0.586 | 0.567 | 0.453 | 0.004 |
| Expert type x community knowledge x issue contentiousness | 1, 137 | 0.643 | 0.746 | 0.389 | 0.005 |
| Expert type x ideology x community knowledge | 1, 137 | 3.515 | 3.402 | 0.067 | 0.024 |
| Expert type x ideology | 1, 137 | 0.385 | 0.262 | 0.61 | 0.002 |
| Expert type x issue contentiousness | 1, 137 | 0.725 | 0.57 | 0.452 | 0.004 |
| Expert type x ideology x issue contentiousness | 1, 137 | 2.353 | 1.85 | 0.176 | 0.013 |
| Expert type x ideology x community knowledge x issue contentiousness | 1, 137 | 0 | 0 | 0.985 | 0 |
| Survey purpose | 1, 137 | 8.574 | 0.616 | 0.434 | 0.004 |
| Survey purpose x community knowledge | 1, 137 | 0.821 | 0.248 | 0.619 | 0.002 |
| Survey purpose x ideology | 1, 137 | 6.556 | 0.471 | 0.494 | 0.003 |
| Survey purpose x issue contentiousness | 1, 137 | 1.04 | 0.566 | 0.453 | 0.004 |
| Survey purpose x issue contentiousness x ideology | 1, 137 | 1.085 | 0.591 | 0.443 | 0.004 |
| Survey purpose x expert type | 1, 137 | 0.162 | 0.11 | 0.741 | 0.001 |
| Survey purpose x expert type x ideology | 1, 137 | 0.665 | 0.453 | 0.502 | 0.003 |
| Survey purpose x community knowledge x ideology | 1, 137 | 0.505 | 0.152 | 0.697 | 0.001 |
| Survey purpose x issue contentiousness x expert type | 1, 137 | 1.237 | 0.972 | 0.326 | 0.007 |
| Survey purpose x issue contentiousness x expert type x ideology | 1, 137 | 1.305 | 1.026 | 0.313 | 0.007 |
| Survey purpose x community knowledge x issue contentiousness | 1, 137 | 0.038 | 0.035 | 0.853 | 0 |
| Survey purpose x community knowledge x issue contentiousness x ideology | 1, 137 | 0.302 | 0.277 | 0.6 | 0.002 |
| Survey purpose x community knowledge x expert type | 1, 137 | 0.167 | 0.162 | 0.688 | 0.001 |
| Survey purpose x community knowledge x expert type x ideology | 1, 137 | 2.305 | 2.231 | 0.138 | 0.016 |
| Survey purpose x community knowledge x expert type x issue salience | 1, 137 | 1.336 | 1.549 | 0.215 | 0.011 |
| Survey purpose x community knowledge x issue contentiousness x ideology x expert type | 1, 137 | 1.658 | 1.923 | 0.168 | 0.014 |

*2.4. Experiment 3*

Note: The marginal ideology by survey purpose interaction, *F*(1, 379) = 2.99, *p* = .084, η*p*2 = .008, was due to conservatives reporting higher overall understanding in the climate change (*M* = 3.32) than in the understanding condition (*M* = 2.93; *t*[185] = 2.08, *p* = .039, *d* = .3), while liberals’ overall understanding did not vary between the climate change (*M* = 2.98) and understanding (*M* = 3.03) conditions, *t*(194) = .25, *p* = .803, *d* = .04.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | *df* | Mean square | *F* | *p* | η*p*2 |
| Community knowledge | 1, 379 | 280.578 | 133.828 | <.001 | 0.261 |
| Ideology | 1, 379 | 9.637 | 0.903 | .343 | 0.002 |
| Community knowledge x ideology | 1, 379 | 1.581 | 0.754 | .386 | 0.002 |
| Issue contentiousness | 1, 379 | 30.277 | 47.441 | <.001 | 0.111 |
| Issue contentiousness x community knowledge | 1, 379 | 0.347 | 0.533 | .466 | 0.001 |
| Issue contentiousness x ideology | 1, 379 | 0.66 | 0.104 | .748 | 0 |
| Issue contentiousness x ideology x community knowledge | 1, 379 | .7 | 1.076 | .3 | 0.003 |
| Survey purpose | 1, 379 | 12.225 | 1.957 | .163 | 0.005 |
| Survey purpose x community knowledge | 1, 379 | 3.006 | 1.434 | .232 | 0.004 |
| Survey purpose x ideology | 1, 379 | 18.703 | 2.995 | .084 | 0.008 |
| Survey purpose x issue contentiousness | 1, 379 | 5.199 | 8.146 | .005 | 0.021 |
| Survey purpose x issue contentiousness x ideology | 1, 379 | 0.002 | 0.003 | .958 | 0 |
| Survey purpose x community knowledge x ideology | 1, 379 | .709 | .338 | .561 | 0.001 |
| Survey purpose x community knowledge x issue contentiousness | 1, 379 | .988 | 1.517 | .219 | 0.004 |
| Survey purpose x community knowledge x issue contentiousness x ideology | 1, 379 | 0.018 | 0.028 | .868 | 0 |

*2.5. Experiment 4*

2.5.1. Main ANOVA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | *df* | Mean square | *F* | *p* | η*p*2 |
| Community knowledge | 1, 371 | 126.567 | 36.198 | .000 | .089 |
| Ideology | 1, 371 | .102 | .029 | .864 | .000 |
| Community knowledge x ideology | 1, 371 | .149 | .043 | .837 | .000 |
| Policy type | 1, 371 | 3.525 | 9.689 | .002 | .025 |
| Policy type x community knowledge | 1, 371 | .114 | .314 | .575 | .001 |
| Policy type x ideology | 1, 371 | .325 | .895 | .345 | .002 |
| Policy type x ideology x community knowledge | 1, 371 | .033 | .092 | .762 | .000 |
| Survey purpose | 1, 371 | 17.761 | 5.080 | .025 | .014 |
| Survey purpose x community knowledge | 1, 371 | 1.212 | .347 | .556 | .001 |
| Survey purpose x ideology | 1, 371 | 2.118 | .606 | .437 | .002 |
| Survey purpose x Policy type | 1, 371 | .034 | .094 | .759 | .000 |
| Survey purpose x Policy type x ideology | 1, 371 | .473 | 1.301 | .255 | .003 |
| Survey purpose x community knowledge x ideology | 1, 371 | 8.727 | 2.496 | .115 | .007 |
| Survey purpose x community knowledge x Policy type | 1, 371 | .301 | .827 | .364 | .002 |
| Survey purpose x community knowledge x Policy type x ideology | 1, 371 | .205 | .562 | .454 | .002 |

2.5.2. Main ANOVA with only participants who rated scientists as liberal (>4 on the ideology scale)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | *df* | Mean square | *F* | *p* | η*p*2 |
| Community knowledge | 1, 219 | 71.453 | 21.069 | .000 | .088 |
| Ideology | 1, 219 | 5.393 | 1.590 | .209 | .007 |
| Community knowledge x ideology | 1, 219 | 4.888 | 1.441 | .231 | .007 |
| Policy type | 1, 219 | 4.483 | 11.811 | .001 | .051 |
| Policy type x community knowledge | 1, 219 | .298 | .786 | .376 | .004 |
| Policy type x ideology | 1, 219 | .107 | .282 | .596 | .001 |
| Policy type x ideology x community knowledge | 1, 219 | .039 | .104 | .748 | .000 |
| Survey purpose | 1, 219 | 3.793 | 1.118 | .291 | .005 |
| Survey purpose x community knowledge | 1, 219 | .044 | .013 | .910 | .000 |
| Survey purpose x ideology | 1, 219 | .281 | .083 | .774 | .000 |
| Survey purpose x Policy type | 1, 219 | .187 | .492 | .484 | .002 |
| Survey purpose x Policy type x ideology | 1, 219 | .578 | 1.523 | .218 | .007 |
| Survey purpose x community knowledge x ideology | 1, 219 | 12.642 | 3.728 | .055\* | .017 |
| Survey purpose x community knowledge x Policy type | 1, 219 | 1.183 | 3.117 | .079 | .014 |
| Survey purpose x community knowledge x Policy type x ideology | 1, 219 | .012 | .031 | .860 | .000 |

\* This marginal result is the sole instance in our data when community knowledge and ideology were involved in a reliable interaction. It was not, however, due to the contagious sense of understanding being eliminated for conservatives who believed scientists are generally liberal, as the cultural cognition model might predict for the effect. Rather, it is due to liberals who believed scientists are generally liberal showing no effect in the climate change purpose condition only (*M*no-CK = 2.87, *M*CK = 3.11, *p* = .44).

2.5.3. Main ANOVA with only participants who rated scientists as neutral (4 on the ideology scale)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source | *df* | Mean square | *F* | *p* | η*p*2 |
| Community knowledge | 1, 67 | 37.108 | 12.866 | .001 | .161 |
| Ideology | 1, 67 | 5.959 | 2.066 | .155 | .030 |
| Community knowledge x ideology | 1, 67 | .096 | .033 | .856 | .000 |
| Policy type | 1, 67 | .654 | 2.871 | .095 | .041 |
| Policy type x community knowledge | 1, 67 | .044 | .192 | .663 | .003 |
| Policy type x ideology | 1, 67 | .094 | .411 | .524 | .006 |
| Policy type x ideology x community knowledge | 1, 67 | .010 | .042 | .838 | .001 |
| Survey purpose | 1, 67 | 10.572 | 3.665 | .060 | .052 |
| Survey purpose x community knowledge | 1, 67 | 1.857 | .644 | .425 | .010 |
| Survey purpose x ideology | 1, 67 | 1.814 | .629 | .431 | .009 |
| Survey purpose x Policy type | 1, 67 | .578 | 2.537 | .116 | .036 |
| Survey purpose x Policy type x ideology | 1, 67 | .625 | 2.745 | .102 | .039 |
| Survey purpose x community knowledge x ideology | 1, 67 | .101 | .035 | .852 | .001 |
| Survey purpose x community knowledge x Policy type | 1, 67 | .026 | .113 | .738 | .002 |
| Survey purpose x community knowledge x Policy type x ideology | 1, 67 | .010 | .042 | .838 | .001 |

**3. Regression results for Experiment 4**

*3.1 Attitudes*

3.1.1 Attitudes with sense of understanding of climate change policy as a predictor

3.1.1.1 Effects of mean sense of understanding of climate change policy, ideology, and assessed knowledge of climate change on support for climate change policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate policy | .193 | .027 | 4.279\*\*\* |
| Ideological group | .463 | .073 | 10.28\*\*\* |
| Assessed knowledge of climate change | -.046 | .238 | -1.009 |

\*\*\* *p* < .001

3.1.1.2 Effects of mean sense of understanding of climate change policy (adaptation policies only), ideology, and assessed knowledge on support for adaptation policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate policy (adaptation) | .208 | .027 | 4.359\*\*\* |
| Ideological group | .344 | .079 | 7.224\*\*\* |
| Assessed knowledge of climate change | -.052 | .258 | -1.096 |

\*\*\* *p* < .001

3.1.1.3 Effects of mean sense of understanding of climate chance policy (mitigation policies only), ideology, and assessed knowledge on support for mitigation policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate policy (mitigation) | .183 | .029 | 4.181\*\*\* |
| Ideological group | .503 | .082 | 11.456\*\*\* |
| Assessed knowledge of climate change | -.032 | .265 | -.726 |

\*\*\* *p* < .001

3.1.1.4 Same as 3.1.1.1 but with continuous rather than binary measure of ideology

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate policy | .192 | .026 | 4.396\*\*\* |
| Political leaning | .506 | .016 | 11.577\*\*\* |
| Assessed knowledge of climate change | -.046 | .231 | -1.054 |

\*\*\* *p* < .001

3.1.1.5 Effects of mean sense of understanding of climate change policy, ideology, assessed knowledge, age, gender, and education on support for climate change policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate policy | .189 | .028 | 3.977\*\*\* |
| Ideological group | .449 | .076 | 9.580\*\*\* |
| Assessed knowledge of climate change | -.037 | .251 | -.768 |
| Age | -.052 | .003 | -1.074 |
| Gender | .024 | .079 | .493 |
| Education | .018 | .031 | .384 |

\*\*\* *p* < .001

3.1.1.6 Same as 3.1.1.1 but with additional variable representing ideological congruence between participants and the sources of contagious sense of understanding (e.g., liberal participant who rated scientists as being liberal = 1, conservative participant who rated scientsts as being liberal = 0)

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate policy | .191 | .027 | 4.236\*\*\* |
| Ideological group | .439 | .082 | 8.702\*\*\* |
| Assessed knowledge of climate change | -.042 | .239 | -.917 |
| Ideological congruence of knowledge source | -.052 | .094 | -1.035 |

\*\*\* *p* < .001

3.1.2 Attitudes with sense of understanding of climate change as a predictor

3.1.2.1 Effects of sense of understanding of climate change, ideology, and assessed knowledge of climate change on support for climate change policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate change | .142 | .029 | 3.075† |
| Ideological group | .439 | .075 | 9.535\*\*\* |
| Assessed knowledge of climate change | -.064 | .037 | -1.414 |

† *p* = .002

\*\*\* *p* < .001

3.1.2.2 Effects of sense of understanding of climate change, ideology, and assessed knowledge on support for adaptation policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate change | .097 | .032 | 1.986\* |
| Ideological group | .325 | .082 | 6.612\*\*\* |
| Assessed knowledge of climate change | -.075 | .04 | -1.544 |

\* *p* < .05

\*\*\* *p* < .001

3.1.2.3 Effects of sense of understanding of climate chance, ideology, and assessed knowledge on support for mitigation policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate change | .161 | .032 | 3.599\*\*\* |
| Ideological group | .479 | .083 | 10.716\*\*\* |
| Assessed knowledge of climate change | -.046 | .041 | -1.036 |

\*\*\* *p* < .001

3.1.1.4 Same as 3.1.2.1 but with continuous rather than binary measure of ideology

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate change | .138 | .028 | 3.087† |
| Political leaning | .485 | .017 | 10.826\*\*\* |
| Assessed knowledge of climate change | -.065 | .036 | -1.47 |

† *p* = .002

\*\*\* *p* < .001

3.1.2.5 Effects of mean sense of understanding of climate change, ideology, assessed knowledge, age, gender, and education on support for climate change policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate change | .130 | .03 | 2.733†† |
| Ideological group | .425 | .078 | 8.92\*\*\* |
| Assessed knowledge of climate change | -.061 | .039 | -1.271 |
| Age | -.061 | .004 | -1.242 |
| Gender | -.001 | .078 | -.026 |
| Education | .023 | .031 | .498 |

†† *p* = .007

\*\*\* *p* < .001

3.1.2.6 Same as 3.1.2.1 but with additional variable representing ideological congruence between participants and the sources of contagious sense of understanding (e.g., liberal participant who rated scientists as being liberal = 1, conservative participant who rated scientsts as being liberal = 0)

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Sense of understanding of climate change | .138 | .029 | 2.982††† |
| Ideological group | .419 | .084 | 8.158\*\*\* |
| Assessed knowledge of climate change | -.061 | .037 | -1.323 |
| Ideological congruence of knowledge source | -.047 | .095 | -.921 |

††† *p* = .003

\*\*\* *p* < .001

*3.2 Attitude extremity*

3.2.1 Effects of miscalibration (operationalized as mean-centered perceived general understanding of global warming minus mean-centered performance on global warming knowledge assessment), ideology, and their interaction on mean extremity of attitudes toward climate change policies (operationalized by subtracting the scale midpoint from policy support ratings and calculating absolute values)

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Miscalibration (perceived understanding – actual understanding) | .247 | .051 | 4.988\*\*\* |
| Ideological group | .151 | .025 | 2.323\* |
| Miscalibration x ideology | .020 | .038 | .304 |

\* *p* < .05

\*\*\* *p* < .001

3.2.2 Effects of miscalibration (operationalized as mean-centered confidence judgments minus mean-centered performance on global warming knowledge assessment), ideology, and their interaction on mean extremity of attitudes toward climate change policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Miscalibration (confidence – actual understanding) | .260 | .050 | 5.389\*\*\* |
| Ideological group | .219 | .027 | 3.328\*\*\* |
| Miscalibration x ideology | .050 | .040 | .759 |

\*\*\* *p* ≤ .001

3.2.3 Effects of miscalibration (operationalized as mean-centered understanding of climate policies minus mean-centered performance on global warming knowledge assessment), ideology, and their interaction on mean extremity of attitudes toward climate change policies

|  |  |  |  |
| --- | --- | --- | --- |
| Predictor | β coefficient | *SE* | *t* |
| Miscalibration (policy understanding – actual understanding) | .132 | .024 | 1.993\* |
| Ideological group | .265 | .052 | 5.345\*\*\* |
| Miscalibration x ideology | .016 | .036 | .244 |

\* *p* < .05

\*\*\* *p* < .001