

Science Communication & the Public



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Why We Need to Understand Science

- We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology. This is a clear prescription for disaster.

– Carl Sagan, 1990



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Ignorance as a Virtue

- Anti-intellectualism has been a constant thread winding its way through our political and cultural life, nurtured by the false notion that democracy means that *'my ignorance is just as good as your knowledge.'*

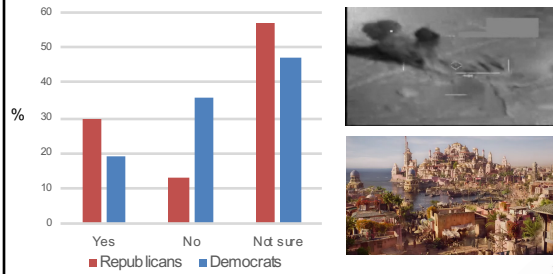
– Isaac Asimov, 1980



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« Would you Support Bombing Agrabah? »



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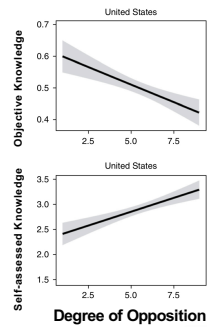
Opposition to GMOs and Biotech



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Opposition to GMO Study

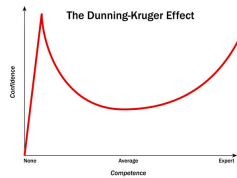
- Psychology research in USA & Canada in 2019
- Asked 500 Americans about concern and opposition to GMOs
 - Over 90% voiced some concern/opposition
- Were tested on their understanding of science and genetics



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Dunning-Kruger Effect

- « Not only do such people reach erroneous conclusions and make unfortunate choices, but their incompetence robs them of the ability to realize it »



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Where is the False Knowledge From?

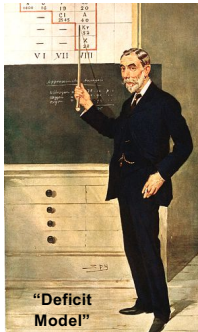
- Google searches
- WIKIPEDIA knowledge
The Free Encyclopedia
- Lay people bloggers
- Celebrities and influencers
- Fueled by lack of metacognition and by confirmation bias



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From PUS to Science Literacy

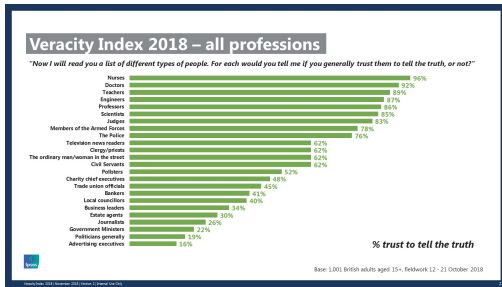


Engagement with Science

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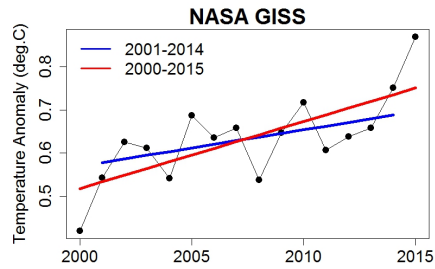


Trust in Science



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Science Communication Backfires



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The Role of Values



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Cultural World Views

● Hierarchy-Egalitarianism

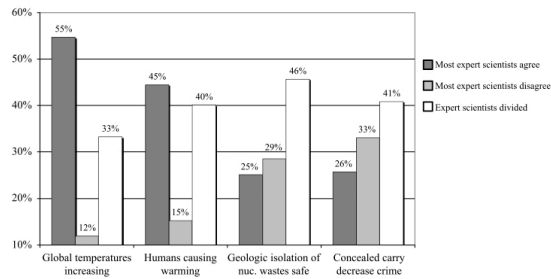
● Individualism-Communitarianism



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Perceptions of Science

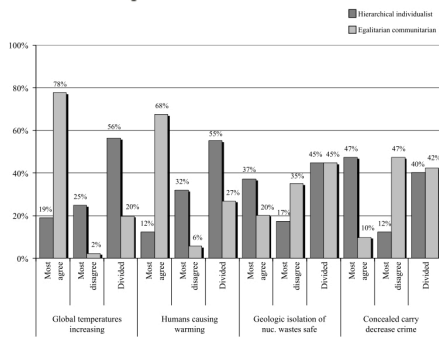


Kahan et al. (2011) Cultural Cognition

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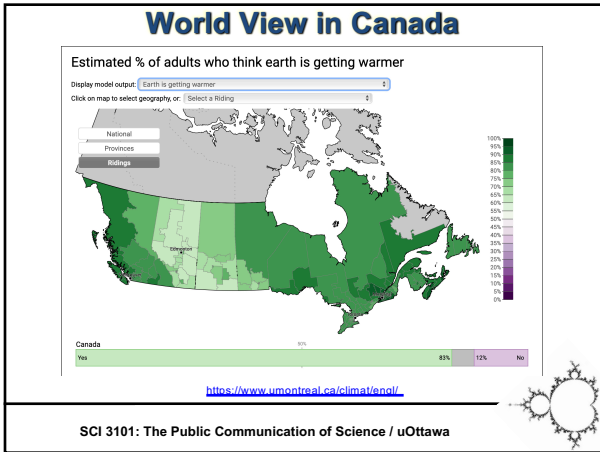


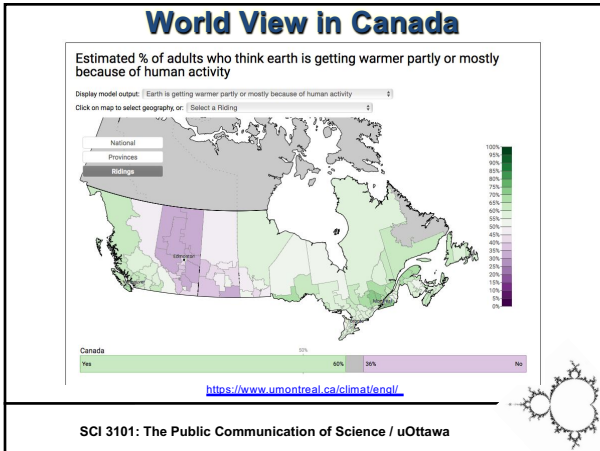
Perception vs. World View

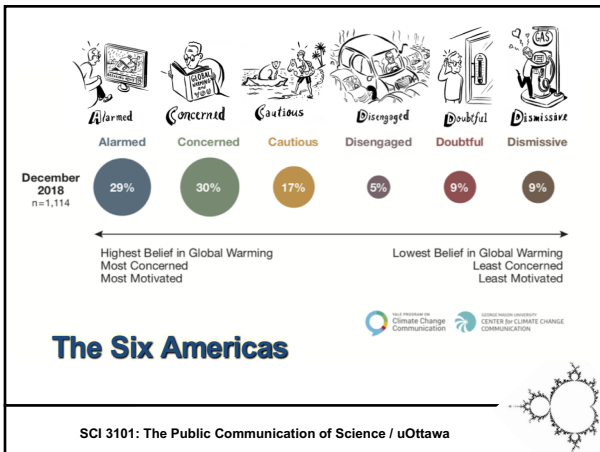


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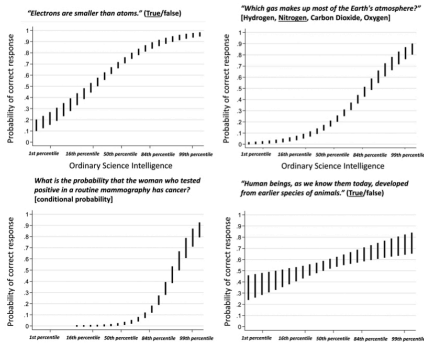


Belief is Rooted in Values



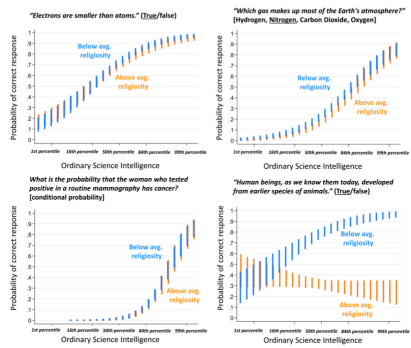
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Knowledge of Science

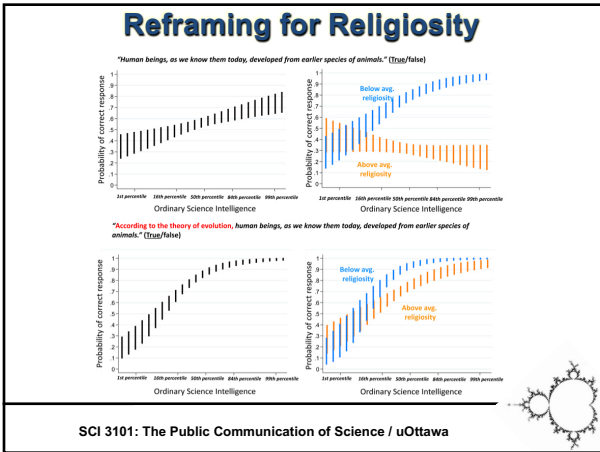


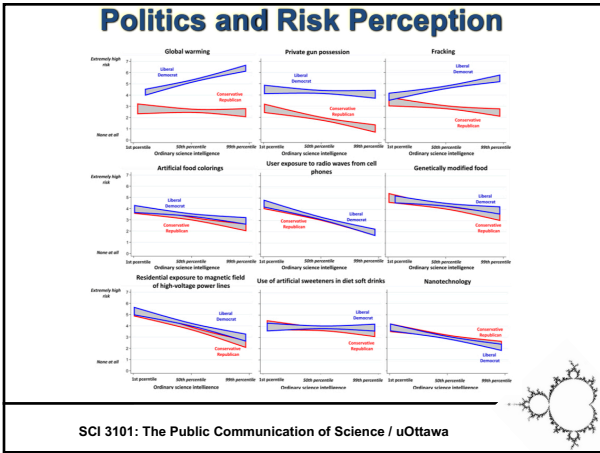
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Science Knowledge vs. Religiosity



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Is Eco-Friendly Unmanly?

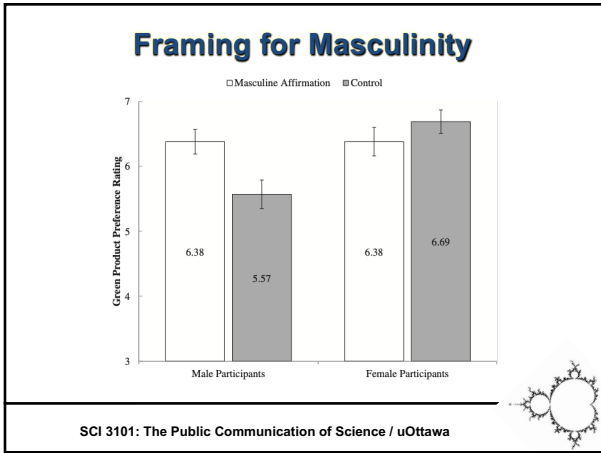
Brough et al. (2019)


**More
Environmentally-
friendly Choices**

**Too Threatened
to Take a Stand**

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Questions?



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