NWO Symposium Saturday, November 19, 2016 BGSU

TITLE: How does one decide what to believe when one is not an expert?

ABSTRACT: We will present studies about how people judge authority to make decisions relating to topics they are not expert in. We hope to encourage a lively discussion.

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Zalman Usiskin

University of Chicago School Mathematics Project

(Just spoke at OCTM Annual Meeting.)

Ottawa Hills High School used textbooks.

Implied messages.

Smoking

Google: Smoking does not cause cancer.

Smoking does not cause cancer, radiation does! http://owndoc.com/cancer/radiation-true-cause-of-cancer/

Google: Smoking and cancer.

The CDC (experts?) sets it straight.
https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/
effects_cig_smoking/#cancer

But (CDC)...

https://www.cdc.gov/nceh/radiation/smoking.htm

Smoking IN FACT: Google: Smoking cures cancer! https://www.sott.net/article/226999-Smoking-Helps-Protect-Against-Lung-Cancer Flat Earth Society http://www.theflatearthsociety.org/home/index.php The first frequently asked question is "Are You Serious?" Their answer is "Yes." Earth Center of Universe Documentary Review: Wiesner, Matthew P. 2016 Does the Universe Revolve around Me? (Documentary: The Principle) Skeptical Inquirer, Vol 40, Issue 4.

Climate Change

Americans are more skeptical of climate change than other developed countries.

Skeptical Science App



Naomi Oreskes Why we should trust scientists

https://www.ted.com/talks/naomi_oreskes_why_we_should_believe_in_science/transcript?language=en

"Scientists don't like talking about science as a matter of belief."

"We can't really judge scientific claims for ourselves in most cases...this is actually true for most scientists as well outside of their own specialties."

"Scientists judge, and they judge by judging evidence."

"Science is the appeal to authority, but it's not the authority of the individual; it's the authority of the collective community."

The Nizkor Project Fallacy: Appeal to Authority

http://www.nizkor.org/features/fallacies/appeal-to-authority.html

- 1. The person has sufficient expertise in the subject matter in question.
- 2. The claim being made by the person is within her area(s) of expertise.
- There is an adequate degree of agreement among the other experts in the subject in question.
 - 4. The person in question is not significantly biased.
- 5. The area of expertise is a legitimate area or discipline.
 - 6. The authority in question must be identified.



Science or not? Trusting the experts

https://scienceornot.net/2014/06/29/trusting-the-experts/

- 1. A real expert's arguments make sense and they are consistent.
- 2. A real expert's arguments are regarded as valid by most other experts in the field.
- 3. A real expert's expertise is vouched for by third parties that have authority in the field.
- 4. A real expert has no conflict of interest or prejudices which may influence her judgements.
 - 5. A real expert has a successful track record of judgements in his field.

Jere H. Lipps Judging Authority

Skeptical Inquirer, Vol 28.1

"Living well requires that we be able to evaluate our environment rationally. Simple things, like crossing the street, shopping, eating, and listening to our doctors, involve three skills: critical thinking, evidential reasoning, and judging authority."

- Most important, does the authority use the skills of critical thinking and evidential reasoning.
 - 3. Does the authority have proper affiliations.
- 5. Has the authority subjected his or her work to peer reviews?
 8. Does the authority have a past record of making rational claims backed by evidence or not?

James Lett A Field Guide to Critical Thinking

Skeptical Inquirer, Vol 14.2 http://www.csicop.org/si/show/field_guide_to_critical_thinking

"Public education, ... generally fails to teach students the essential skills of critical thinking."

Six rules of evidential reasoning:

Falsifiability Logic Comprehensiveness Honesty Replicability Sufficiency

He calls this: FiLCHeRS

Scientific American September 18, 2010

https://www.scientificamerican.com/podcast/episode/we-only-trust-experts-if-theyagree-10-09-18/

"We think we trust experts. But a new study finds that what really influences our opinions, more than listening to any expert, is our own beliefs."

Scientific American

 $\frac{\text{https://www.scientificamerican.com/article/why-do-some-people-believe-}}{\text{in-conspiracy-theories/}}$

"The attractiveness of conspiracy theories may arise from a number of cognitive biases that characterize the way we process information."

> Confirmation bias Proportionality bias Projection

Robert Baker Improving Scientific Reasoning Book review: The Myth of Scientific Literacy by Morris Shamos http://www.csicop.org/sb/show/improving_scientific_literacy DISCUSSION... Thank you.