Hazard and promise in food science communication

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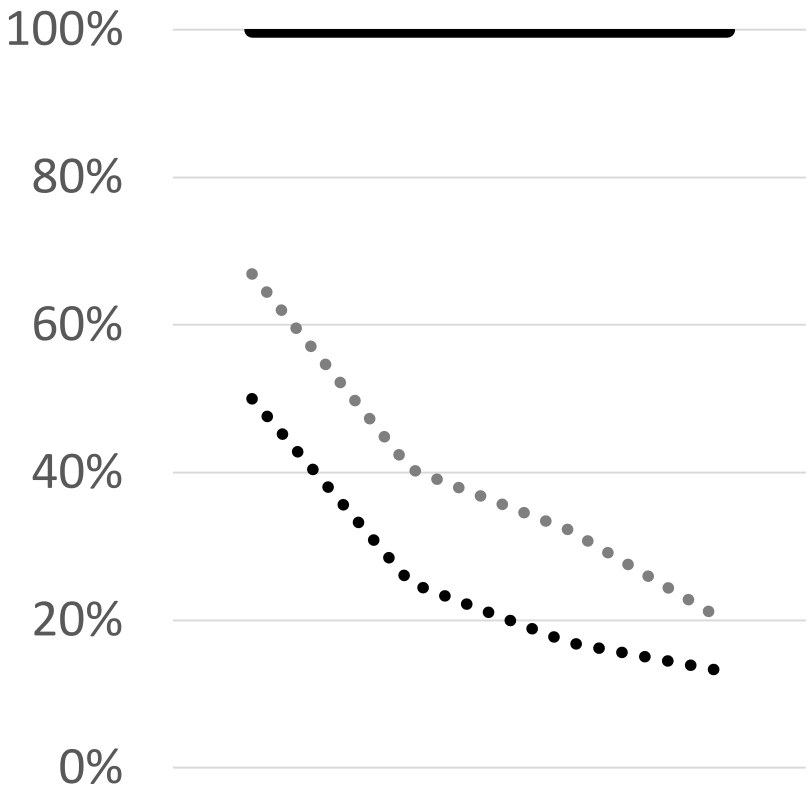
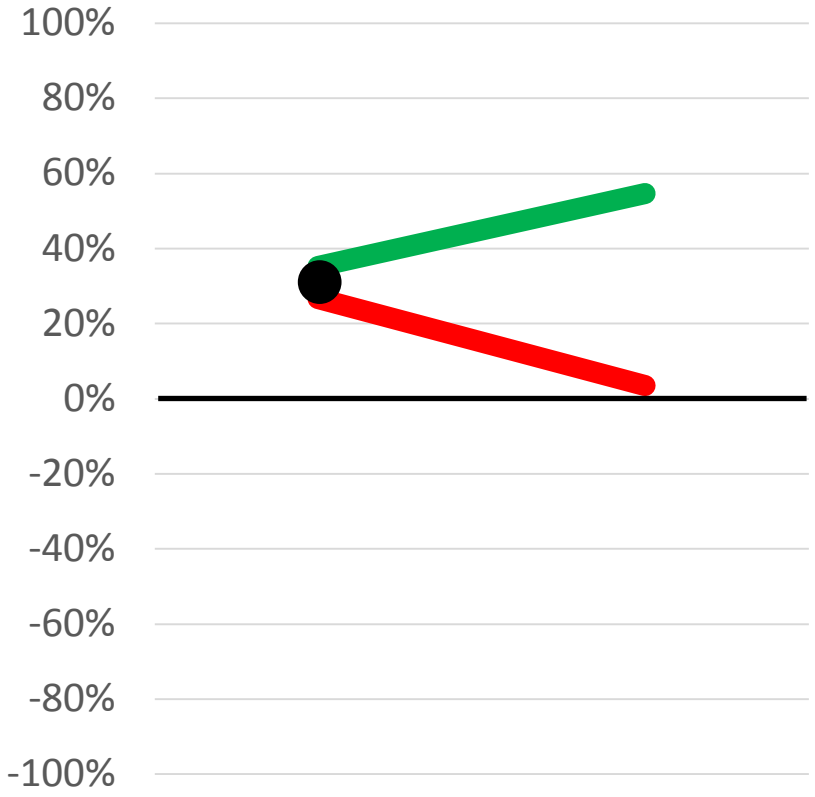
Two studies on information processing by the public

Information dilution-weight loss



Oregon CIR-GMO labeling

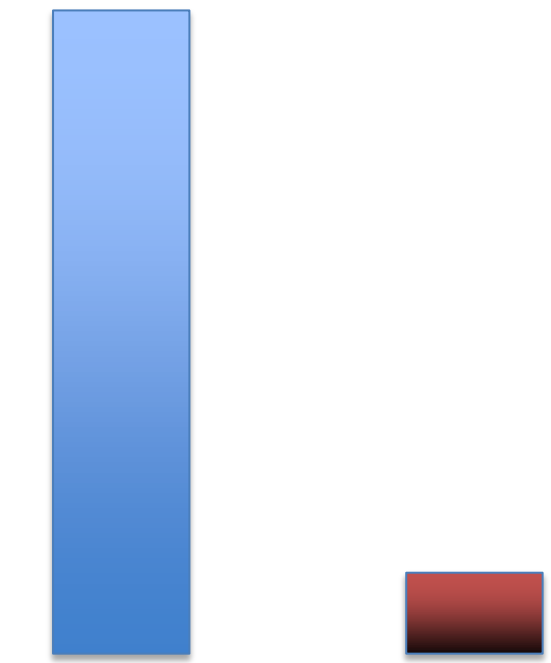


Information Dilution effect

True Claims

False Claims

Information Dilution effect



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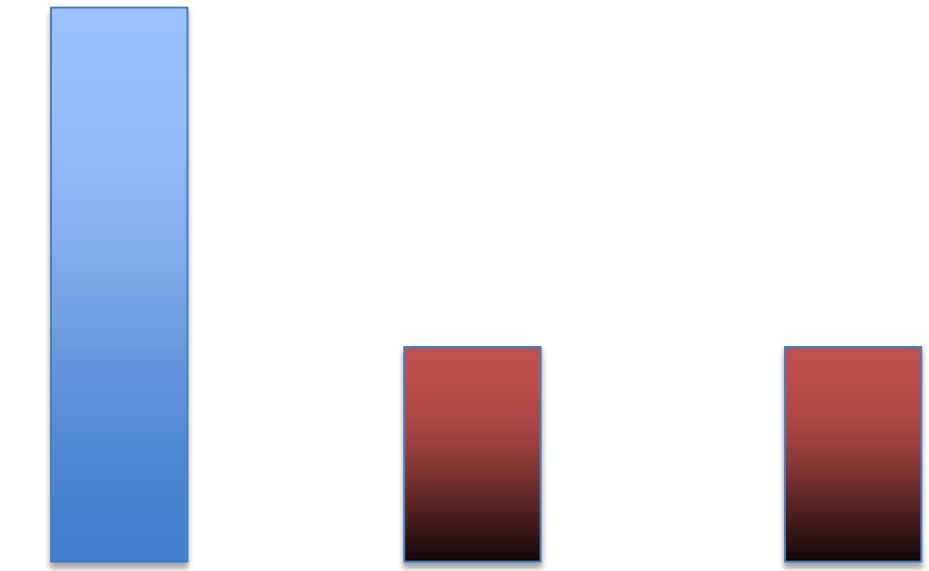

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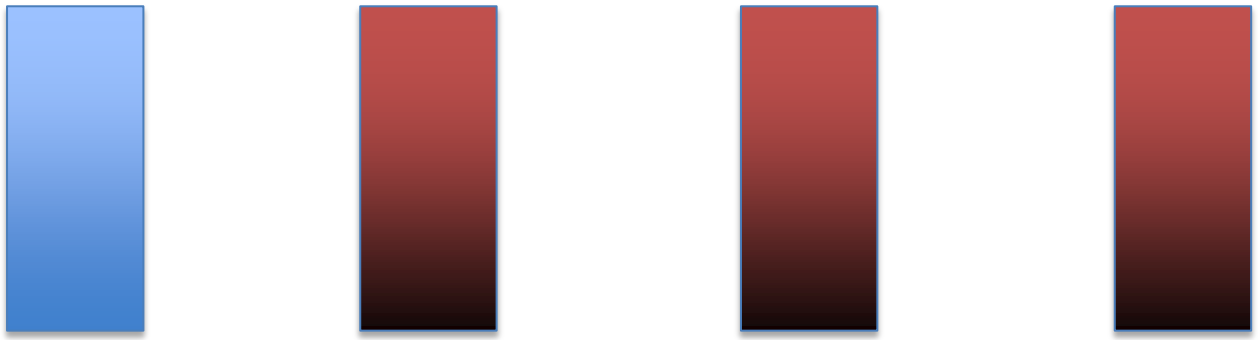

True Claims

False Claims

Evaluation of information dilution and weight loss beliefs

1. Survey of **277 demographically representative Americans**

2. Exposed to two strongly validated weight loss behaviors and a number of spurious/ineffective behaviors.

3. Asked to assign an **importance score** to each item based on its **direct contribution to weight loss**, totaling 100.

Item Examples

- Substantially decrease saturated fat consumption
- Consume a different color of fruits and vegetables each day
- Maintain a physically healthy social network

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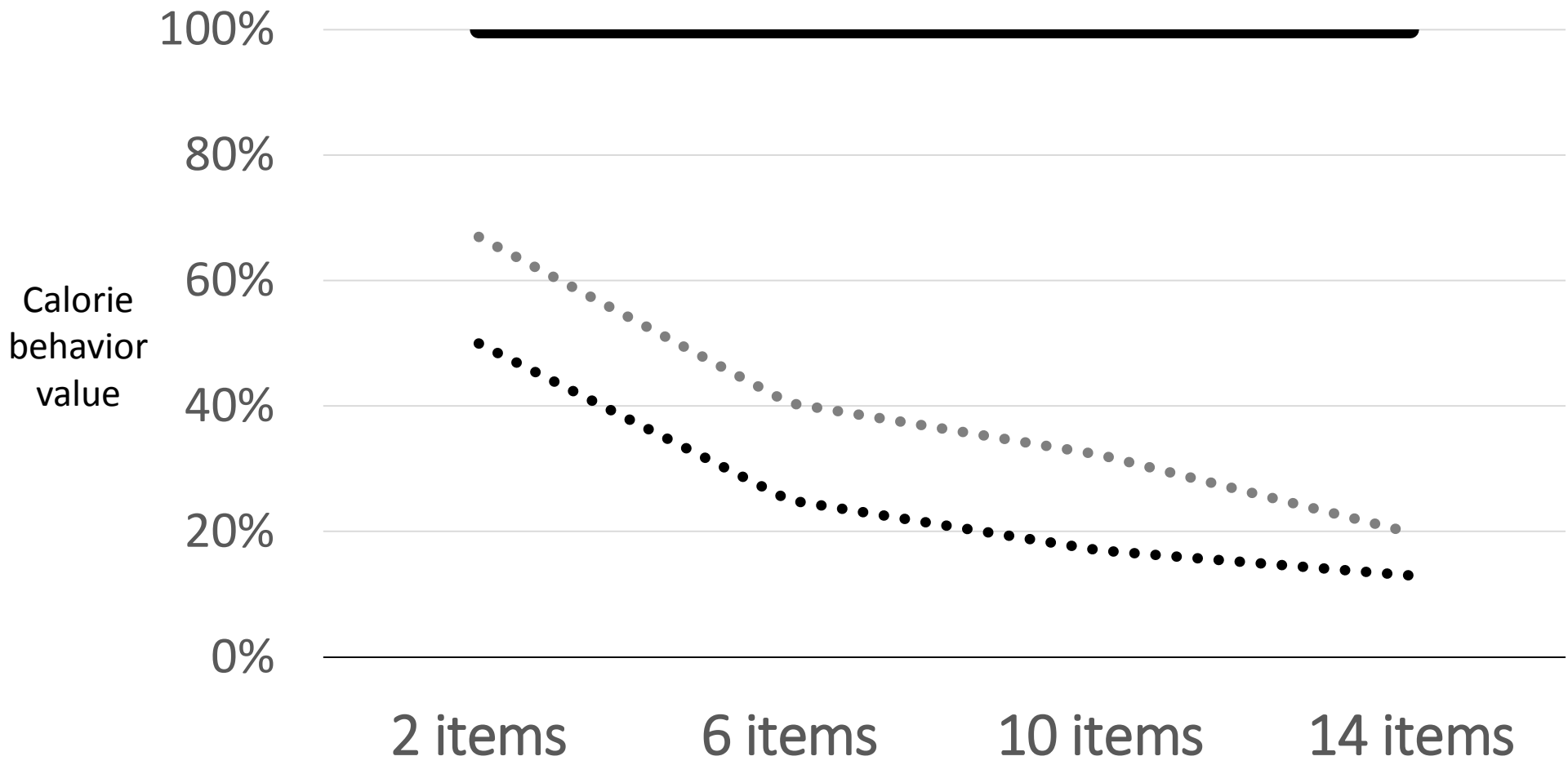
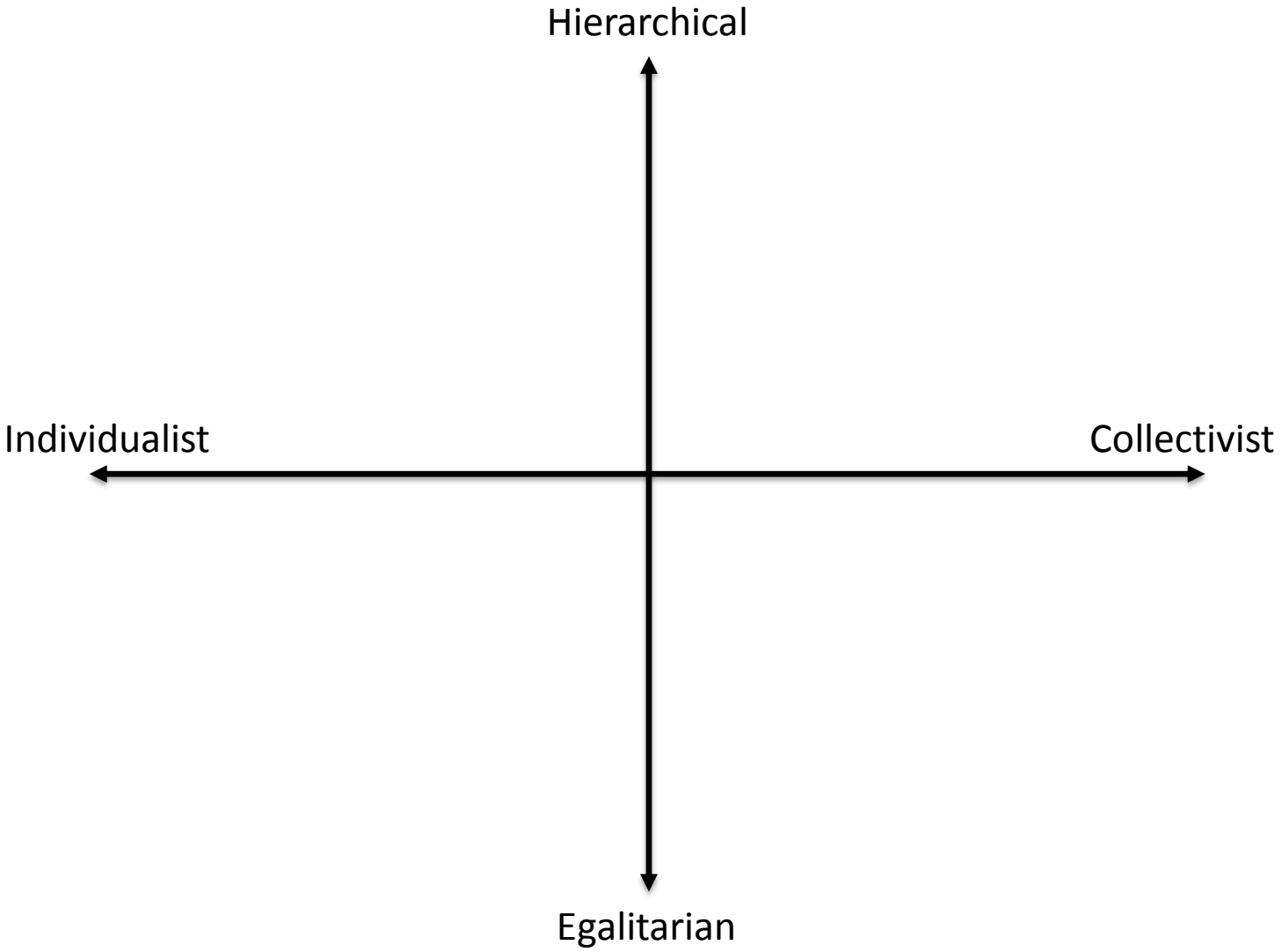
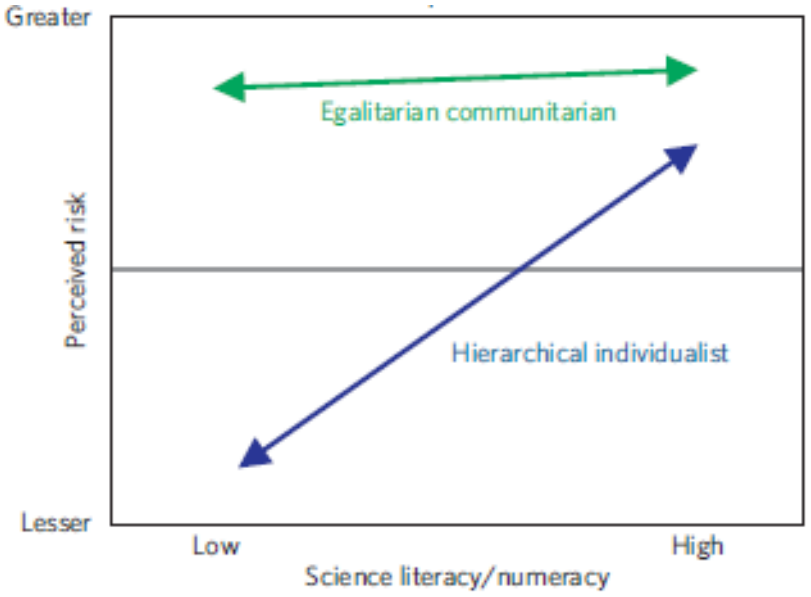
Additional information dilutes the power of valid weight loss information.

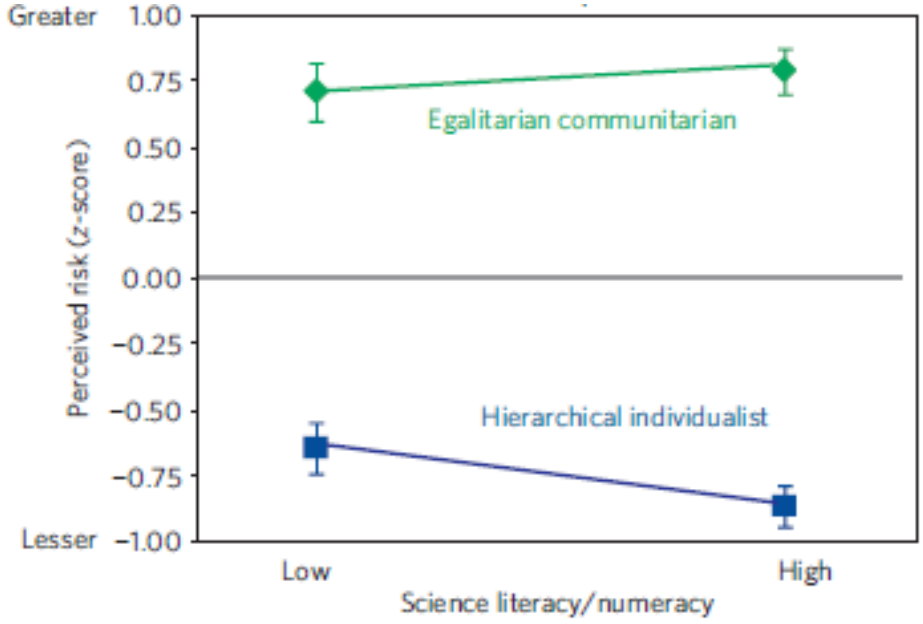


Cultural Cognition



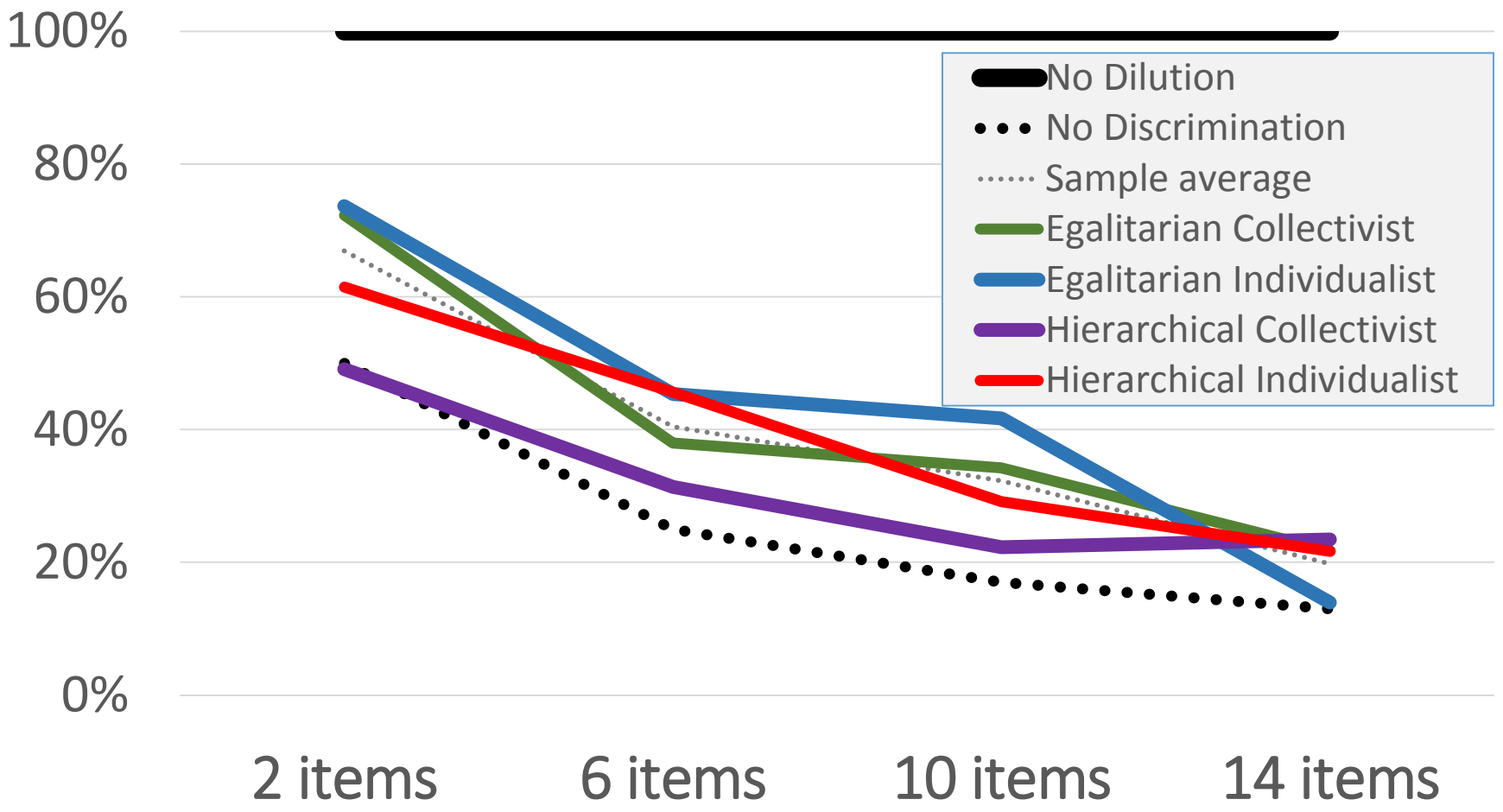
Cultural cognition, literacy/numeracy and polarization





Dan M. Kahan, Maggie Wittlin, Ellen Peters, Paul Slovic, Lisa L. Ouellette, Donald Braman & Gregory Mandel, The polarizing impact of science literacy and numeracy on perceived climate change risks, Nature Climate Change advance on line publication, http://www.nature.com/doifinder/10.1038/nclimate1547 (2012).

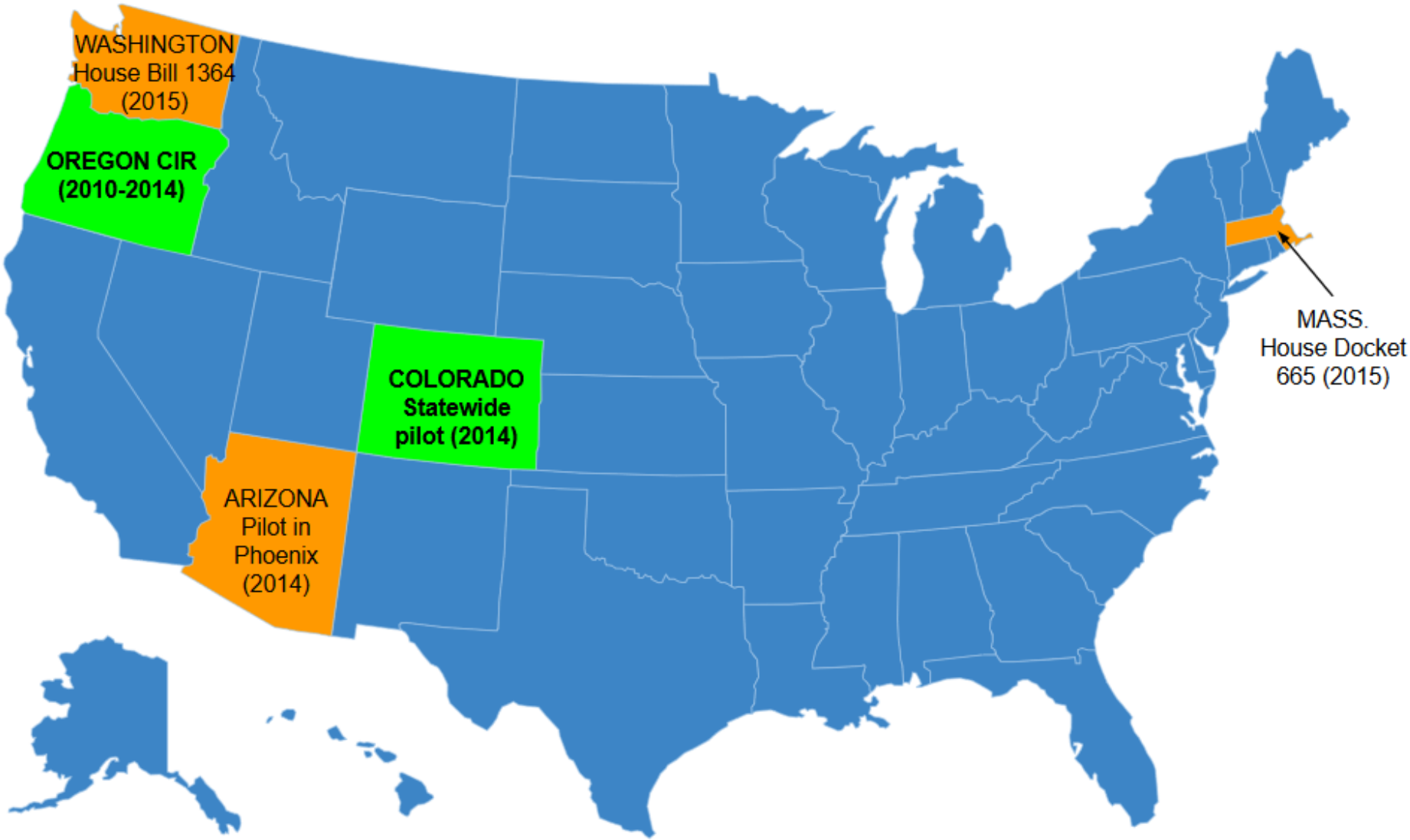
Cultural Cognition has no impact on weight loss information dilution.



The 2014 Oregon Citizens' Initiative Review shows one way of addressing a poor information ecosystem.

The research presented was supported by a 2010 grant from the National Science Foundation (NSF) Directorate for Social, Behavioral and Economic Sciences' Political Science Program, a 2014 grant from the NSF Decision, Risk, and Management Sciences Program, and grants from the University of Washington Royalty Research Fund, the Kettering Foundation, the Pennsylvania State University Social Science Research Institute, and the McCourtney Institute for Democracy. Opinions, findings, conclusions or recommendations expressed herein are those of the author and do not necessarily reflect the views of NSF, the Kettering Foundation, or any university partners.

The CIR began in Oregon but may soon spread to other states.



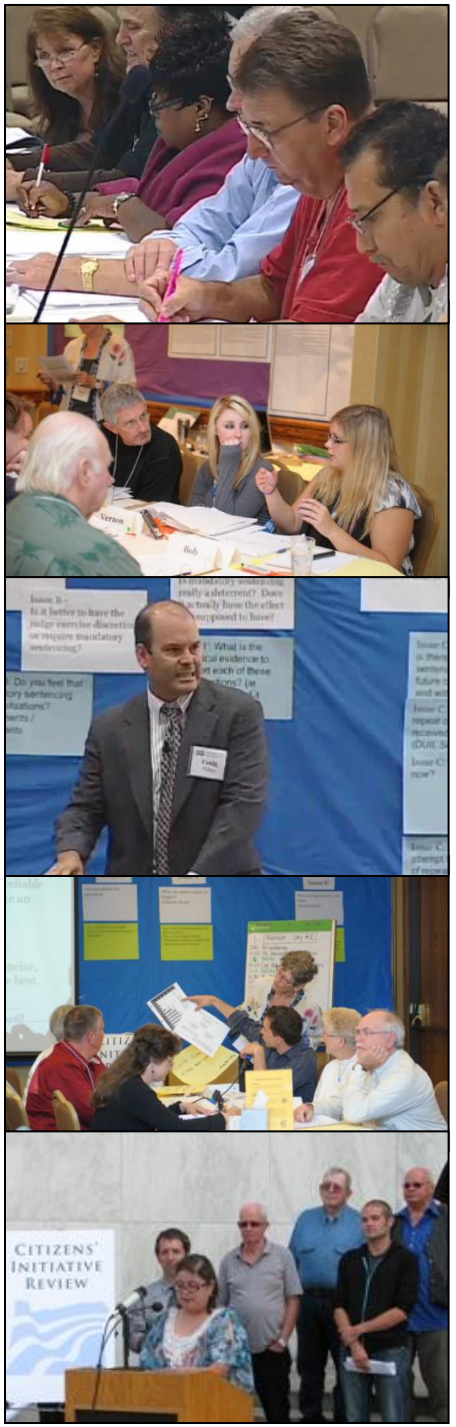
The CIR process aims to deliver reliable information to voters.

1. A **stratified random sample** of 20 voters served as citizen panelists.

2. The citizen panel had **four days to deliberate** and hear from pro/con advocates.

3. Panelists wrote a **Citizens' Statement**, which goes into the official state *Voters' Pamphlet* mailed to every household.

4. Voters can use the Citizens' Statement to study ballot measures and reach more **informed judgments**.



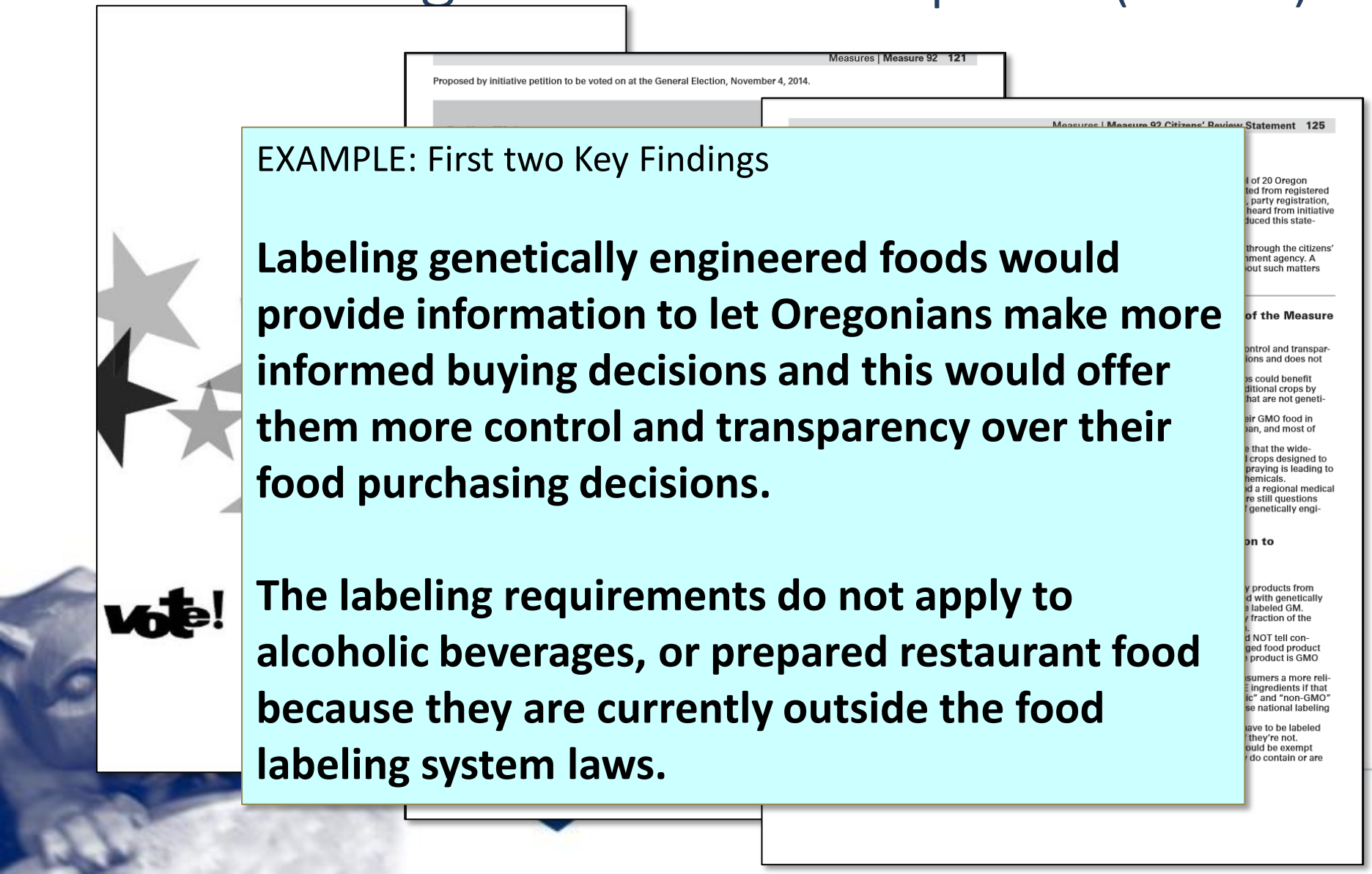
Ballot Title

92

Requires food manufacturers, retailers to label "genetically engineered" foods as such; state, citizens may enforce

Oregon Initiative 92 was favored most by egalitarians ("liberals").

CIR Citizens' Statement on Measure 92 in the Oregon Voters' Pamphlet (2014)



EXAMPLE: First two Key Findings

Labeling genetically engineered foods would provide information to let Oregonians make more informed buying decisions and this would offer them more control and transparency over their food purchasing decisions.

The labeling requirements do not apply to alcoholic beverages, or prepared restaurant food because they are currently outside the food labeling system laws.

Experimental Test of CIR Impact

1. Online panel of **488 Oregonians**
   who had not yet voted in election (but intended to do so)
2. Randomly assigned to either:
   - read a pdf of the **CIR Citizens' Statements**
   - placed in a control group (no exposure)
3. After:
   - asked **how they would vote** on GMO Labeling Measure
   - asked to identify a set of **eight factual claims** about the measure as probably/definitely true/false

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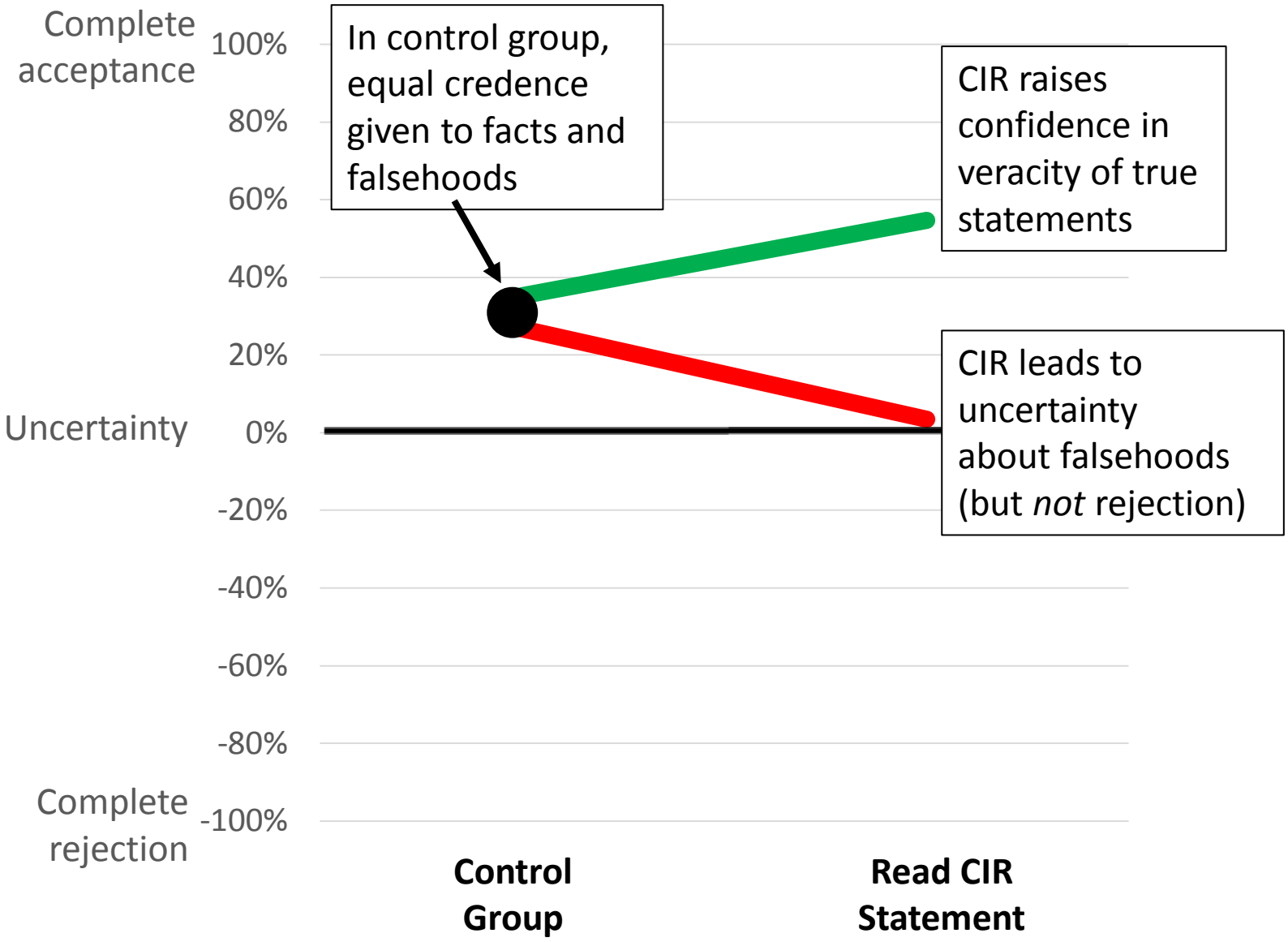
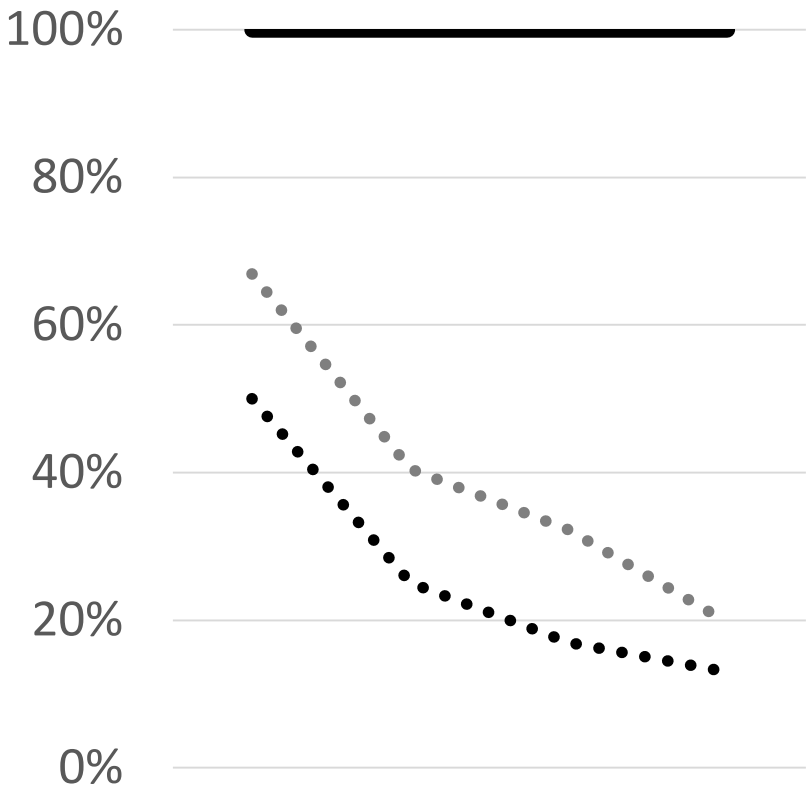
Reading the CIR corrects (much) bias.

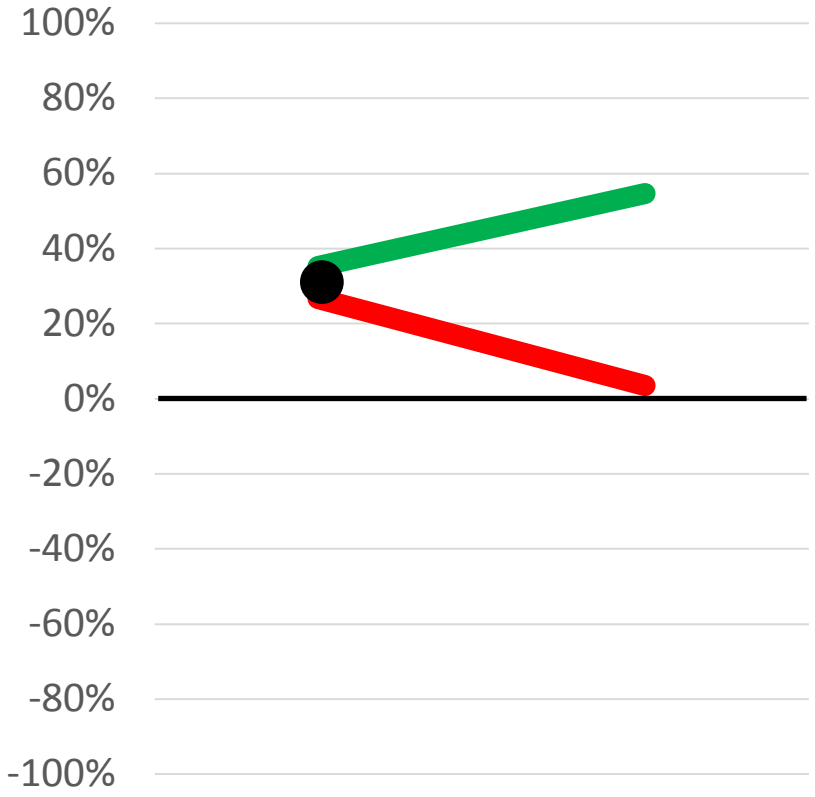


The nation is at war with conflicting information.

False information is the enemy



The public can be our allies



Conclusions

- More information is often not better- and the public cannot easily discriminate.
- Providing accurate information either doesn't help (dilution) or, when the issue is politicized, causes harm (cultural cognition).
- Public deliberative models can help by identifying and constructing salient, evidence-based interventions.

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