

Climate Change Disinformation And How To Combat It

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Climate Disinformation

The Infrastructure

- Disinformation about climate change is well funded and disseminated through network of organizations
- Annual income of U.S. conservative “think tanks” engaged in denial around \$900 million (Brulle, 2013)
- Between 2000 – 2016, more than \$2 billion spent in U.S. on climate change legislation

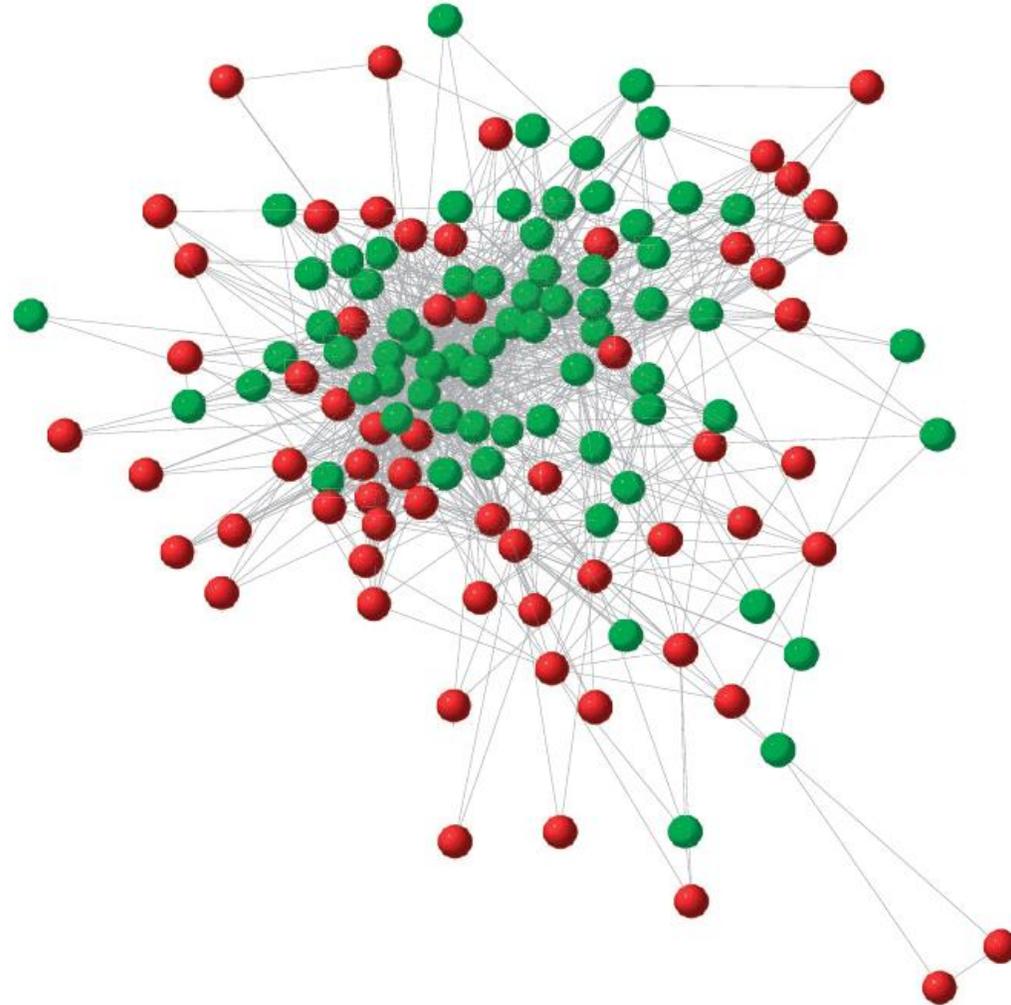
In Europe: Work by
Dieter Plehwe

(<http://thinktanknetworkresearch.net>)

The Dissemination Networks (Farrell, 2016)

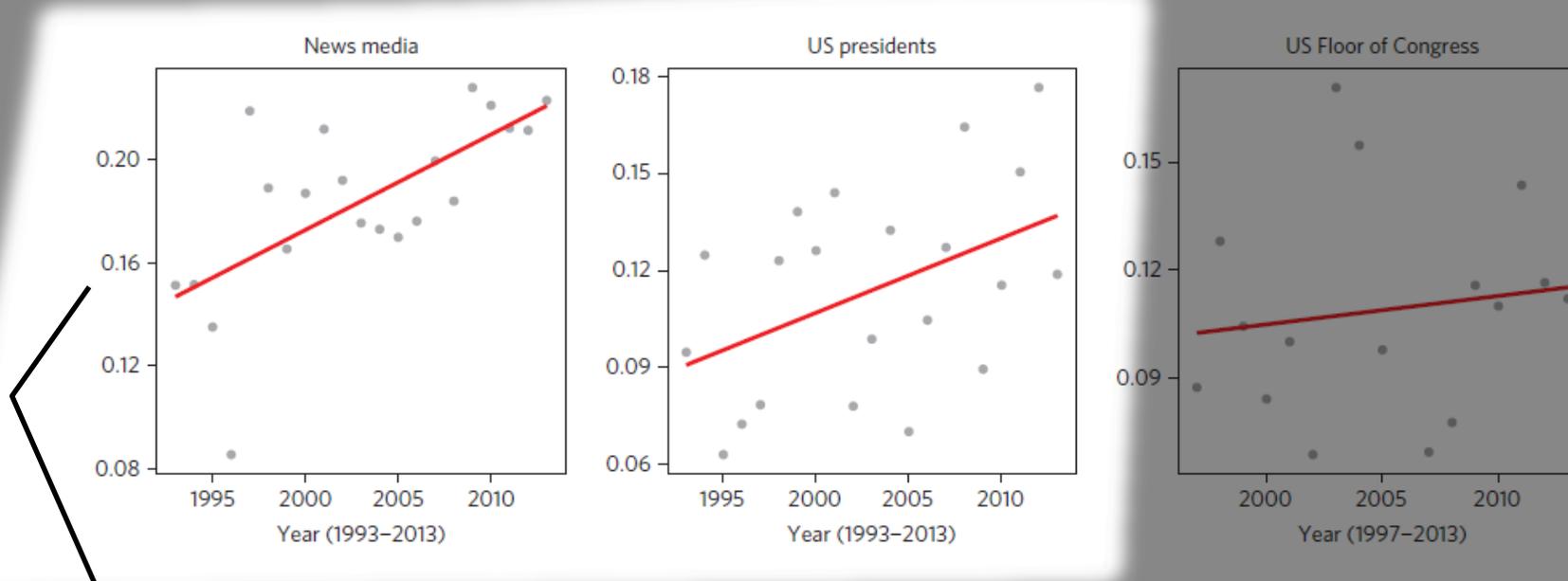
4,556 individuals
164 organizations
40,785 documents

-  Exxon or Koch funded
-  No Exxon or Koch funding



The Dissemination Networks (Farrell, 2016)

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164 organizations
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Similarity between contrarian texts and public output
(cosine from LSA)

Media False Balance

- “Balance” is a journalistic norm
 - balance of opinions
 - balance of evidence
- U.S. coverage gave equal voice to scientists and contrarians for a long time (e.g., Boykoff, 2008)
- Improved now but contrarian scientists still disproportionately visible (Petersen et al., 2019)
- Press releases from contrarians and business coalitions find more media coverage than from scientific organizations (Wetts, 2020)

AMERICA MISLED

How the fossil fuel industry
deliberately misled Americans
about climate change

John Cook, Geoffrey Supran,
Stephan Lewandowsky, Naomi Oreskes, Ed Maibach



<http://sks.to/americanmisled>

Denial vs. Skepticism: The Triage

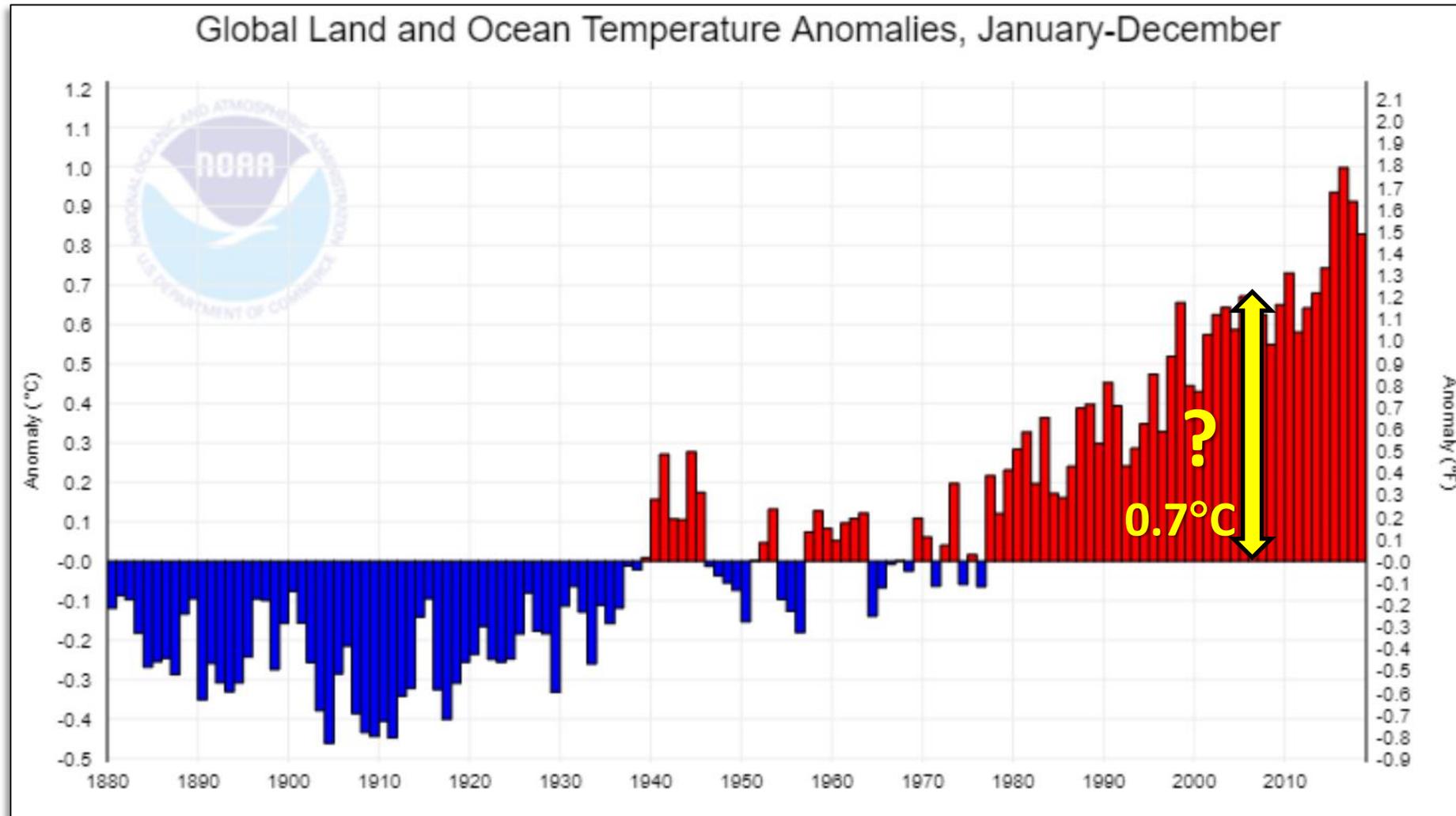
5 CHARACTERISTICS OF SCIENCE DENIAL



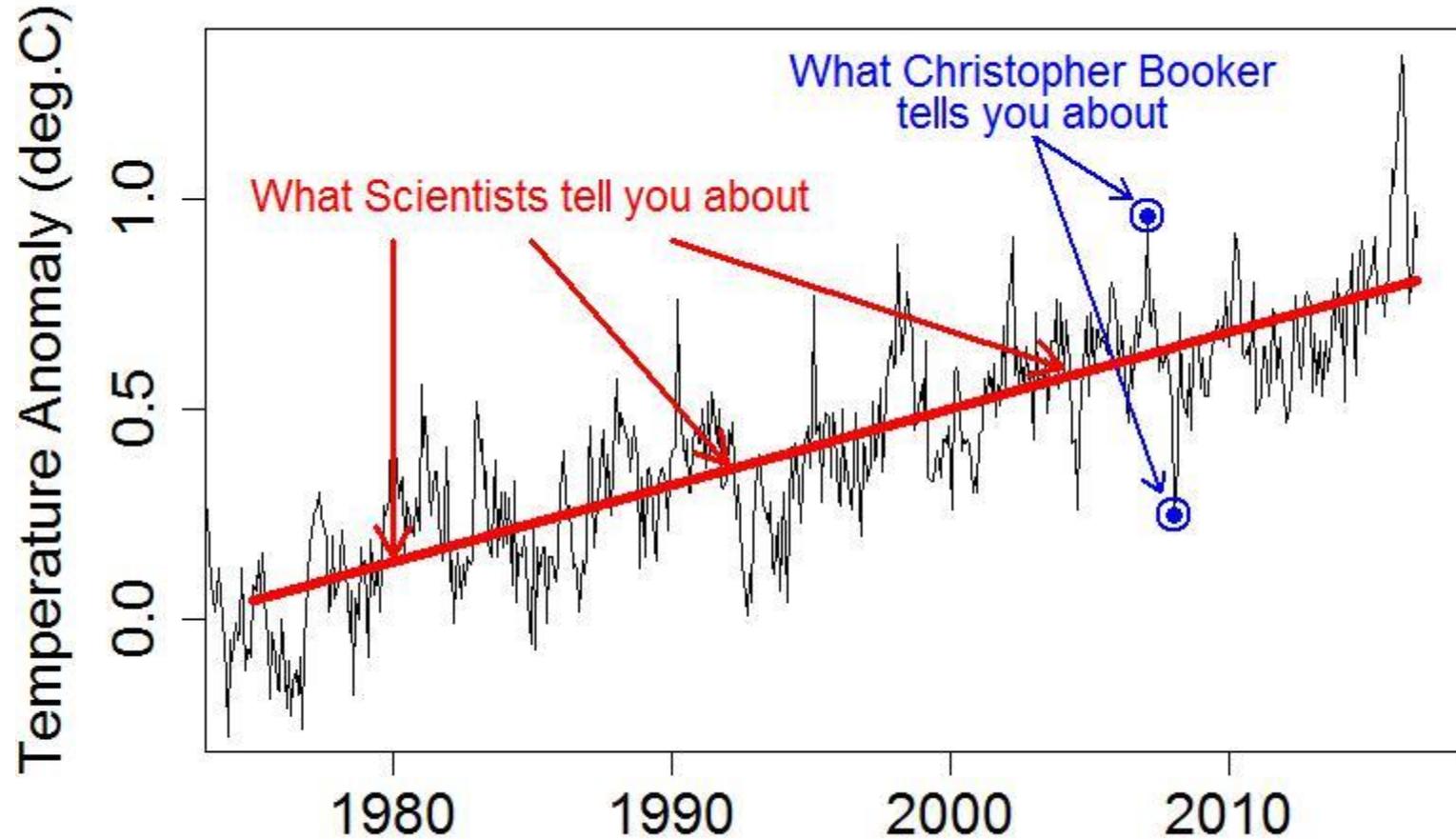
The Sunday Telegraph

- “... official climate models got their predictions so hopelessly wrong Only gradually since 2007, when none of them predicted a temporary **fall in global temperatures of 0.7 degrees, equal to their entire net rise in the 20th century**, have they been prepared to concede that CO2 was not the real story.”

“fall of 0.7 degrees”



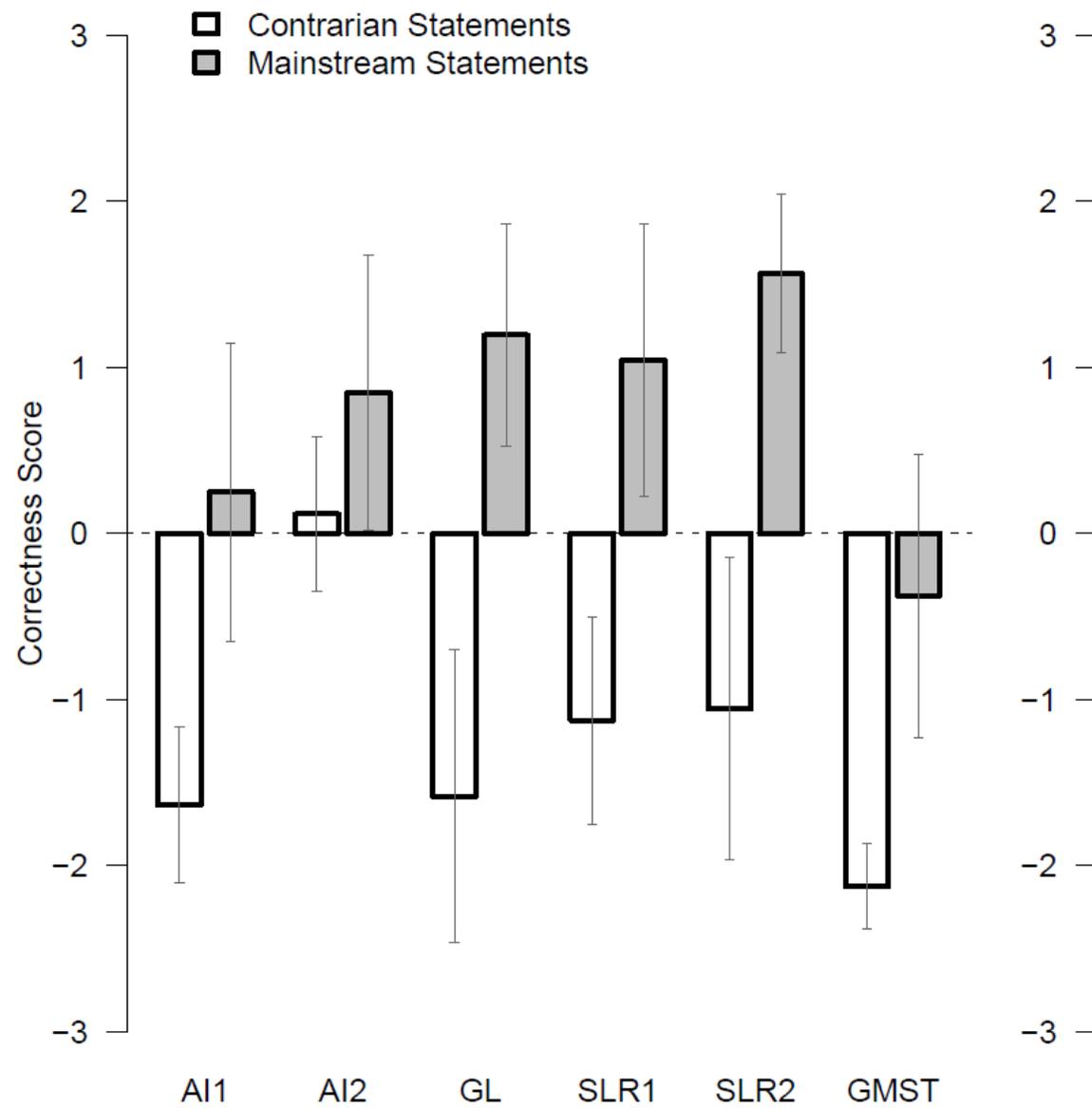
January 2007 – January 2008



Adjudication in Blind Expert Test (Lewandowsky et al., 2016)

- Representative contrarian statements sampled from media and online sources
- Compared to representative mainstream scientific interpretations
- Statisticians and economists were asked to judge interpretations *in light of the data*

Statisticians



Consequences of Disinformation

Consequences of Disinformation

- Exposure to misleading contrarian interpretations reduces people's acceptance of climate science (Ranney & Clark, 2016; McCright et al., 2016)
- Recent review (Rode et al., 2021)
 - 27 effect sizes from 14 studies
 - Hedges' $g = -.29$ (“small-ish”)
 - considerably bigger effect than positive interventions

sks.to/db2020

The
**Debunking
Handbook**
2020 ...

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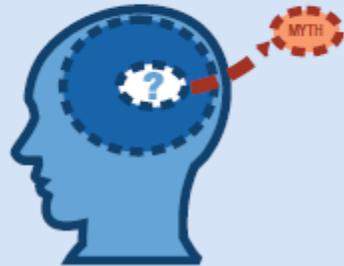
Reviewers: Lisa Fazio, Anastasia Kozyreva, Philipp
Lorenz-Spreen, Jay Van Bavel
Graphic Design: Wendy Cook

Misinformation Sticks

- “Pope endorses Donald Trump” (Fake news site, 2016)
- No he did not (Snopes, 2016)

Continued Influence Effect

Despite a retraction, people continue to rely on misinformation



- People may *say* that a corrected myth is false ..
- .. but they *act* as if they still rely on it.

Misinformation Sticks Unless People are *Inoculated* (Cook, Lewandowsky, & Ecker, 2017)

- Inoculation has two elements:
 - an explicit warning of an impending threat
 - a refutation of an anticipated argument that exposes the imminent fallacy
- Requires advance knowledge of *how* people might be misinformed

Inoculating Against COVID-19 Misinformation (Basol et al., in press)

#ThinkBeforeSharing

HOW DO CONSPIRACY THEORIES DAMAGE AND MISLEAD?

- ! They identify an enemy and a plot that can fuel discrimination against a group
- ! They spread mistrust leading to apathy or radicalization
- ! They undermine science and medical advice



CONSPIRACY THEORIES CAN HAVE SERIOUS CONSEQUENCES. TAKE THEM SERIOUSLY. CHECK BEFORE SHARING. STOP THE SPREAD.



#ThinkBeforeSharing

THE SIX THINGS CONSPIRACY THEORIES HAVE IN COMMON

- ✓ A 'secret' plot
- ✓ A group of conspirators
- ✓ Supporting 'evidence'
- ✓ They suggest nothing happens by accident
- ✓ They assume the world is good or bad
- ✓ 'Someone' is to blame!



THE FIRST STEP TO PREVENT CONSPIRACY THEORIES IS TO KNOW THAT THEY EXIST. BE AWARE. STOP THE SPREAD.



#ThinkBeforeSharing

THE COVID-19 PANDEMIC HAS SEEN A RISE IN CONSPIRACY THEORIES. WHAT ARE THE RED FLAGS?

- ! Claims that the virus was artificially created
- ! Claims that the virus was spread intentionally
- ! Claims that vaccines and cures are being withheld deliberately
- ! Claims that sanitary measures are being used to harm

BEST ON VERIFIED INFORMATION. WHEN IN DOUBT, DON'T SHARE. STOP THE SPREAD.



(or played Tetris in control condition)

Rating of Manipulativeness and Sharing Intention

- Manipulative “tweets”
 - did you know that the mRNA vaccine will be an mRNA vaccine, will be DNA. It will wrap itself in
- Inoculation enhanced recognition of manipulativeness compared to control
- Control “tweets”
 - UK reports 4,044 COVID-19 cases on Monday compared to 5,693 on Sunday

Inoculation Against Conspiracy Theories

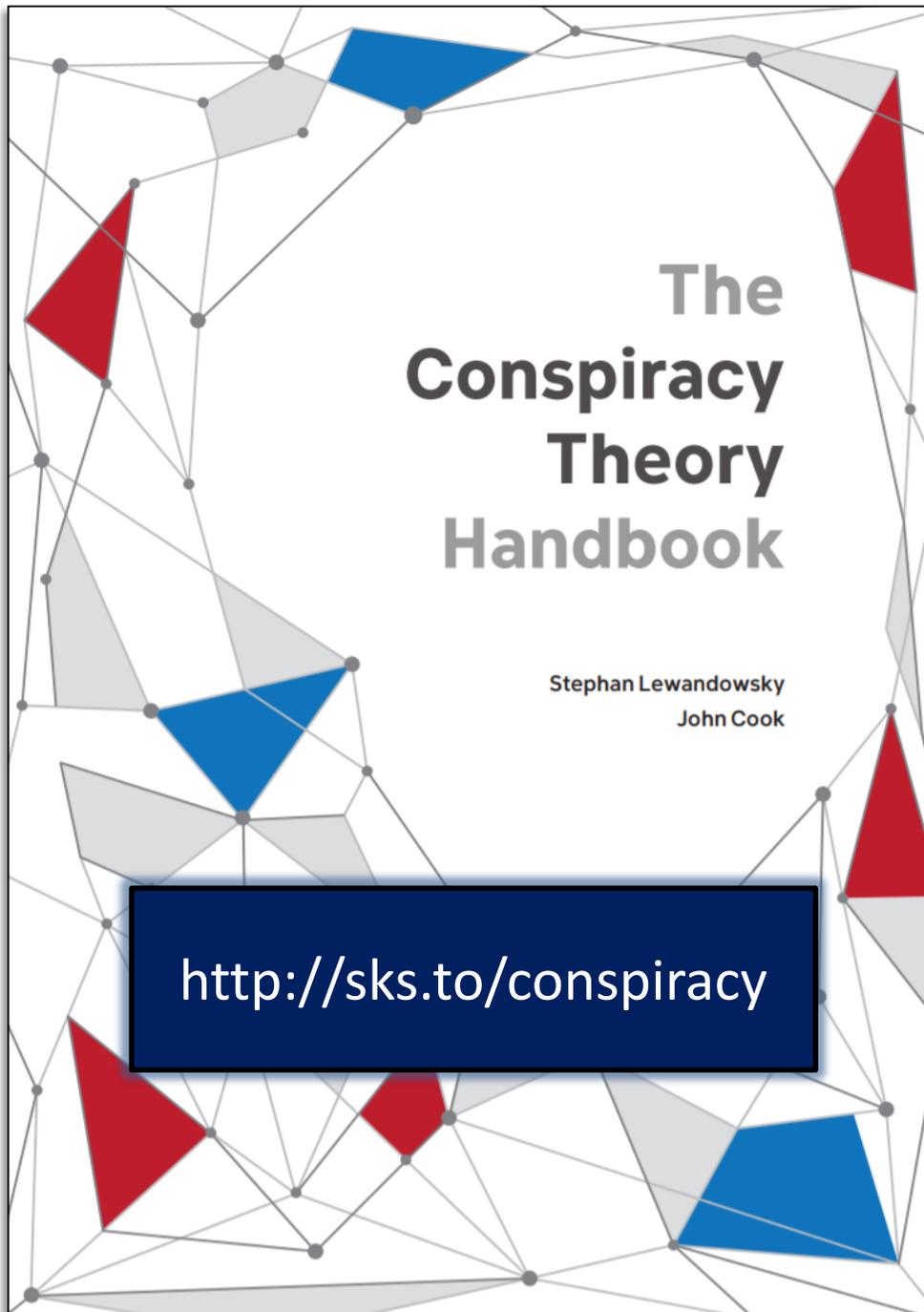
| Condition | Intention to vaccinate (1-7) |
|------------------------------|-------------------------------------|
| Control | 5.50 |
| Conspiracy | 4.42 |
| Conspiracy → Anti-conspiracy | 4.80 |

(Jolley & Douglas, 2017)

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| Conspiracy → Anti-conspiracy | 4.80 |
| Anti-conspiracy → conspiracy | 5.04 |

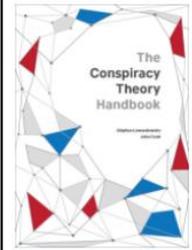
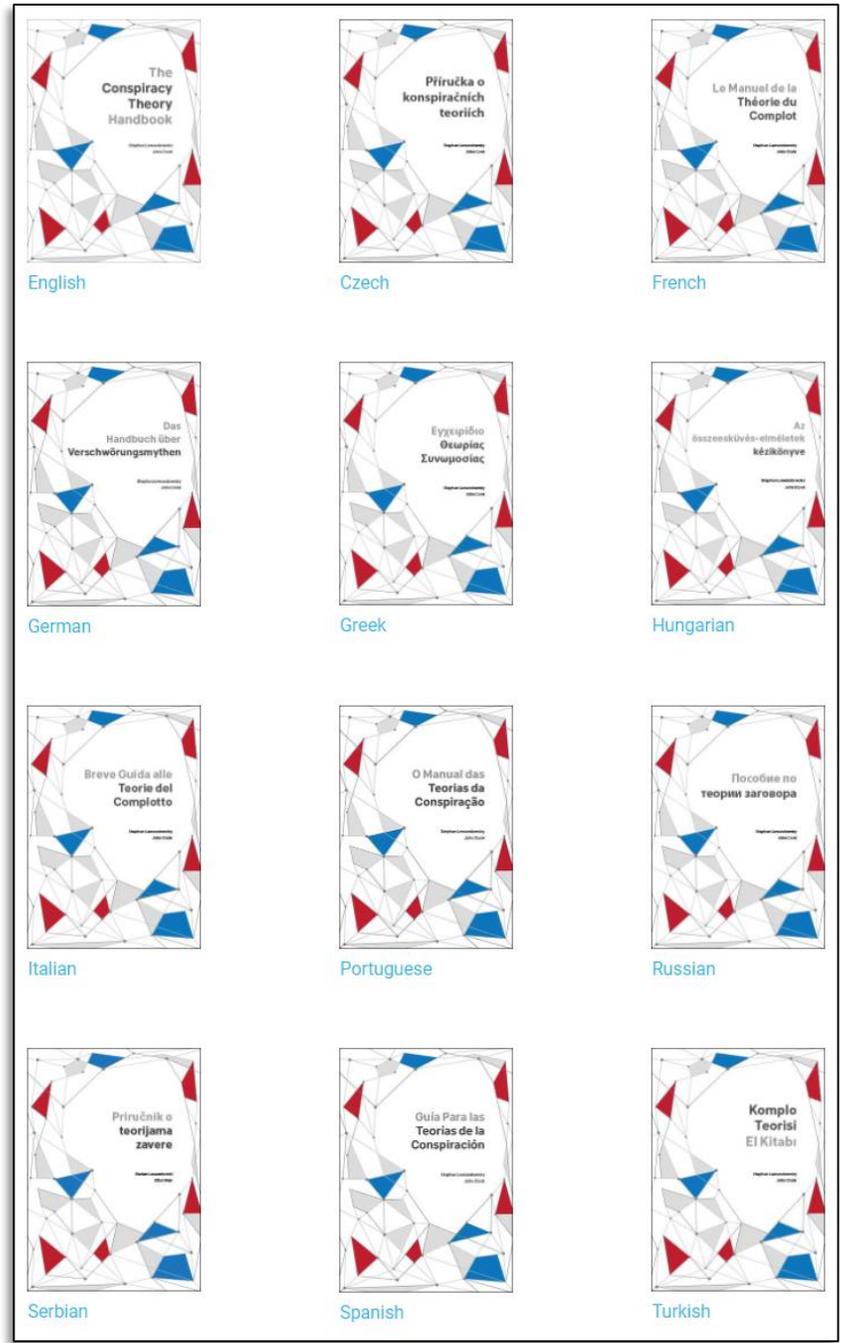
(Jolley & Douglas, 2017)



The Conspiracy Theory Handbook

Stephan Lewandowsky
John Cook

<http://sks.to/conspiracy>



English



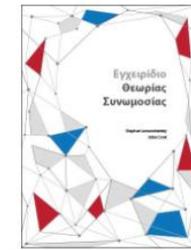
Czech



French



German



Greek



Hungarian



Italian



Portuguese



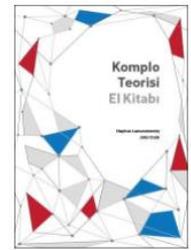
Russian



Serbian



Spanish



Turkish

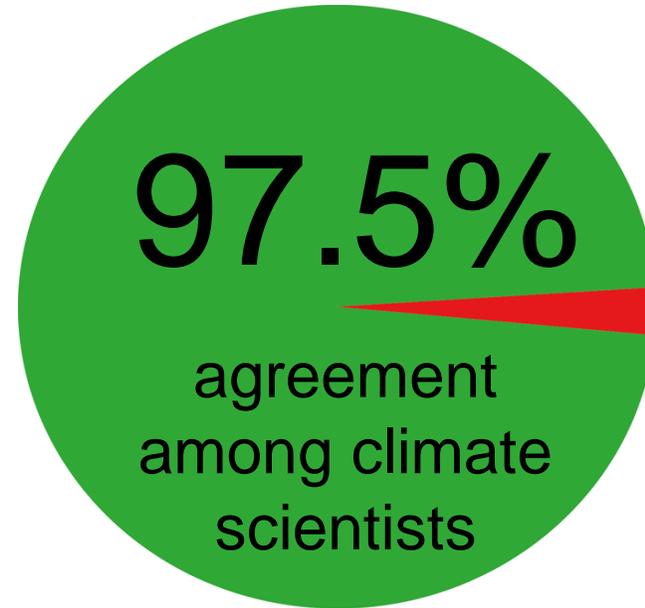
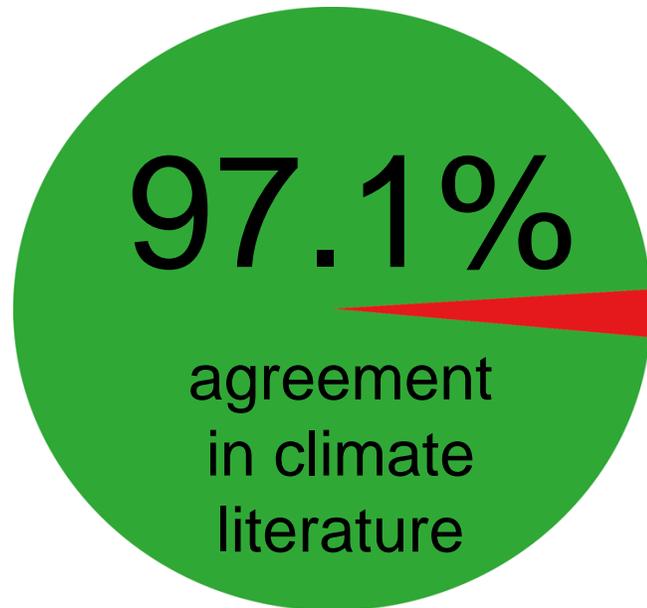
Inoculation: Current State

- There have been numerous demonstrations of inoculation against misinformation
 - against potentially radicalizing material
 - against emotional manipulation
 - against common techniques of climate denial
 - and various other rhetorical disinformation techniques

Underscoring Scientific Consensus

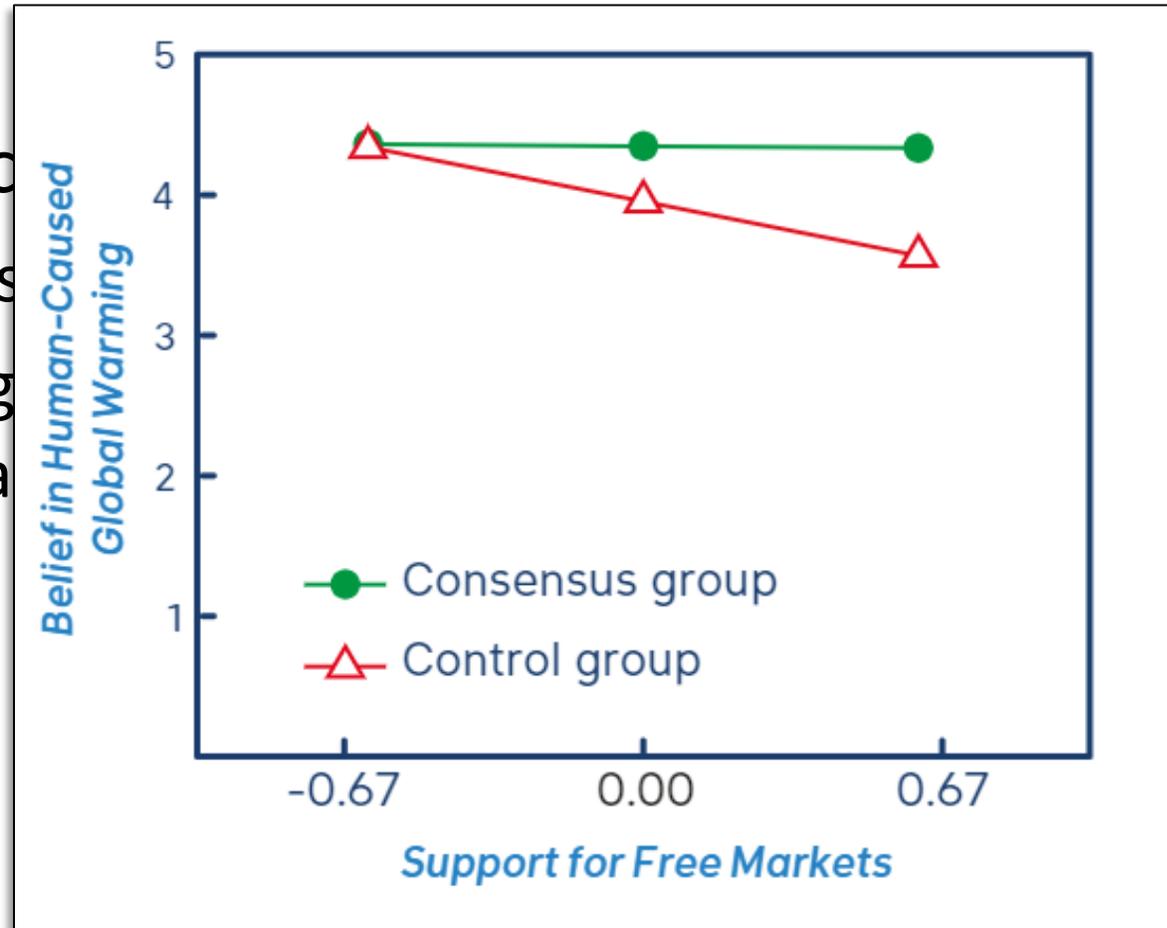
Scientific Consensus

- The climate is changing.
- Humans are causing it.
- It's a problem.



Communicating Consensus (e.g., Lewandowsky et al., 2013)

- Informing scientific communication
 - increases
 - including
 - conservation



<https://sks.to/chb>

The Consensus Handbook

Why the scientific consensus on climate change is important

- John Cook
- Sander van der Linden
- Edward Malbach
- Stephan Lewandowsky

Thank You