

Testing Public (Un)Certainty of Science: Media Representations of Global Warming

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“One of our editors implored me ‘not to treat global warming as if it is definitely going to happen’... Is it or is it not true that the overwhelming scientific consensus around the world is that global warming will be a reality... Or is there not yet a consensus?”

U.S. environmental journalist

Research on public understanding of global warming

- much of public aware generally
 - concern for future, belief in negative specifics
- limited understanding
 - causes, consequences, solutions
- unsure whether phenomenon real
 - Gallup poll 2001

Research on mass media and global warming

- media role important
 - people lack experience, education
 - unobtrusive, invisible issue
- media performance mixed
 - attention ebbs & flows
 - journalists lack knowledge
 - stories overplay, underplay scientific consensus
- research lacking:
Effect of news story construction on reader assessment on uncertainty.

How journalists convey uncertainty

- omit scientific caveats
- produce single-source stories
- give equal weight to fringe, non-scientists
- focus on novel research, drama
- provide insufficient information
- story structure, framing
- use of visuals

research emphasized: controversy and context

- controversy:
 - interject, emphasize disagreement
 - news value, drama
 - multiple sides: pretext of objectivity, balance
- context:
 - important to place study within body of scientific knowledge
 - primary problem: ignore continuity with prior research

Hypotheses

- H1: context increases certainty more than controversy
- H2: combined context-controversy increases certainty more than controversy, less than context
- H3: the stronger environmental ideology, the stronger prior certainty about global warming

Methodology: experimental design

- actual news story re. Antarctic ice thinning
- four treatments
 - controversy
 - context
 - controversy & context
 - control (neither controversy nor context)
- treatments equalized in length, “look”

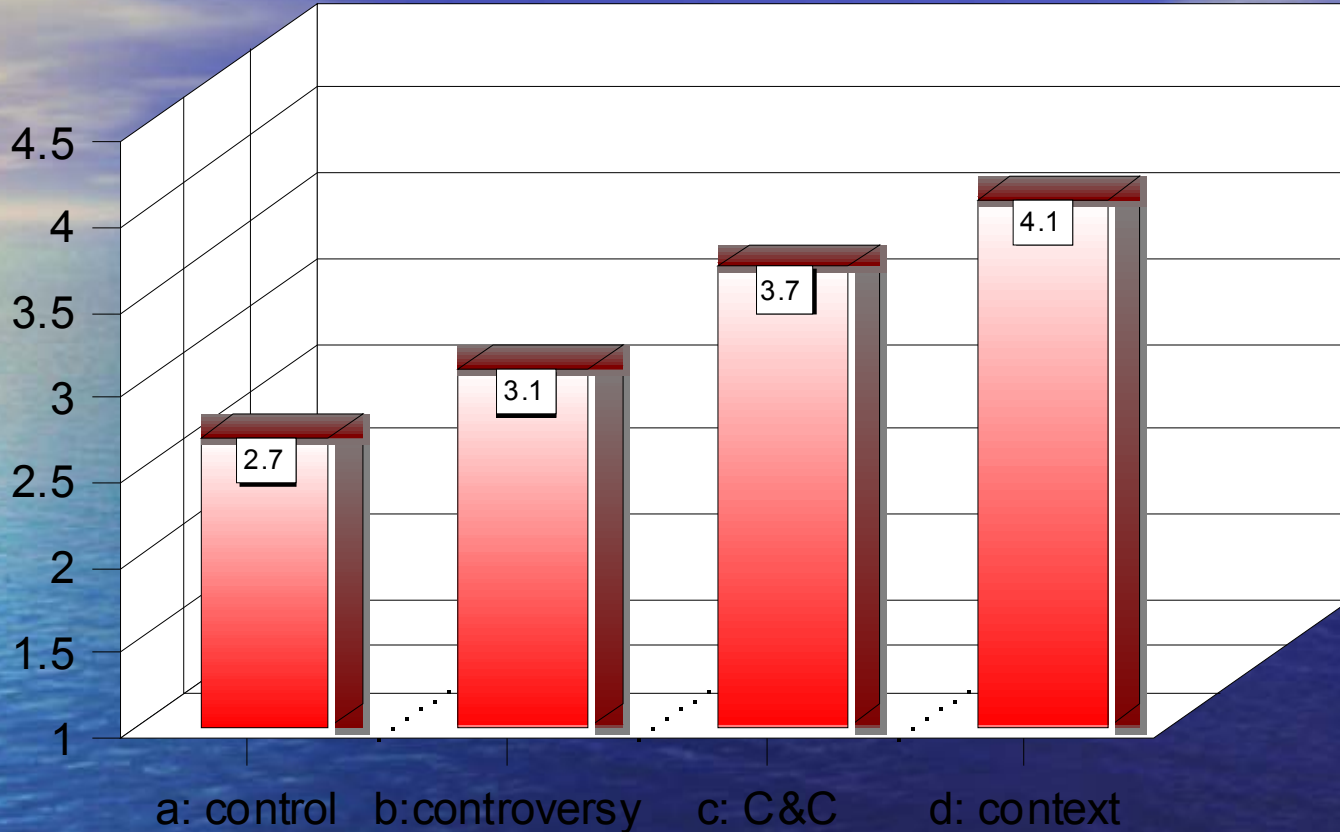
Survey questions

- dependent variable: certainty
 - “According to this news story, global warming is a scientific certainty.”
 - “In this article, scientists are unsure whether global climate change is occurring.”
- environmental ideology
- prior certainty about global warming
 - “Before you read this article today, how sure were you that global climate change was taking place?”

Methodology: administration

- student sample (N=209)
- random distribution of 4 treatments
- administration ensured anonymity, confidentiality, informed consent
- no significant differences between 2 courses for hypothesized variables

Certainty about Global Warming by Treatments



One-way ANOVA $F=12.59$, $p=.03$

Certainty: 1=very uncertain, 6=very certain

Bonferroni post-hoc comparison:

means a-c, a-d, b-c significantly different $p<.001$

Implications

- overcoming journalistic routines
 - “balance” problem
 - sneaking in context
- audience research needed
 - test other variables of story construction
 - reader motivations for tuning in
- global warming needs a salient metaphor!

