Climate Change Coping and the Effects of Social Norms and Message Framing on Those with Extreme Worldviews Mark Hurlstone and Stephan Lewandowsky



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3. Methods (Continued)

1. Introduction

Worldview and Climate Change

- A reduction in world CO₂ emissions is urgently required in order to avert the adverse consequences of climate change.
- People with extreme worldviews pose a significant barrier to attempts to reduce human CO₂ pollution.
- In particular, support for a laissez-faire 'free-market' ideology predicts rejection of climate science and reduced willingness to take action to reduce climate change (Heath & Gifford, 2006).

We examine whether social norming information and message framing can mitigate the effect of extreme worldviews on adaptive coping.

Cost To NI 2020 Cost To NI 2020 **Cost To NI 2020** \$0 Per \$1,200 Per Person Person -\$1,000 \$1,820 Per 0% Cut Person -25% Cut -\$2,000 -50% Cut Opportunity -\$3,000 Cost -\$4,000 -\$5,000 No Cut **0% Cut** No Cut No Cut \$56,000

Social Norming

- Social norming messages are effective in 'nudging' attitudes and behaviour.
- For example, people reduce their gas and electricity usage in response to feedback about average neighbourhood energy consumption rates (Allcott, 2009; Ayers et al., 2009; Schultz et al. 2007).
- Social comparisons based on ordinal rank information may be more effective than average only information (e.g., Boyce et al., 2010; Brown et al., 2008).

Message Framing

- Framing of information has important consequences for decision making.
- Losses are viewed more favourably when framed as a 'decrease in gain' (Kahneman et al., 1991; Kahneman & Tversky, 1979; Tversky & Kahneman, 1986).
- People are more likely to commit to a climate change mitigation policy when the associated cost to personal income is framed as a foregone gain rather than an opportunity cost (Hatfield-Dodds & Morrison, 2011).

2. Aims

Low and high free-market supporters asked in a hypothetical referendum scenario which of several CO₂ emission reduction policies they would choose:



- Framing conditions implemented using different graphical interfaces (see above panels):
- Opportunity Cost—participants' adjust an orange bar representing the cost to Australian average NI, per person, in 2020 under the different emission cut options.
- Foregone Gain—participants' adjust an orange bar representing Australian average NI, per person, in 2020 under the different emission cut options, relative to a yellow bar showing NI in 2020 in the absence of emission cuts.
- Participants select the emission cut option they would be willing to commit to.

4. Predictions

Low Free–Market Group

- Q1: Does social norming information placing Australia amongst the worst polluting nations in the world render high free-market supporters more willing to commit to CO₂ emission reduction?
- Q2: Is this willingness greater when the cost to personal income of committing to CO₂ emission reduction is framed as a foregone gain rather than an opportunity cost?

3. Methods

Participants

- Approximately 120 participants to-be-recruited from a pre-screened sample based on responses to the Support for the Free-Market System Scale (Heath & Gifford, 2006).
- Low and high free-market supporters will be selected from the lower and upper quartiles of the distribution of scores on this scale.

Design

 2 (*Free-Market*: Low vs. High) x 3 (*Social Norming*: Control vs. Average vs. Rank) x 2 (*Framing*: Opportunity Cost vs. Foregone Gain) between-participants design.

Procedure

- Main effect of Free-Market:
- Iow free-market group expected to commit to greater emission cuts than high-free market group.
- Main effect of Social Norming:
 greatest emission cuts expected in rank-based norming condition, followed by average-based norming condition, with lowest cuts anticipated in control condition.
- Main effect of Framing:
- greater emission cuts expected in foregone gain condition than in opportunity cost condition.
- Free-Market x Social Norming x Framing interaction:
 - effects of Social Norming and Framing manipulations expected to be weaker for high free-market group than for low free-market group.



- Participants initially given information about CO₂ emissions (International Energy Agency estimates of CO₂/kWh) in one of three different scenarios:
- *Control*: Australia's emissions only, with no comparative data.
 Average: Social norming data placing Australia's emissions above the world average.
- Rank: Social norming data placing Australia as the 5th most polluting nation in the world out of 140.
- Subsequently asked to commit to different extents of CO₂ emission cuts—ranging from 0-50% in 5% increments—in one of two framing conditions:
- Opportunity Cost: National income (NI) decreases in 2020.
 Foregone Gain: NI increases in 2020, but not by as much as without emission cuts.

5. Implications

- Free-market ideologists pose a significant barrier to attempts to reduce Australia's carbon pollution.
- Provision of rank-based social norming information, placing Australia amongst the worst polluting nations in the world, may render free-market supporters more willing to commit to a CO₂ emission reduction policy.
- Such normative information may be most effective when the cost to personal income of committing to a climate change mitigation policy is framed as a reduction in future gain rather than an opportunity cost.

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