Applying a Health-Risk Model to Climate Change Communication
The Benefits and Barriers of the EPPM for Inciting Carbon Footprint Reductions

Impetus for Study

Where >99% of scientists believe in human-induced climate change, only 62% of American citizens believe in its legitimacy. Why?

1. **Complexity**
2. **Manufactured Scientific Controversy**
3. **Doom-and-Gloom**

The Extended Parallel Process Model (EPPM) counters eco-anxiety from fear appeals by combining threat and efficacy (i.e., presenting the problem as solvable by behavior changes).

Efficacy increases effectiveness of fear appeals in changing attitudes and behavioral intentions; most of the studies pertained to chronic illnesses and disease.

Does the EPPM translate to climate change communication?

Extended Parallel Process Model Flow

Message Components
Severity, Susceptibility + Self, Response Efficacy

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Message Appraisal
High Perceived Threat -> Fear

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Responses
Danger Control   Fear Control

Designing the Survey

- **650 participants** via Qualtrics survey
- **Independent Variable** -> EPPM Message
  1. High Threat/Positive Efficacy
  2. High Threat/Negative Efficacy
  3. Low Threat/Positive Efficacy
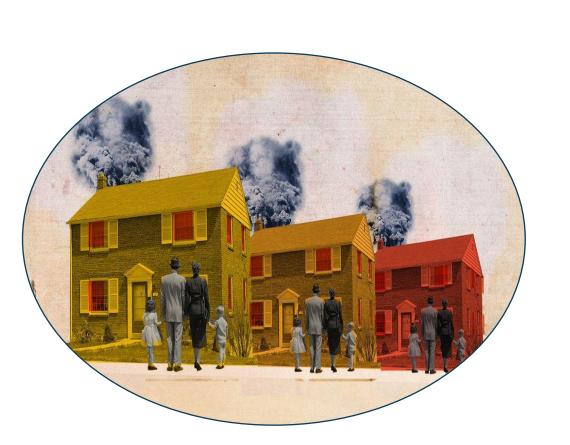 4. Low Threat/Negative Efficacy
  5. *No Message*
- **Dependent Variables**
  1. Self-Efficacy
  2. Response Efficacy
  3. Behavioral Intention
     - Measured using 5-point Likert Scales
- **Data Analysis** -> One-way ANOVAs and Fisher's LSD post-hoc test

EPPM Message Solutions

Did the EPPM encourage carbon footprint reductions?

Dependent Variable	p-value	Result	Averages	Supported by EPPM?
Self-efficacy	0.015	*No M* > LT NE	4.05 ± 0.045 > 3.84 ± 0.069	Yes!
Self-efficacy	0.025	*No M* > HT PE	4.05 ± 0.045 > 3.86 ± 0.063	No!
Behavioral intention	0.019	LT PE > LT NE	3.89 ± 0.067 > 3.66 ± 0.077	No!
Behavioral intention	0.033	*No M* > LT NE	3.87 ± 0.059 > 3.66 ± 0.077	Yes!

"Participants [arrived] at self-efficacy through their own volition rather than through a lengthy message, even when the message presented salient threats and solutions"
Excerpt from Honors Capstone Publication.

Takeaways & What's Next

The results both challenge and extend the EPPM as an outlet for climate change communication.

Higher self-efficacy when exposed to no message indicates a preference for arriving at one's own conclusions, particularly in an individualistic culture like the U.S. People also feel defeated by defeatist messages, which was not consistently studied in EPPM research.

The behavioral intention results challenge the traditional order for EPPM message components (i.e., threat before efficacy)

Future Research:
1. Incorporating collective action
2. Evaluating efficacy before threat

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