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What Happens When the Well Runs Dry?: Gauging Water Scarcity Concerns and Improving Sustainable Communication Effectiveness

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Water Scarcity

What individual and message characteristics influence **concern**, **perceived threat**, **attitudes**, and **behavioral intentions**?

Individual Factors

- **Water Scarcity Experience**
 - No/Low Scarcity Experience
 - High Scarcity Experience

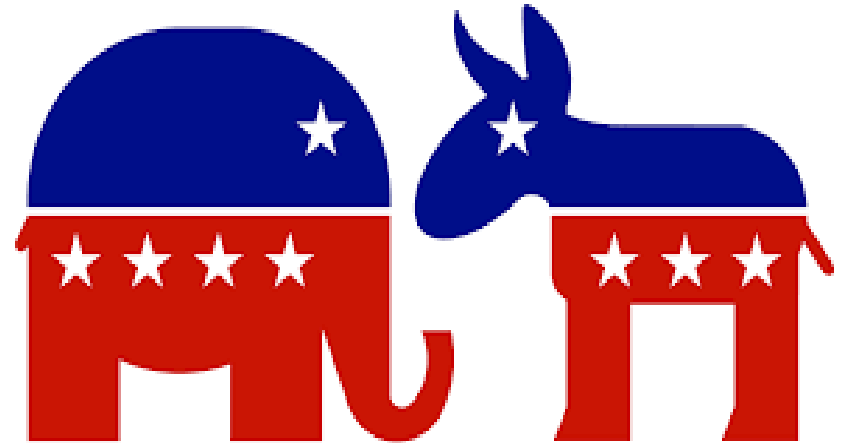


Individual Factors

- Water Scarcity Experience

- Political Ideology

- Conservative
- Moderate
- Liberal



Individual Factors

- ❑ Water Scarcity Experience
- ❑ Political Ideology
- ❑ **Self-Efficacy**
 - ❑ I have the ability/opportunity to make a positive impact
 - ❑ Or I don't



Message Factors



Gain vs. Loss Frames

- If we conserve water, there are so many benefits
- If we don't conserve water, there are so many threats

Message Factors



Temporal Frames—Now or Later

- If we conserve water, we can live better lives now
- If we conserve water, the future will be so much better

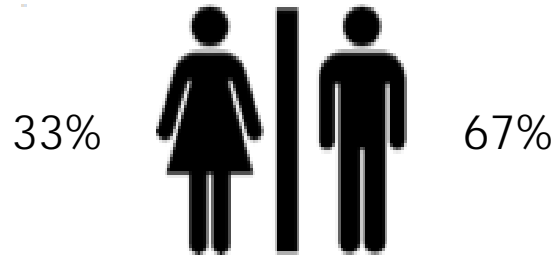
*Current or delayed gratifications/threats

Method

- Online experiment
- Data collected early August 2018
- 374 participants
- Read one short article—could be in a brochure or newspaper/magazine
 - Gain or loss
 - Now or future



Participants



Ideology

41% Liberal
34% Conservative
25% Moderate

Race

58% White/Caucasian
22% Black/African American
16% Asian

So in terms of message design, think about your constituent publics?

- How do they vote?
- Do they have scarcity experience?
- Do they see themselves as having efficacy?*

Individual Characteristics → Threat

| Predictor | <i>b</i> (SE) | β |
|---------------------------|---------------|---------|
| Political Ideology | .18 (.07) | .10* |
| Water Scarcity Experience | .30 (.03) | .46** |
| Self-Efficacy | .43 (.04) | .41** |

Note: * $p \leq .01$ ** $p \leq .001$ Model $R^2 = .52$

How threatening is the issue of water scarcity?

Who is most threatened?

- **Liberals (slight lean)**
- **Those with scarcity experience****
- **Those who have self-efficacy**

Individual Characteristics → Concern

| Predictor | <i>b</i> (SE) | <i>β</i> |
|---------------------------|---------------|----------|
| Political Ideology | .01 (.11) | .00 |
| Water Scarcity Experience | .32 (.04) | .40** |
| Self-Efficacy | .22 (.06) | .17** |

Note: * $p \leq .01$ ** $p \leq .001$ Model $R^2 = .25$

How concerned are you with the issue of water scarcity?

Who is most concerned?

- **No influence of ideology**
- **Those with scarcity experience****
- **Those who have self-efficacy**

Individual Characteristics → Positive Conservation Attitudes

| Predictor | <i>b</i> (SE) | <i>β</i> |
|---------------------------|---------------|----------|
| Political Ideology | .41 (.14) | .14** |
| Water Scarcity Experience | -.47 (.05) | -.46** |
| Self-Efficacy | .52 (.08) | .32** |

Note: * $p \leq .01$ ** $p \leq .001$ Model $R^2 = .22$

To what extent do you believe conserving water is beneficial?

Who is most positive?

- **Liberals**
- **Those with no or less scarcity experience****
- **Those who have self-efficacy**

Individual Characteristics → Behavioral Intentions

| Predictor | <i>b</i> (SE) | β |
|---------------------------|---------------|---------|
| Political Ideology | .14 (.07) | .08* |
| Water Scarcity Experience | .12 (.03) | .20** |
| Self-Efficacy | .60 (.04) | .62** |

Note: * $p \leq .05$ ** $p \leq .001$ Model $R^2 = .52$

Do you intend to actually to conserve water?

Who is most likely to conserve or intend to conserve?

- **Liberals**
- **Those with scarcity experience**
- **Those who have self-efficacy****

Message Characteristics → Threat

- Gain/Loss frames vs. Current/Future frames
 - No main effects
 - Significant interaction effect

| Frame | Time | Mean | Std. Error |
|-------|---------|-------|------------|
| Gain | Future | 7.012 | .219 |
| | Current | 7.473 | .223 |
| Loss | Future | 7.491 | .218 |
| | Current | 7.073 | .219 |

To increase perceptions of threat...

Use messages that emphasize:

- Current and gain
- Future and Loss

Message Characteristics → Concern

- Gain/Loss frames vs. Current/Future frames
 - No main effects
 - Significant interaction effect

| Frame | Time | Mean | Std. Error |
|-------|---------|-------|------------|
| Gain | Future | 5.667 | .264 |
| | Current | 6.073 | .268 |
| Loss | Future | 6.670 | .262 |
| | Current | 5.848 | .264 |

To increase concern...

Use messages that emphasize:

- Current and gain
- Future and Loss

Message Characteristics → Attitudes

- Gain/Loss frames vs. Current/Future frames
 - No significant effects

To increase positive attitudes toward water conservation...

Frames don't matter

- Individual characteristics drive attitudes

Message Characteristics → Behavioral Intentions

- Gain/Loss frames vs. Current/Future frames
 - Significant main effect for current/future frames

| Time | Mean | Std. Error |
|---------|-------|------------|
| Future | 8.051 | .142 |
| Current | 7.592 | .144 |

To influence positive behavioral intention...

Use messages that emphasize:

- Future more so than current
- Gain/loss has no impact

Summary of Findings

| See Threat in Water Scarcity | Has Concern for Water Scarcity | +Attitude Toward Conservation | Will Have Water-Positive Behavior |
|------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| Liberals* | | Liberals* | Liberals* |
| Scarcity Exp | Scarcity Exp | No Exp | Scarcity Exp |
| Self Efficacy | Self Efficacy | Self Efficacy | Self Efficacy |
| Current Gain | Current Gain | | |
| Future Loss | Future Loss | | Future |

- Scarcity experience & self-efficacy are more robust predictors than ideology.
- Discussion of current gains & future losses leads to greater perceived threat & concern.
- Future frames yield greater behavioral intentions.

What can you do?

Know your constituents!!!

Some are primed in favor of your goals...

... and some are primed against.



You can speculate on ideology and scarcity experience...

...but you may have to measure (& manipulate efficacy.)

"Do you feel you have the ability to make a difference?"

Here is how you can.

Message Design---Be POSITIVE about NOW; Be GLOOMY about the FUTURE. And Future overall is better.

Questions?

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