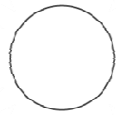


# The Psychology of Environmental Decision Making

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Residential Water Demand Workshop  
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## A Psychological Perspective on Environmental Decisions

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- Understanding why and how people make decisions is critical to changing their behaviors

## Why an Experimental Approach?

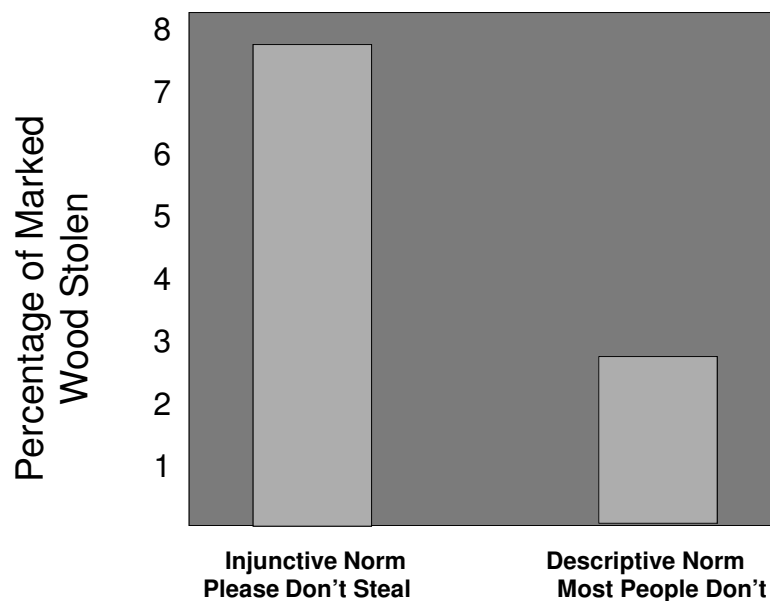
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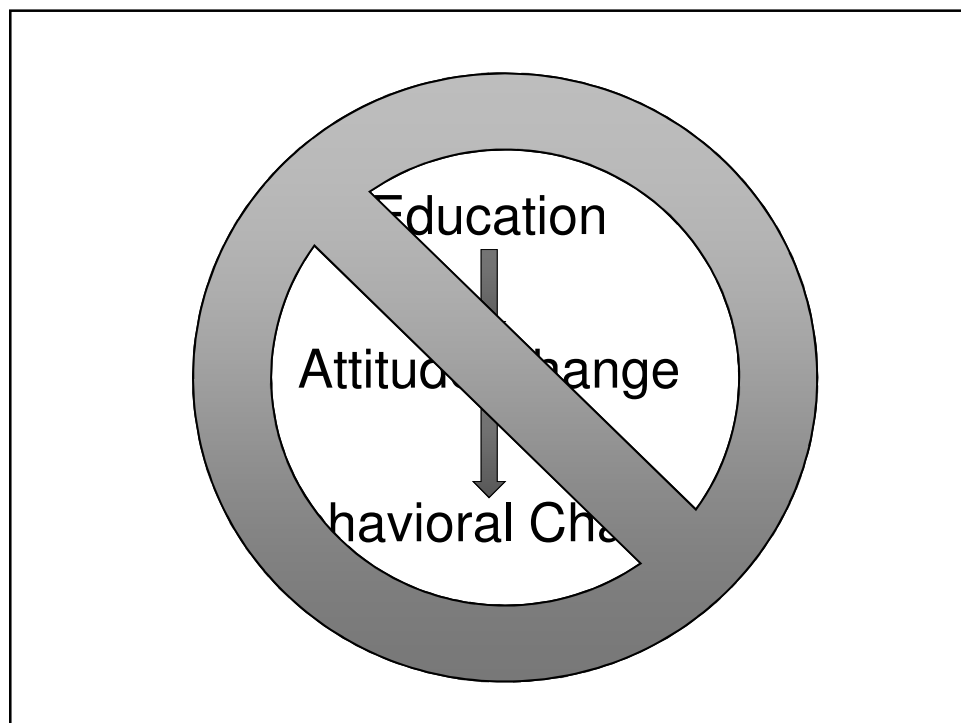
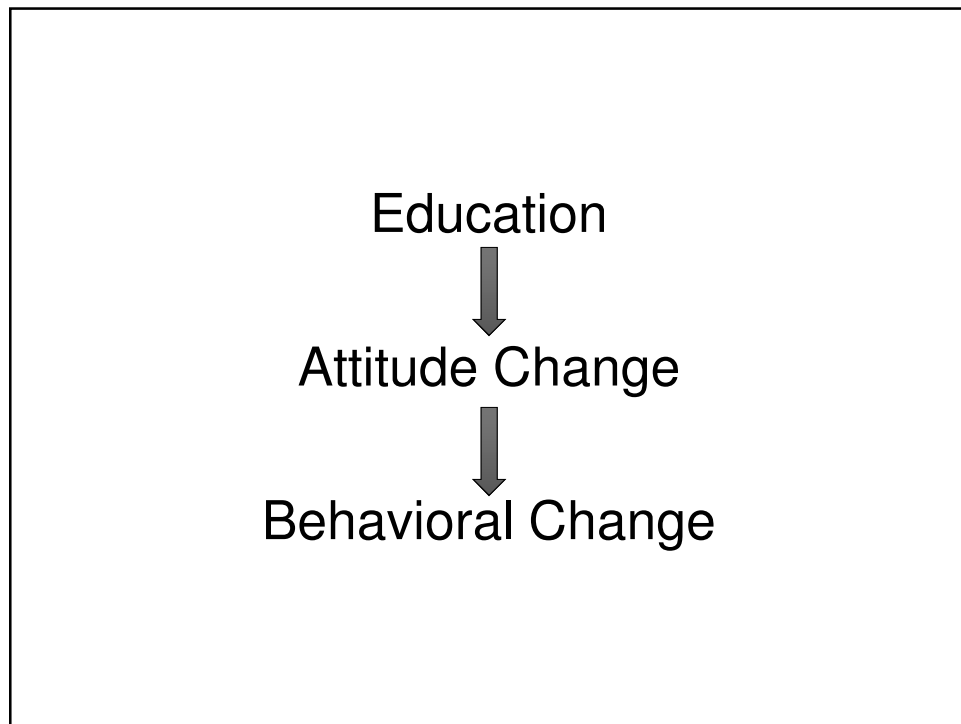
- Experimental methods and tools help us test the effects of relevant variables on climate and water decisions.
  - Intuitive interventions do not always work
  - Intuitive interventions may, in fact, produce results that are the opposite of what is intended

## Petrified Forest Experiment (Cialdini)

- “Many past visitors have removed petrified wood from the Park, changing the natural state of the Petrified Forest.”
  - pictures of three visitors taking wood
- “Please don’t remove the petrified wood from the Park, in order to preserve the natural state of the Petrified Forest.”
  - picture of one visitor stealing a piece of wood, with a red circle-and-bar symbol superimposed over his hand

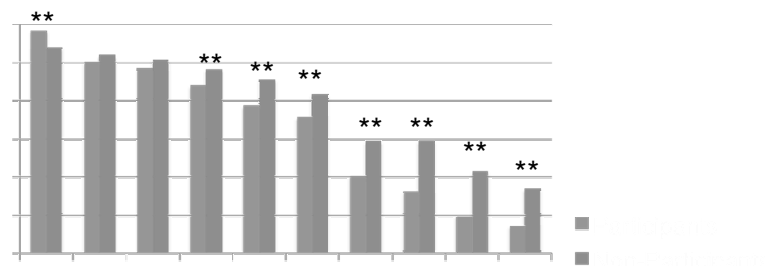
## Results





## Energize Phoenix Commercial Survey: “Why are you interested in conserving energy?”

615 Surveys: 115 Retrofit Participants, 500 Non-Retrofits



## Assumptions About Behavioral Change

- People often don't know why they do what they do
- We can't always tell when we're being influenced
  - Many things that influence us do so below the threshold of consciousness
- Many behaviors that are predictable are not economically “rational”
  - but may be “predictably irrational” (Ariely)

## Social Norms and Conservation

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- Bob Cialdini's Work: We are highly influenced by *descriptive* social norms
  - O-Power's comparisons of your electricity use with neighbors
    - Smiley Faces on Electric Bills
  - Littering in public spaces
  - Hotel towel reuse

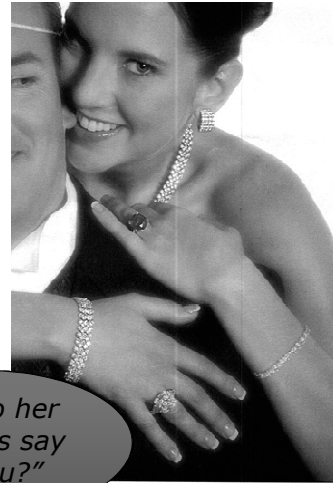
## Fundamental Motives (Kenrick, et al)

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- Status Seeking
- Alliance Formation
- Kin Care
- Mate Acquisition
- Self Protection

## Landscape Choice and Perceptions of Social Identity Study

- In most cultures there is a relationship between consumption and status.
  - If behaviors like desert landscaping, public transport, or recycling connote low status, they will be avoided.



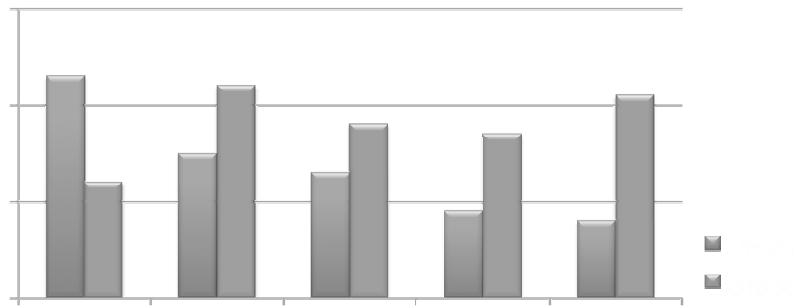
*"What do her diamonds say about you?"*

What do her diamonds say about you?

## Landscaping Experiment 1

- Individuals or couples were described as choosing desert landscaping or mesic landscaping for their newly purchased home
- Participants were asked to rate the individuals or couples on a variety of dimensions

## Results-Landscaping Experiment 1: Personality Inferences



What image were P's picturing?



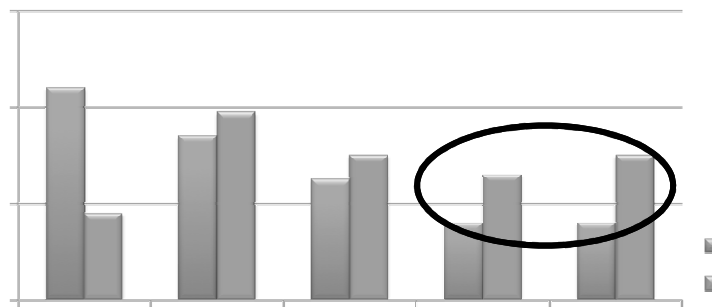
## Landscaping Experiment 2

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- Manipulated SES of the neighborhood (working class, middle class, upper class):
  - A woman decided to purchase a home in an upscale neighborhood with large houses in the greater Phoenix area. In this neighborhood, the houses were all quite similar, but differed in their front yard landscaping. Half of the homes had typical desert landscaping with cacti and other desert plants, and half had typical grass landscaping with trees and shrubs. After thinking over her options, she realized she had a strong preference for desert landscaping, so she bought a house with desert landscaping in front.

## Results-Landscaping Experiment 2: Personality Inferences

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## Landscaping Experiment 3

These are the landscaping elements he chose:

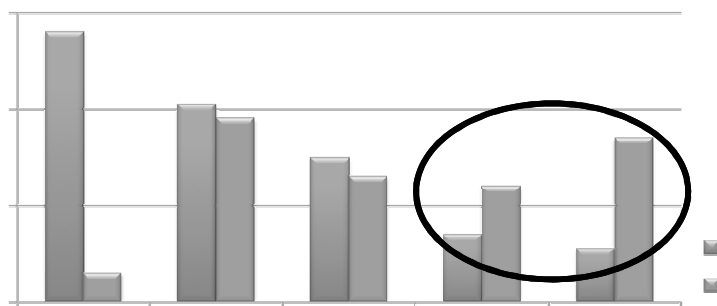


## Landscaping Experiment 3

These are the landscaping elements he chose:



## Results-Landscaping Experiment 3: Personality Inferences



## Advertisement Framing Experiments

Status  
Kin  
\$\$

**BE A LEADER IN YOUR COMMUNITY:  
CHOOSE AN ENERGY CERTIFIED POWERSMART HOME**

Julie Gordon purchased her 2,000 square-foot home in Springdale last year. In her search was energy efficiency, so she selected a certified Powersmart home.

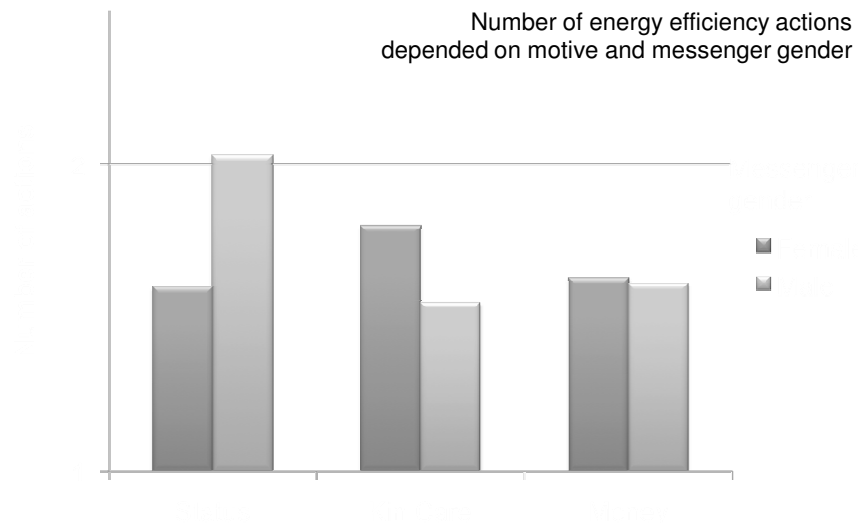
**PRESERVE THE PLANET FOR YOUR CHILDREN'S FUTURE:  
CHOOSE AN ENERGY CERTIFIED POWERSMART HOME**

Julie Gordon purchased her 2,000 square-foot home in Springdale last year. In her search was energy efficiency, so she selected a certified Powersmart home.

**SAVE MONEY ON COOLING AND HEATING:  
CHOOSE AN ENERGY SAVING, CERTIFIED POWERSMART HOME**

Julie Gordon purchased her 2,000 square-foot home in Springdale last year. In her search was energy efficiency, so she selected a certified Powersmart home.

## Results-Advertising Study



## Climate Change Uncertainty Studies

- All participants read: “Many of the world's scientists agree that sea levels will rise over the next 50 years as a result of climate change. If sea levels rise, certain cities in the United States - such as Miami, Boston, Los Angeles, New Orleans, Seattle, and New York - may be in danger of being underwater and some residents of those cities may be displaced (they would move to other areas or cities that are not near the ocean).”
- Then, they see one of three conditions about the magnitude of effects (same average magnitude across conditions)

## “Variable” condition

- 19% of scientists believe the oceans will rise by about 4 inches, increasing flooding in Miami and displacing about 2 million people.
- 20% of scientists believe ---8 inches -- flooding in Miami and New York--displacing 5 million.
- 20% of scientists believe --10 inches -- flooding in Miami, New York, and Los Angeles – displacing 8 million.
- 20% of scientists believe -- 12 inches flooding in Miami, New York, Los Angeles, New Orleans, and Seattle – displacing 10 million.
- 19% of scientists believe -- 16 inches -- flooding in Miami, New York, Los Angeles, New Orleans, Seattle, San Francisco, and Boston – displacing 20 million.

## “Average” condition

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- 98% of scientists believe the oceans will rise by about 10 inches over the next 50 years, increasing flooding in Miami, New York, and Los Angeles, and displacing about 8 million people from those cities.

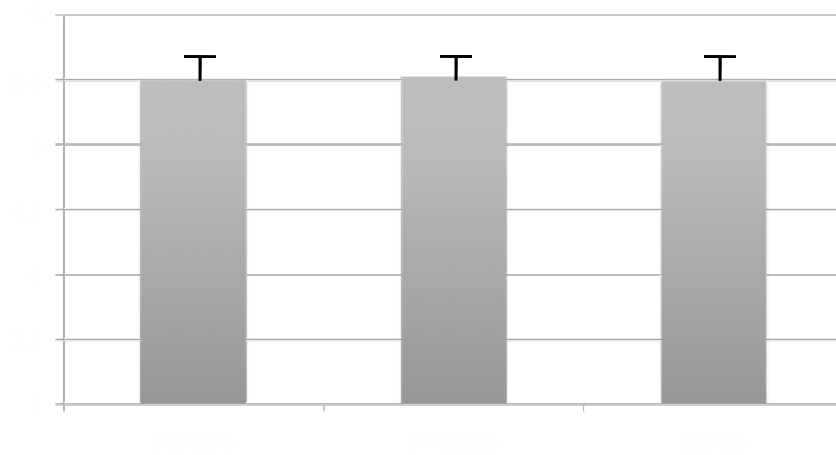
## “Range” condition

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- 98% of scientists believe the oceans will rise by about 4 to 16 inches over the next 50 years, increasing flooding in Miami, and possibly New York, Los Angeles, New Orleans, Seattle, San Francisco, and Boston, and displacing between about 2-20 million people from those cities.

## How likely is it that the earth's sea level will rise?

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## Trust in these scientists

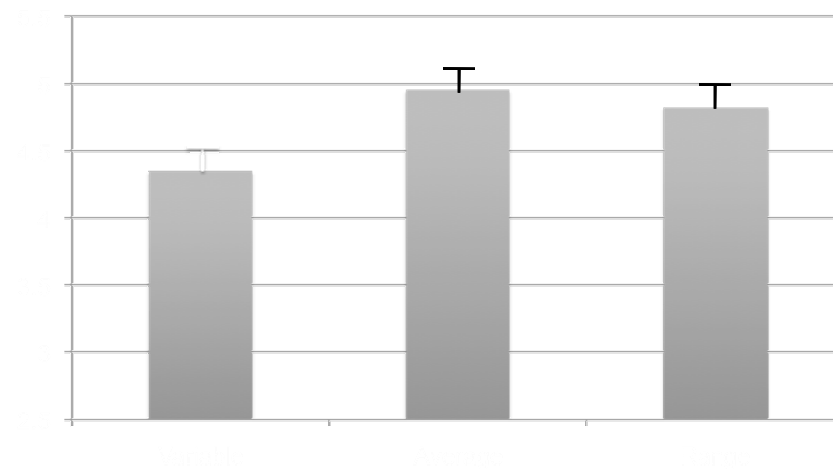
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Composite of:

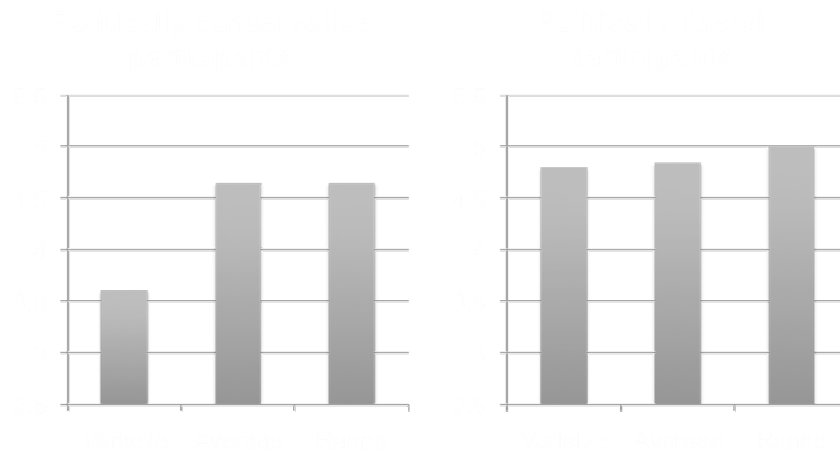
- How trustworthy are these scientists?
- How reliable are these scientists?
- How capable are these scientists of predicting what will happen in the future?
- How capable are these scientists of predicting what sea levels will be in the future?

## Trust in these scientists

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## Trust in these scientists



## Future Work

- Lab Studies
  - Climate Uncertainty Studies
    - with Ray Quay
- Field Studies
  - Energy Dashboard Experiment
    - with City of Phoenix Public Housing and ASU Downtown
  - Recycling Reciprocity Study
    - with City of Phoenix Public Works
- Combination Lab/Field
  - Energy Efficiency Trend Study
    - with Bob Cialdini

## Final Thoughts

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- Going with the groove of fundamental motives matters
- Framing matters
  - What we say may ultimately be less important than how we say it
- Audience and messenger matter