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### Moral Appeals in Water Messaging: Speaking to Virtues not Finances

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### So what are we up to...

Much of the published water scarcity research has focused on <u>mechanical means</u> of water conservation—think new irrigation techniques, miserly appliances, water-wise farming practices, etc.

But even if these solutions are available, water conservation takes place only if a user adopts the new practice or technology.

Our research has focused on what <u>communication practices can aid in this adoption</u> and water-positive behavior.

Ultimately, the goal is to determine what kind of messaging can be produced that would influence people to take action to conserve water.



# Influencing Behavior Intent

The Ultimate Goal is to determine what do we say and how do we say it so that the population takes advantage of the advances or practices that have been developed

So where do we start....

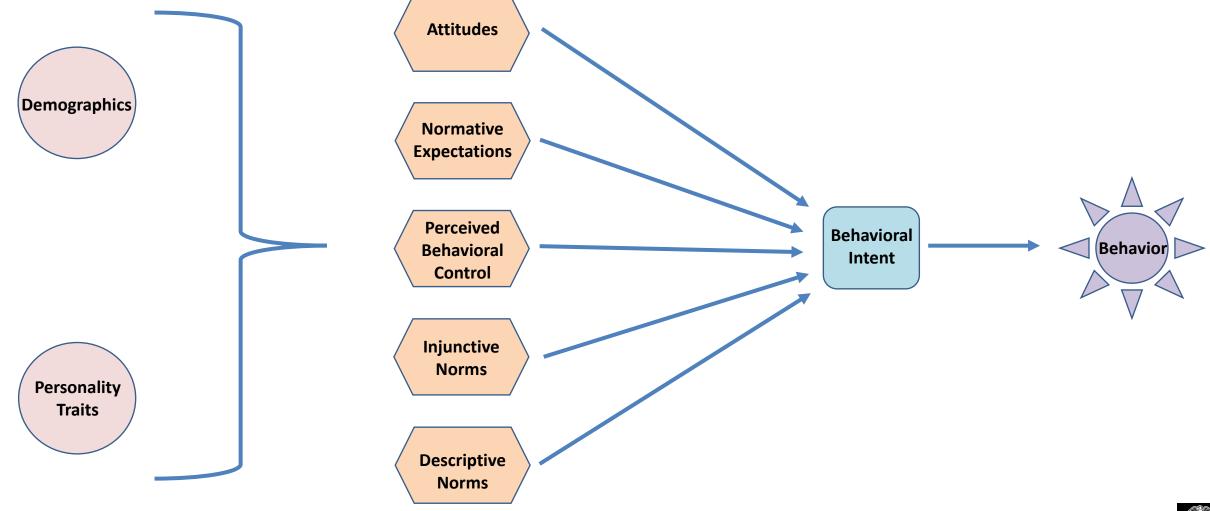
Established theory provides a foundation on which to launch research.

The theories on which we based our pursuit in this case is/are:

- Theory of Reasoned Action
- Theory of Planned Behavior
- The Integrated Behavioral Model



The most important determinant of behavior is... behavioral intent. But what determines behavioral intent?





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But what determines behavioral intent?



oder ome Attitudes

Normative Expectations **Conserving water is:** 

- challenging.
- cost-effective.
- advantageous.
- necessary.
- important.
- essential.

Personality
Traits

Political Ideology
Compassion
Independence

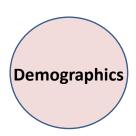
Perceived Behavioral Control

Injunctive Norms

Descriptive Norms



The most important determinant of behavior is... behavioral intent. But what determines behavioral intent?







Normative Expectations

Perceived Behavioral Control

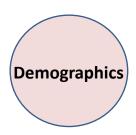
Injunctive Norms

Descriptive Norms The following think I should conserve water:

- Federal govt
- State govt
- Local govt
- Local water board
- Local community members



The most important determinant of behavior is... behavioral intent. But what determines behavioral intent?



Attitudes

Normative Expectations

Perceived Behavioral Control Conserving water next year would be challenging.

If I wanted, I could implement water saving practices.

I have sufficient resources to be able to conserve water.

Conserving water is completely within my control.

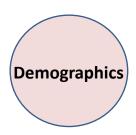


Injunctive Norms

Descriptive Norms



The most important determinant of *behavior* is... *behavioral intent*. But what determines behavioral intent?



**Attitudes** 

**Normative Expectations** 

**Perceived Behavioral** Control

**Personality Traits** 

**Injunctive** Norms

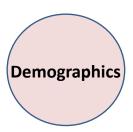
**Descriptive** Norms

Most people important to me think I should conserve water. The following people think I should conserve water:

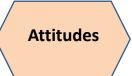
- **Neighbors**
- **Parents**
- **Spouse**
- **City Engineers**
- **Friends**
- **Water Department**
- **Spouse**



The most important determinant of behavior is... behavioral intent. But what determines behavioral intent?



Personality Traits



Normative Expectations

Perceived
Behavioral
Control

Injunctive Norms

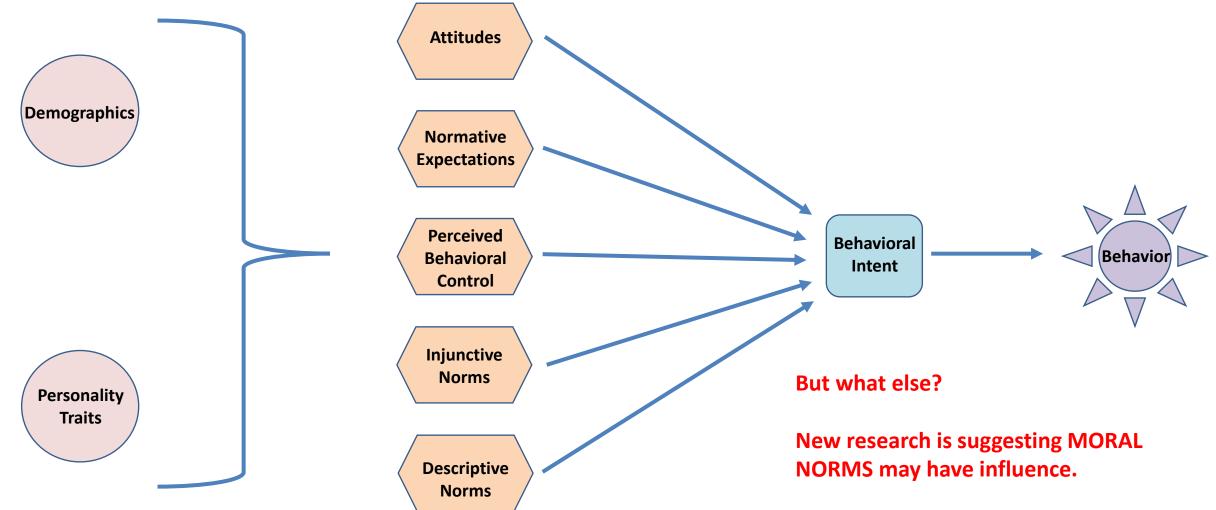


Most residents are conserving water.



The most important determinant of behavior is... behavioral intent. B

But what determines behavioral intent?





The most important determinant of behavior is... behavioral intent. But what determines behavioral intent? **Attitudes Normative Demographics Expectations Perceived Behavioral** Control **Behavioral Behavior** Intent **Injunctive Norms Descriptive Personality Norms Traits** I feel a strong personal obligation to conserve water. It would be morally wrong if I didn't conserve water. **MORAL** I am responsible for learning how to conserve water. **NORMS** I feel I need to conserve water to preserve resources for

future use beyond myself.



## Research Question & Method

What happens when you include Moral Norms in the model with the

standard predictors of behavioral intention?

What does messaging look like now & what would it look like if we flipped the script?





## Research Question & Method

#### Surveyed 325 adults across the US

- 97 dropped
  - Took less than 4 minutes
  - Missed an attention question
  - Provided Nonsense; Non-Variance

#### **Questionnaire included items on:**

- Attitude toward conservation (challenging)
- Whose opinion matters to you
- People important to me think it is important
- Most other residents are conserving
- I can conserve water if I want
- The choice is mine if I want to conserve
- I have a moral obligation to conserve
- It is important for my community that I conserve
- In the next year, I will conserve.

#### Asked all questions for two scenarios

- Water conservation in general
- Water conservation using preferred technique
  - Installing low-water usage appliances
  - Installing low-flow toilets and shower heads
  - Taking shorter showers
  - Not washing vehicles at home
  - Irrigating landscaping and lawn less
  - Installing no-water landscaping



### **Descriptive Statistics**

	Frequency	Percentage	
Gender			
Males	109	47.8%	
Females	119	52.2%	
	228	100%	
Home Ownership			
Own Residence	148	65.2%	
Lease Residence	79	34.8%	
	227	100%	
Political Orientation			
Liberal	105	46.1%	
Moderate	52	22.8%	
Conservative	71	31.1%	
	228	100%	

	Frequency	Percentage
Region		
Northeast	45	19.7%
Midwest	43	18.9%
South	85	37.3%
West	55	24.1%
	228	100%
Age		
Mean	47.59	
Std. Dev.	16.99	
Median	46.5	
Range	68 (18-86)	

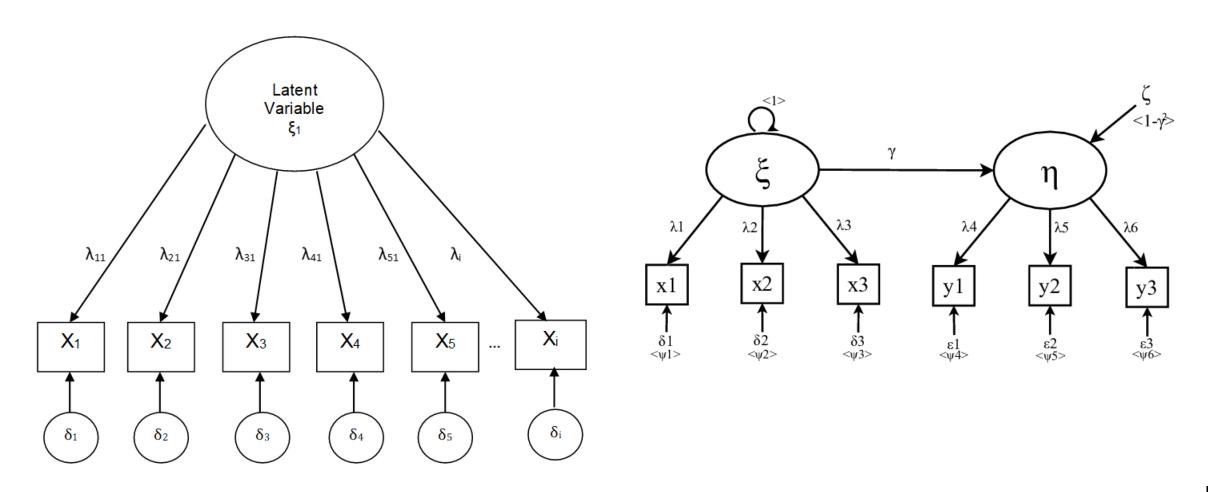


### **Preferred Water Saving Technique/Technology**

Preferred Technique	Frequency	Percentage
Installing low water usage appliances	62	27.2%
Taking shorter showers/baths	58	25.4%
Installing low-flow toilets and shower heads	43	18.9%
Installing no-water usage lawns and landscaping (xeriscape)	36	15.8%
Irrigating landscaping and lawn with less municipal water	15	6.6%
Not washing vehicles at home	14	6.1%

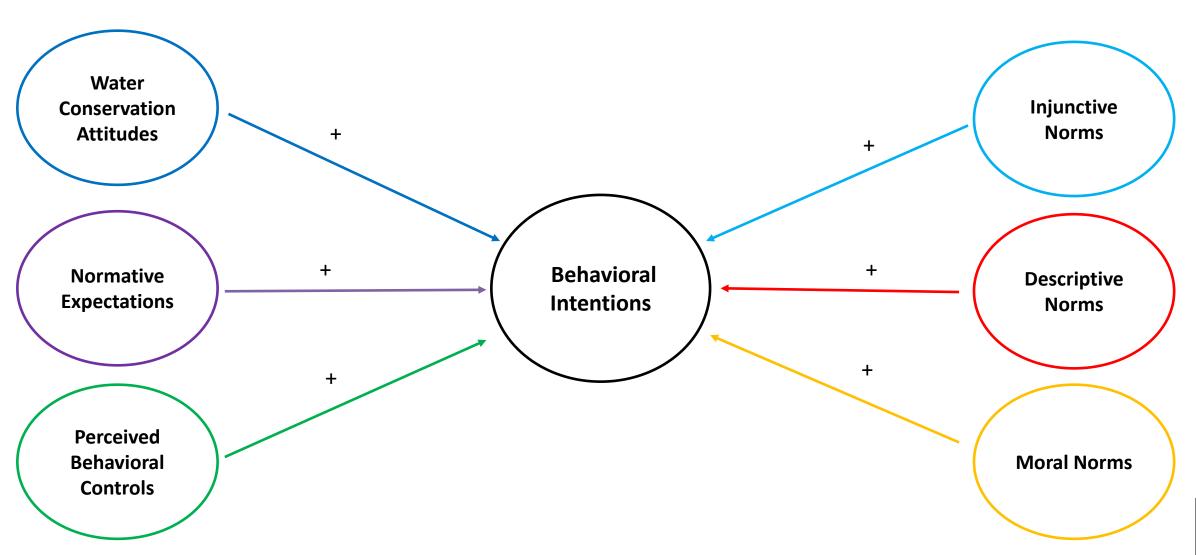


#### Confirmatory Factor Analysis (CFA) & Structural Equation Modeling (SEM)





#### **General Regression Model**





### **Regression Model--ALL**

#### **GENERAL CONSERVATION**

#### PREFERRED TECHNIQUE

Water Conservation Attitudes

$$\theta = 0.13**$$

 $\theta = 0.26***$ 

Water Conservation Attitudes

Moral Norms

$$\theta = 0.71***$$

Behavioral Intentions

$$\theta = 0.41***$$

Moral Norms

Perceived Behavioral Controls

$$\theta = 0.16**$$

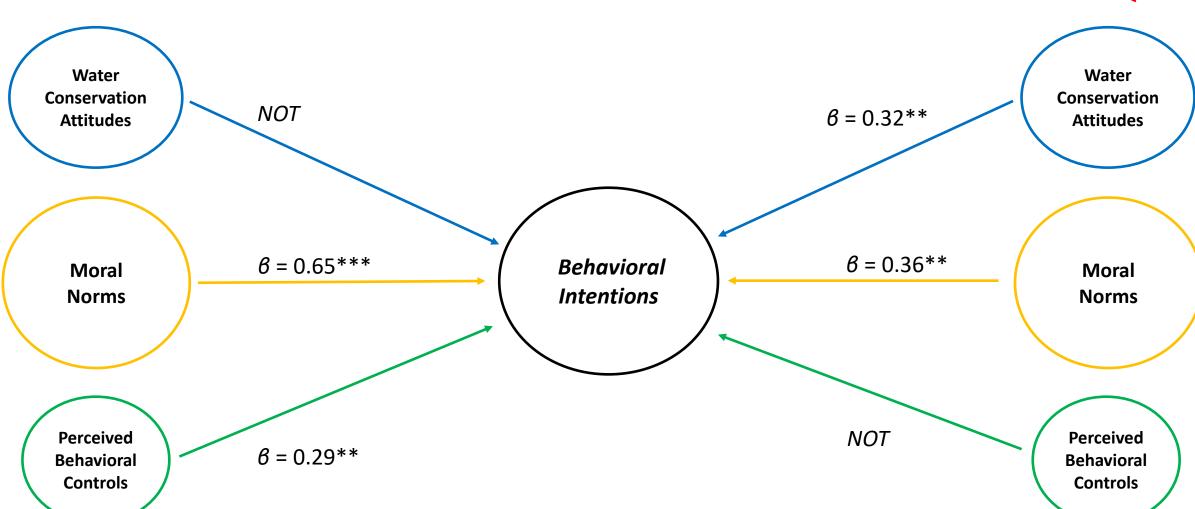
NOT

Perceived Behavioral Controls

### **Regression Model--LIBERALS**

#### **GENERAL CONSERVATION**

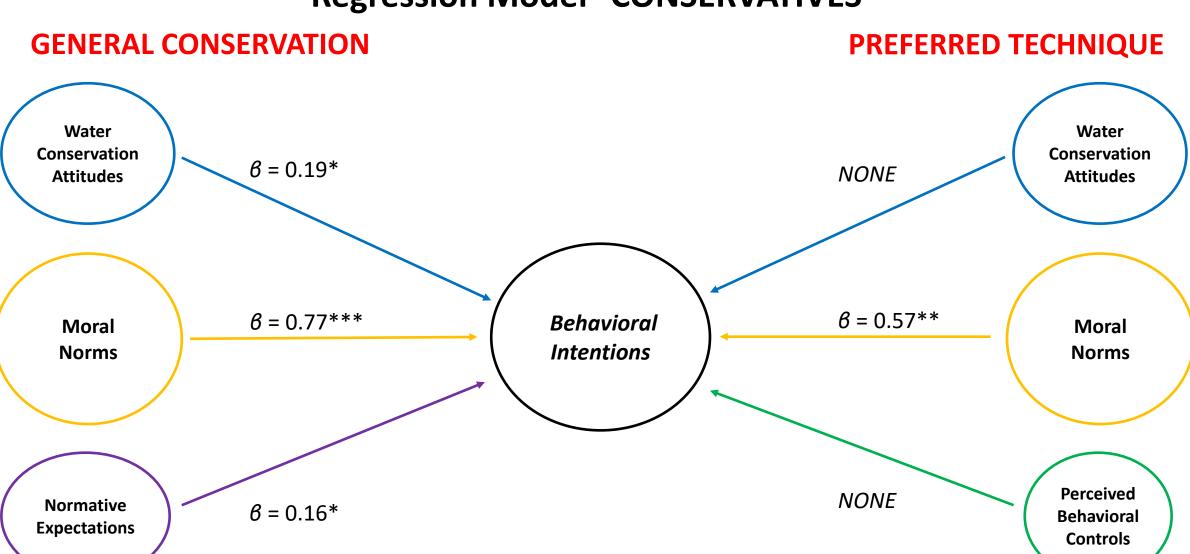
#### PREFERRED TECHNIQUE



\* $p \le 0.05$  \*\* $p \le 0.01$  \*\*\* $p \le 0.001$ 



### **Regression Model--CONSERVATIVES**



\* $p \le 0.05$  \*\* $p \le 0.01$  \*\*\* $p \le 0.001$ 



### What does it all mean???

#### Behavioral intention is most impacted by:

- Water conservation attitudes
- Perceived behavioral control
- Moral norms

#### People who:

- possess positive attitudes toward water conservation,
- 2. perceive they have they ability and means to conserve water &
- 3. feel some moral obligation to protect the resource

...all are primed to exhibit water positive behavior.

And the good news is that proper messaging can impact people across all three factors.



## Key Take-Aways

#### Don't let economic benefits drive your messaging

Provide customers more reason to conserve than just saving money.

#### Moral appeals are powerful

Regardless of political affiliation, lean on moral appeals.

#### Constantly foster positive attitudes toward conservation

- Look for in-roads with your constituents.
- What are hot-buttons issues for them?
  - Conduct some research on your target public.

#### Make your customers feel empowered and capable of positive behavior

Give them easy-to-accomplish, low-cost, low-barrier options.

#### Be cautious with "government sanctioning"

- Liberals ranked federal govt higher than state/local.
- Conservatives ranked state/local higher than federal.



# SAVE WATER AND MONEY







Shorter showers

Making your showers 2 minutes shorter will save 300 gallons each month

#### Replace old toilets

Replacing old water wasting toilets with a new water efficient one can save a family of 4 16,000 gallons per year



Did you know the City will replace your toilet from before 1993 for free? visit www.savannahga.g ov to find out how







#### Collect rain water

Use a rain barrel to collect rain to water plants and gardens

#### Do full loads

When washing dishes or laundry only run full loads

#### Fix leaks and drips





Water only early in the morning or late in the evening

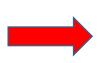
Before 10 am or after 4pm

#### Water wisely

Watering deeply only 2x per week rather than every day will save water and make your grass healthier!



Lean on morals while appealing to pro-attitude



### Reference moral obligation

Offer self-efficacy & behavioral control



# Do your part to conserve water for tomorrow



Cutting your shower time in half and using a low-flow shower head can save as much as 30 gallons per day—enough to fill an Olympic sized pool over your lifetime.

## Thanks for your time

# Questions?

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