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Moral Appeals in Water Messaging: Speaking to Virtues not Finances

Coy Callison, Ph.D.

Professor & Associate Dean for Graduate Studies



Matthew J. Bauman, Ph.D.

Assistant Professor



So what are we up to...

Much of the published water scarcity research has focused on mechanical means 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 communication practices can aid in this adoption 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.

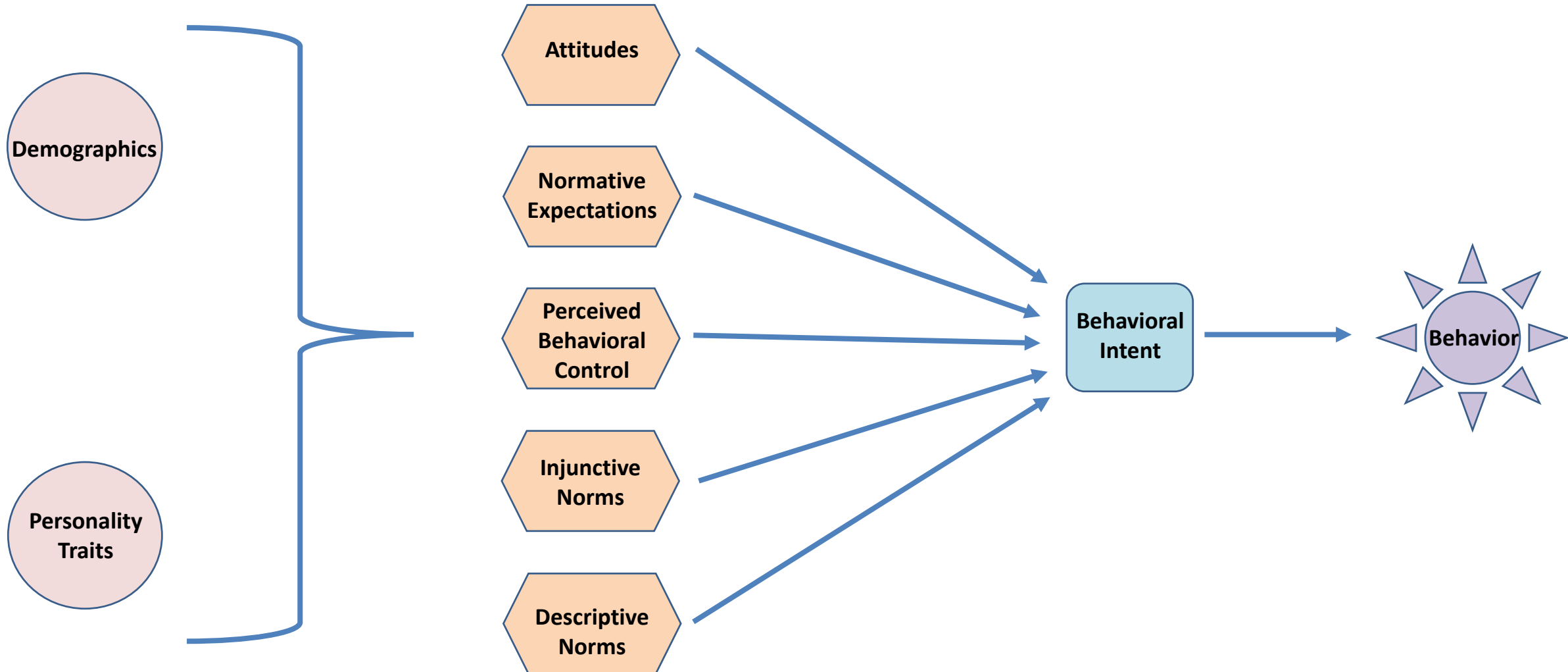
The theories on which we based our pursuit in this case is/are:

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



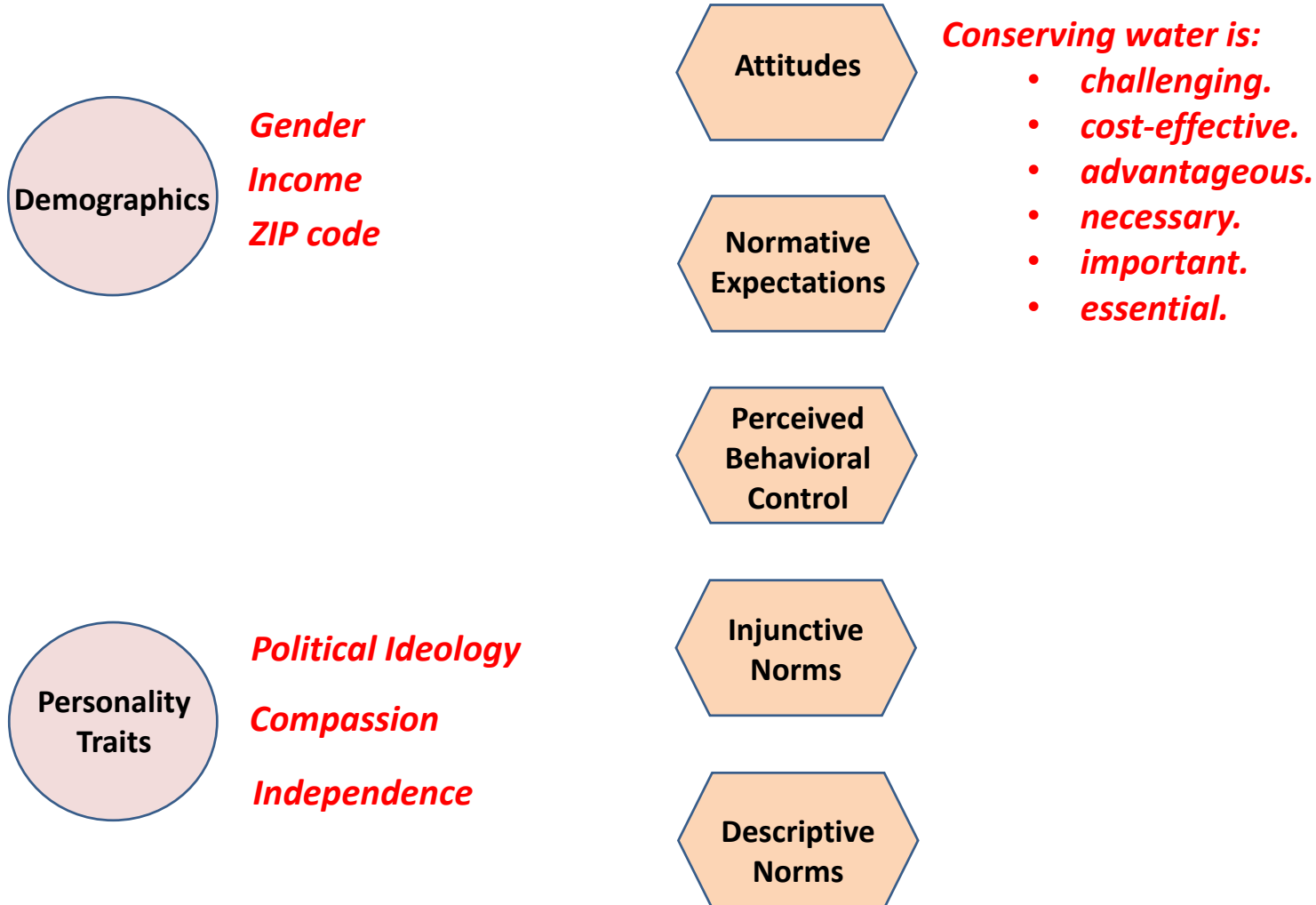
Reasoned Action/Planned Behavior

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



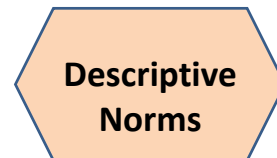
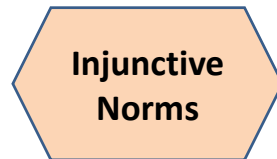
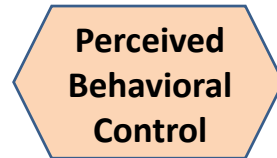
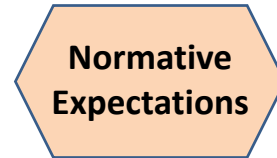
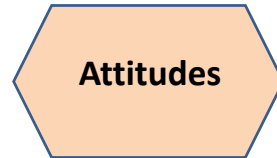
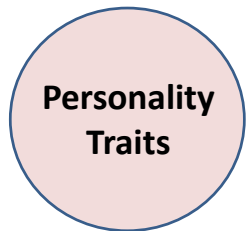
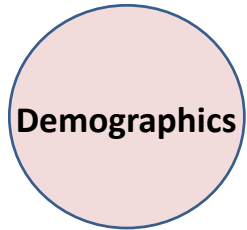
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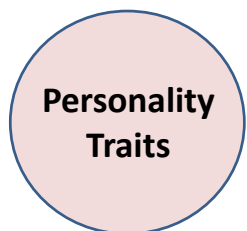
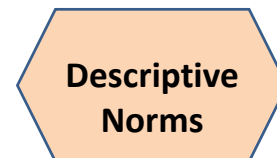
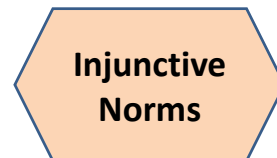
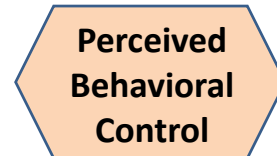
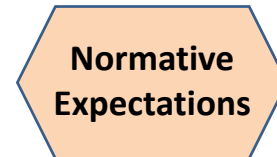
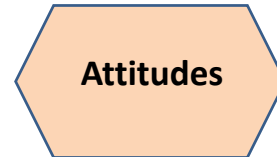
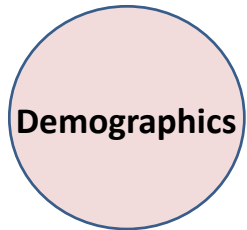
The following think I should conserve water:

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



Reasoned Action/Planned Behavior

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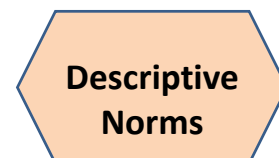
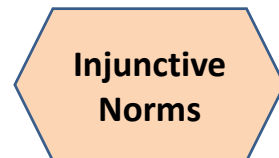
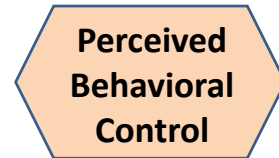
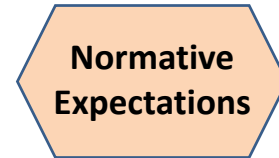
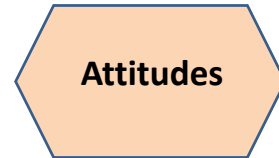
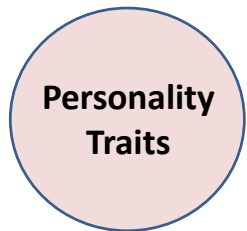
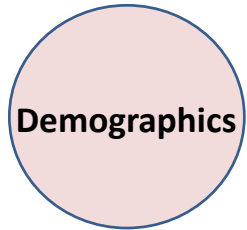


- *Conserving water next year would be challenging.*
- *If I wanted, I could implement water saving practices.*
- *I have sufficient resources to be able to conserve water.*
- *Conserving water is completely within my control.*



Reasoned Action/Planned Behavior

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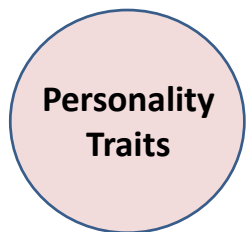
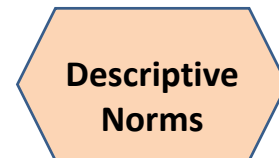
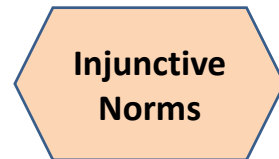
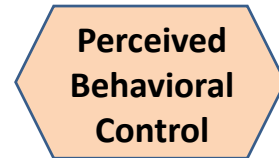
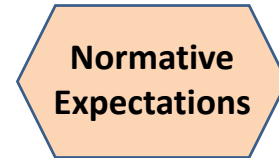
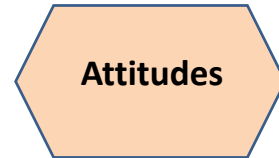
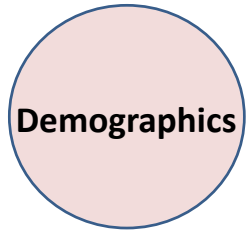
*Most people important to me think I should conserve water.
The following people think I should conserve water:*

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



Reasoned Action/Planned Behavior

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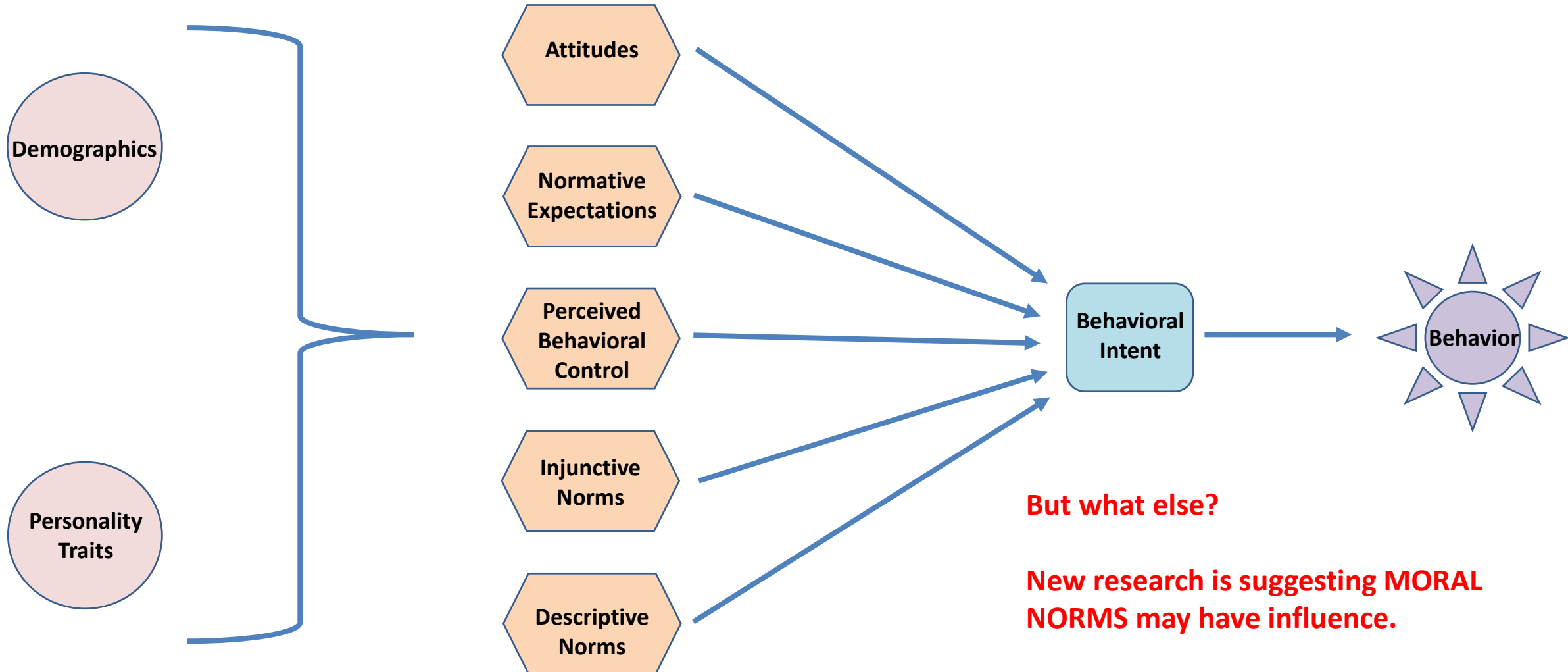


Most residents are conserving water.



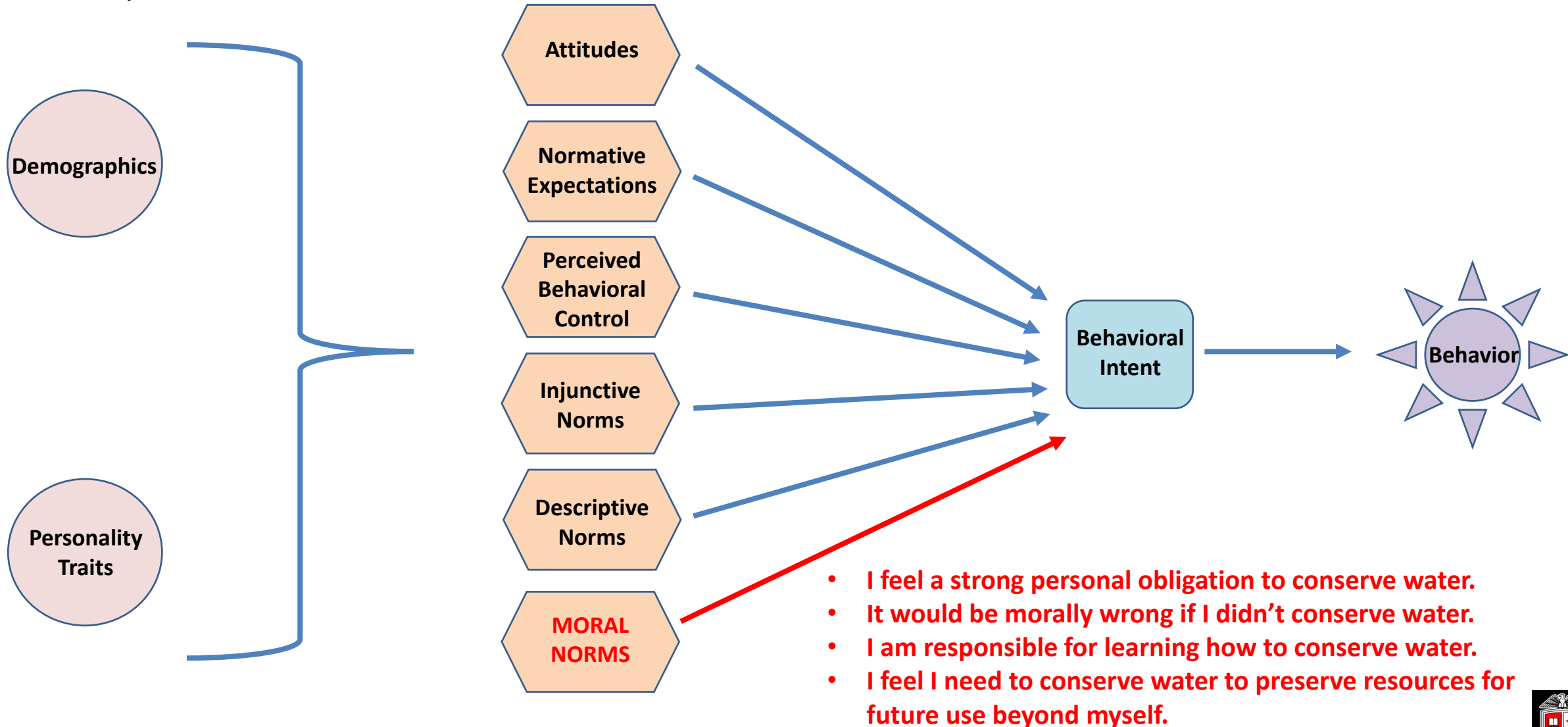
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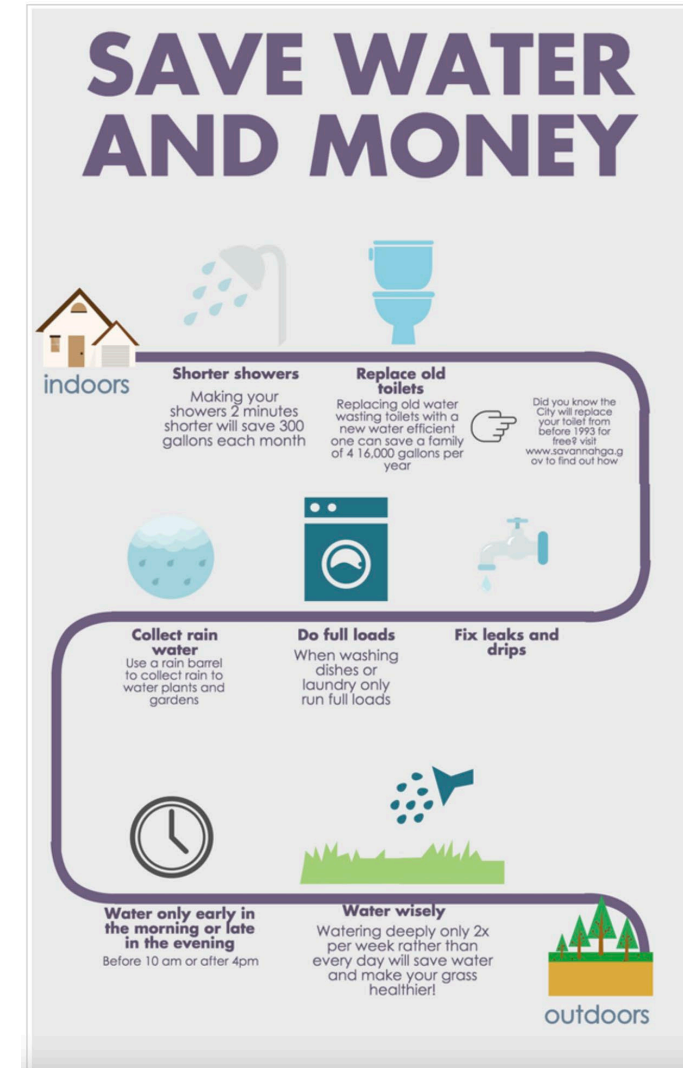
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Research Question & Method

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



What we have uncovered...

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)	



What we have uncovered...

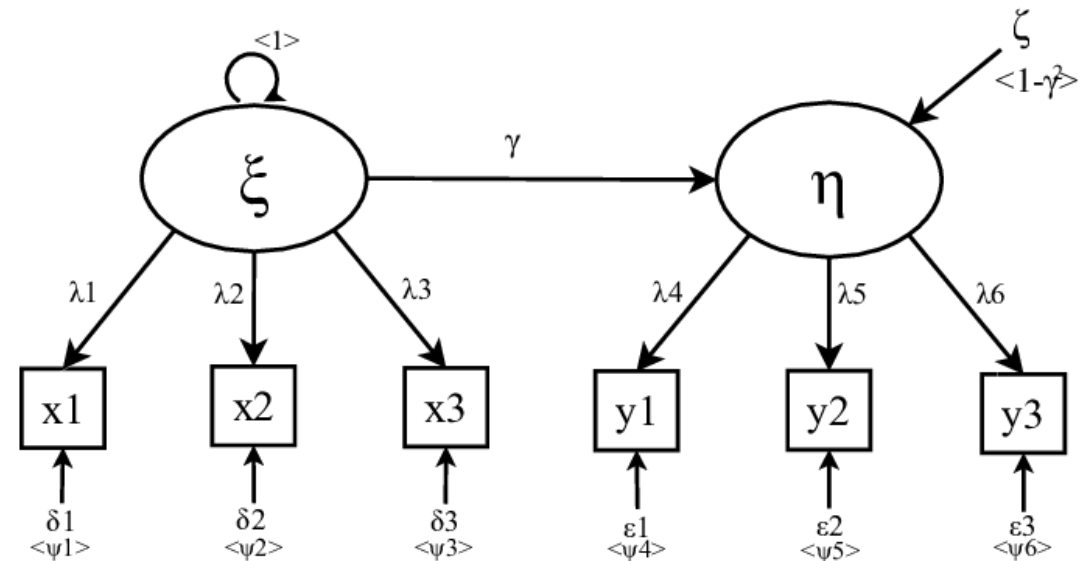
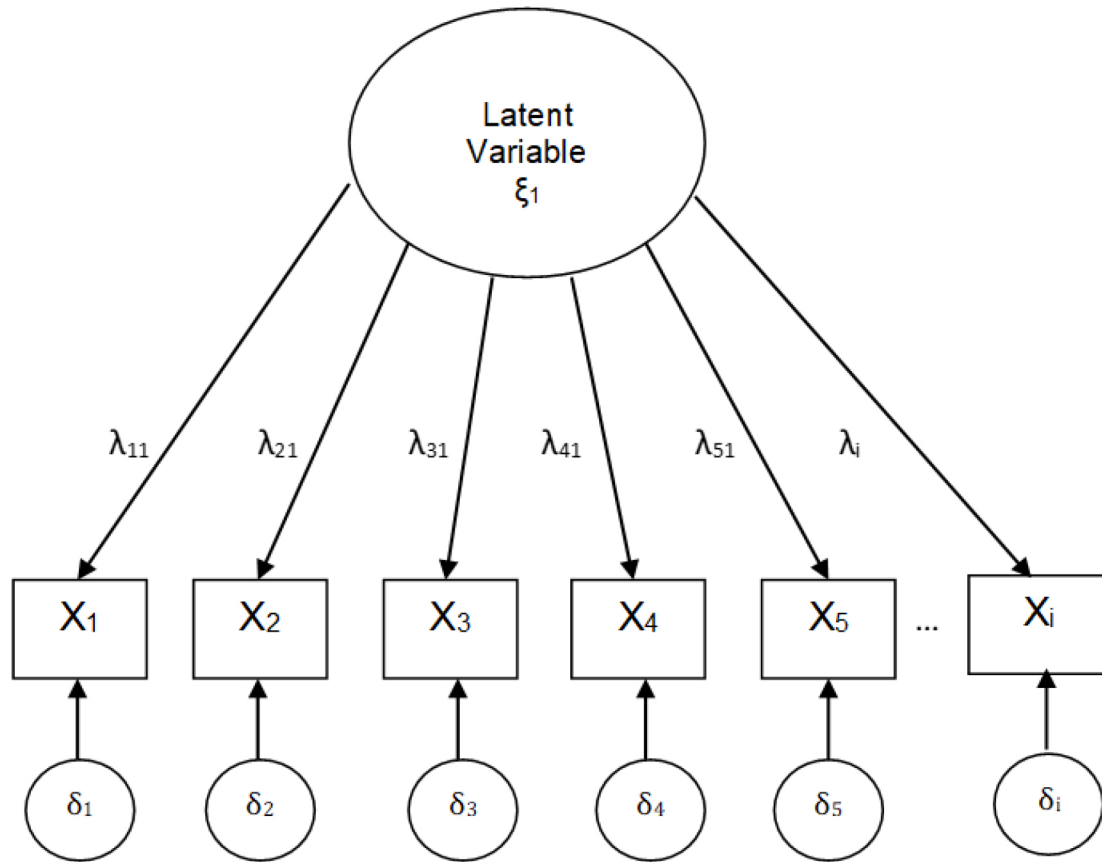
Preferred Water Saving Technique/Technology

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%



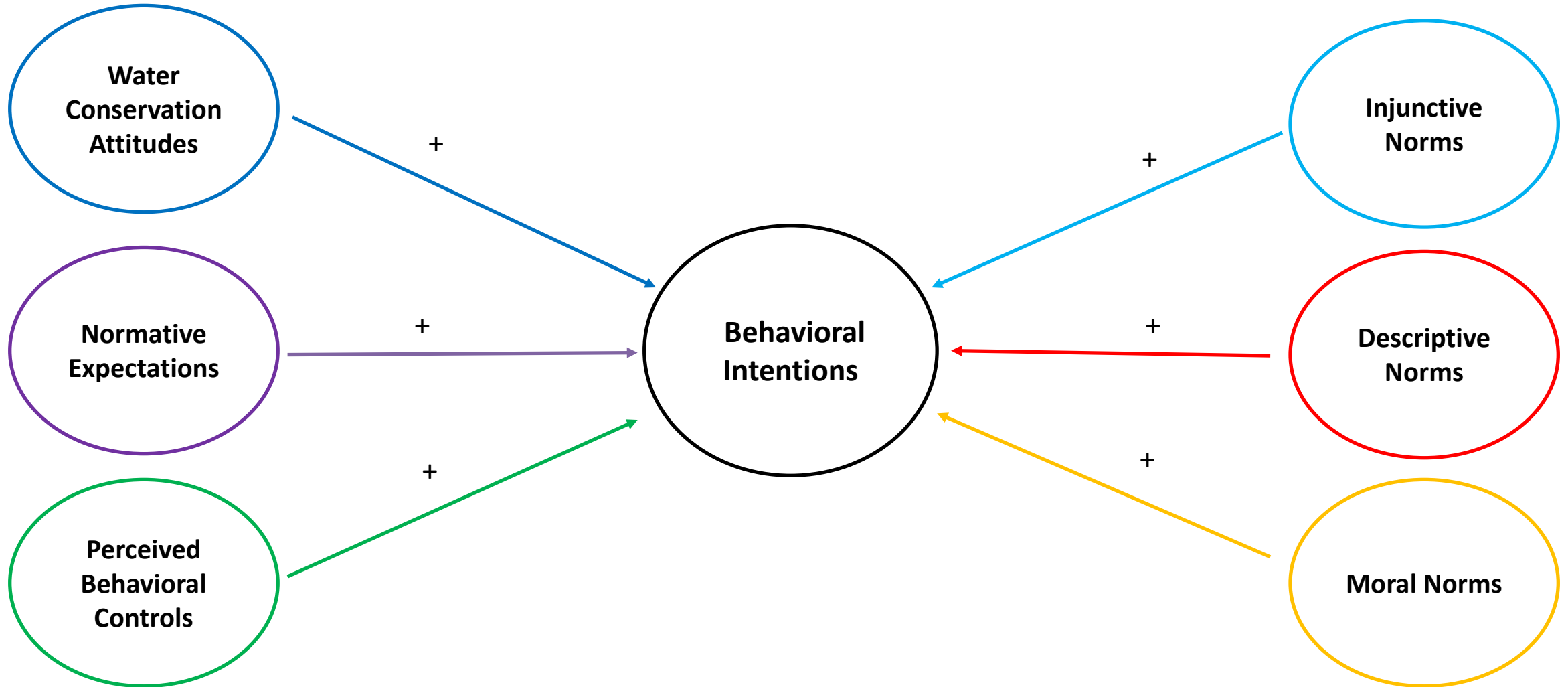
What we have uncovered...

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



What we have uncovered...

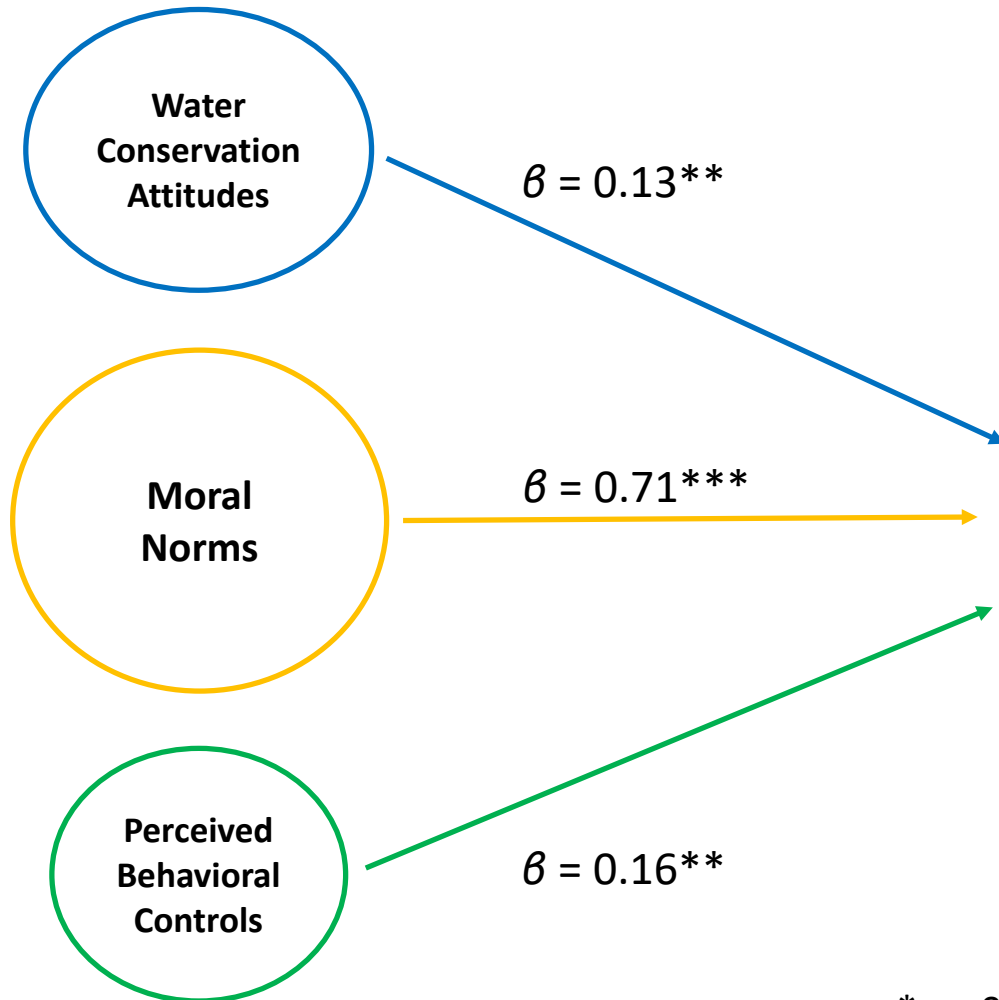
General Regression Model



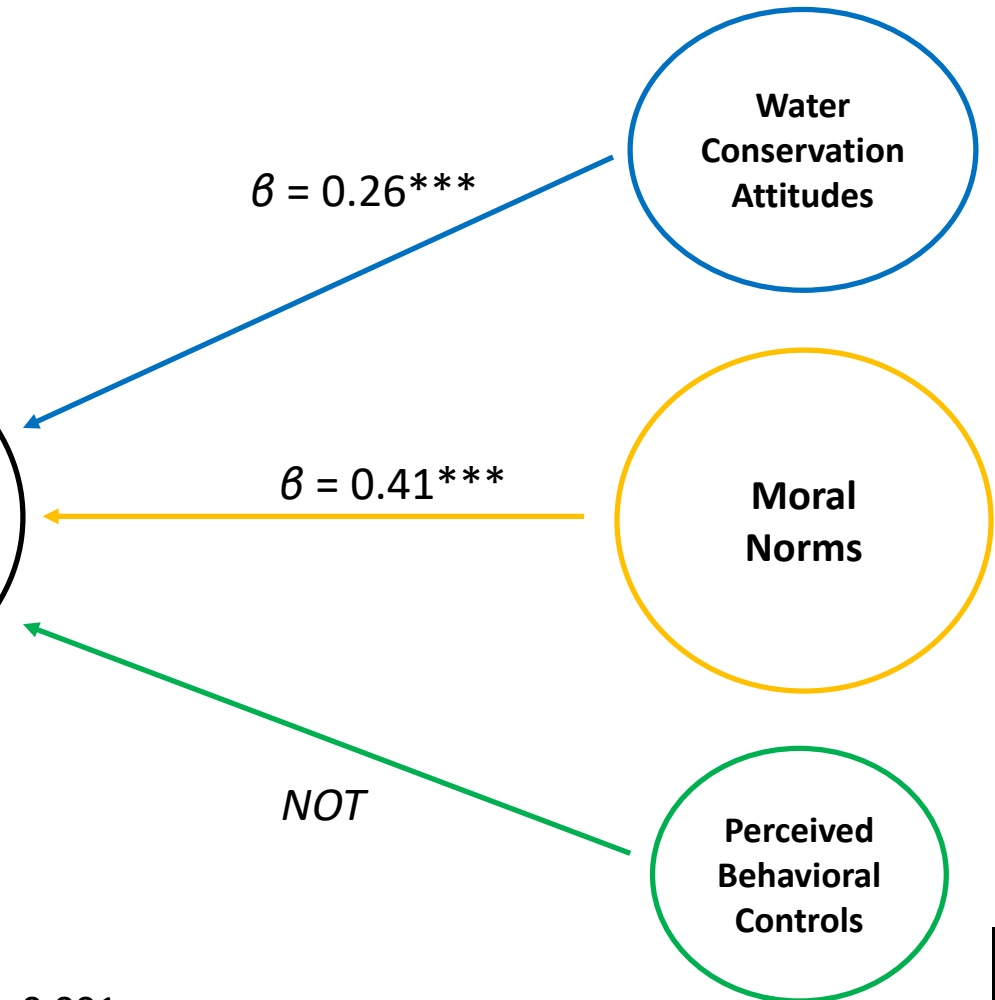
What we have uncovered...

Regression Model--ALL

GENERAL CONSERVATION



PREFERRED TECHNIQUE



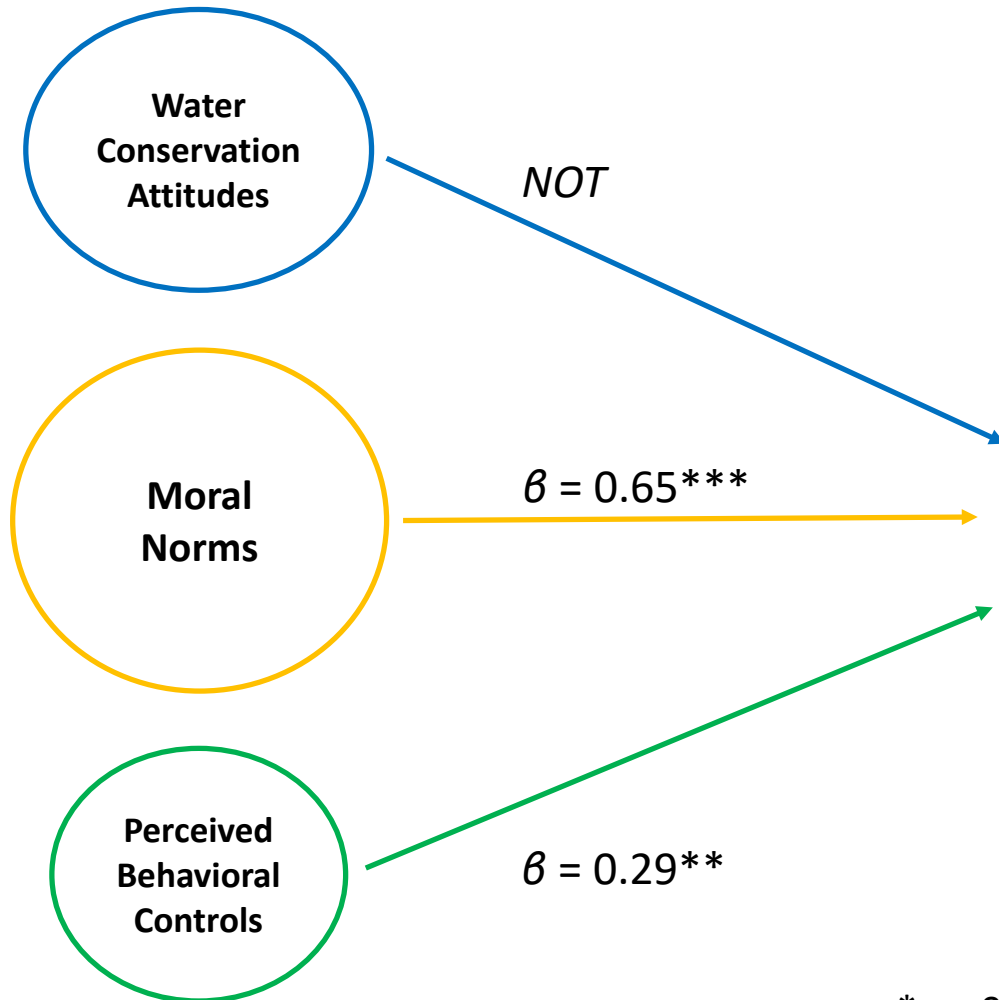
* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$



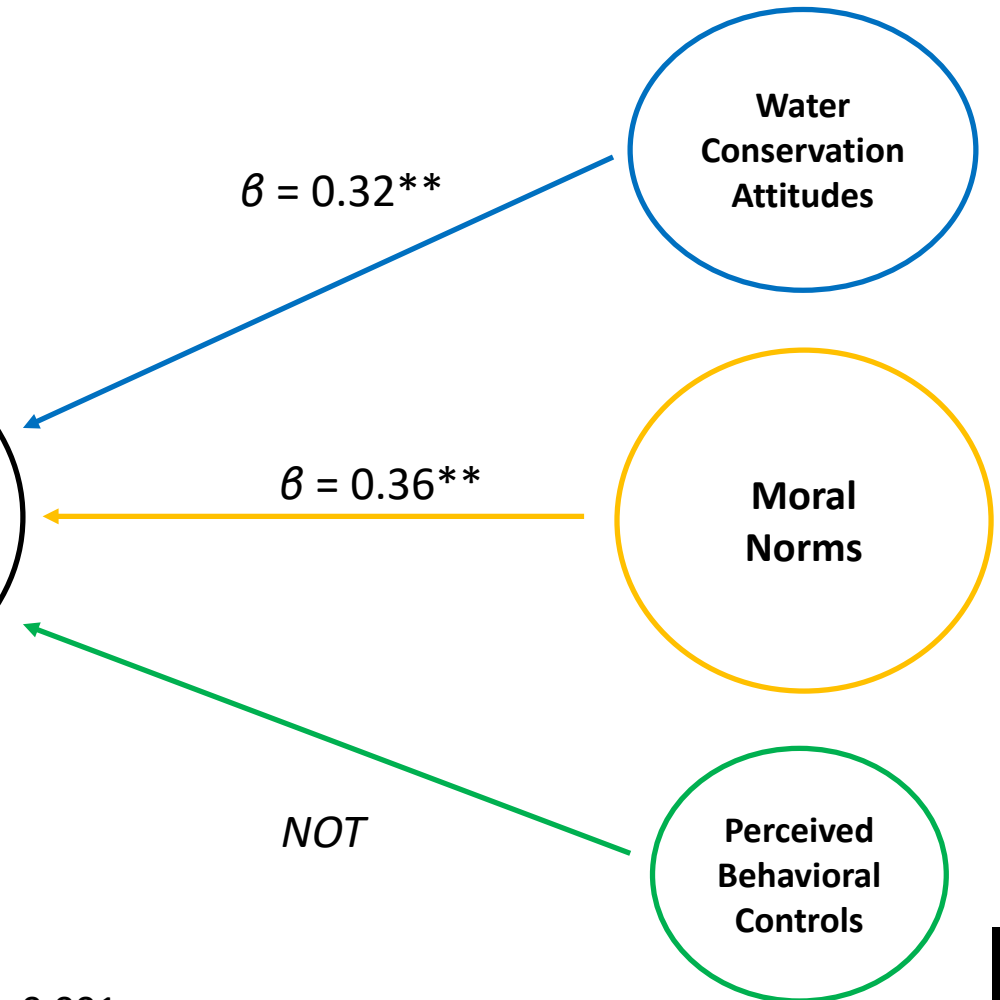
What we have uncovered...

Regression Model--LIBERALS

GENERAL CONSERVATION



PREFERRED TECHNIQUE



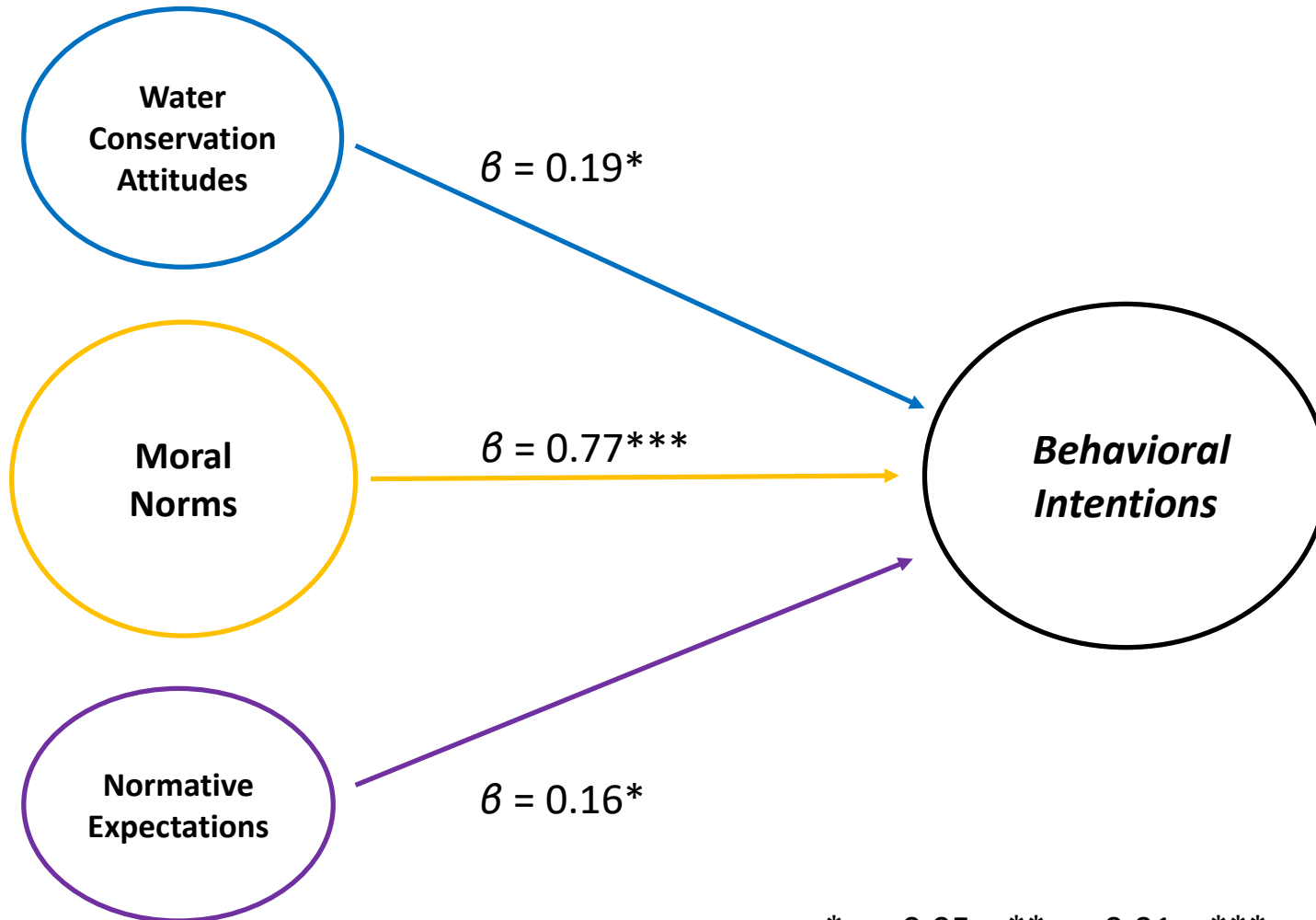
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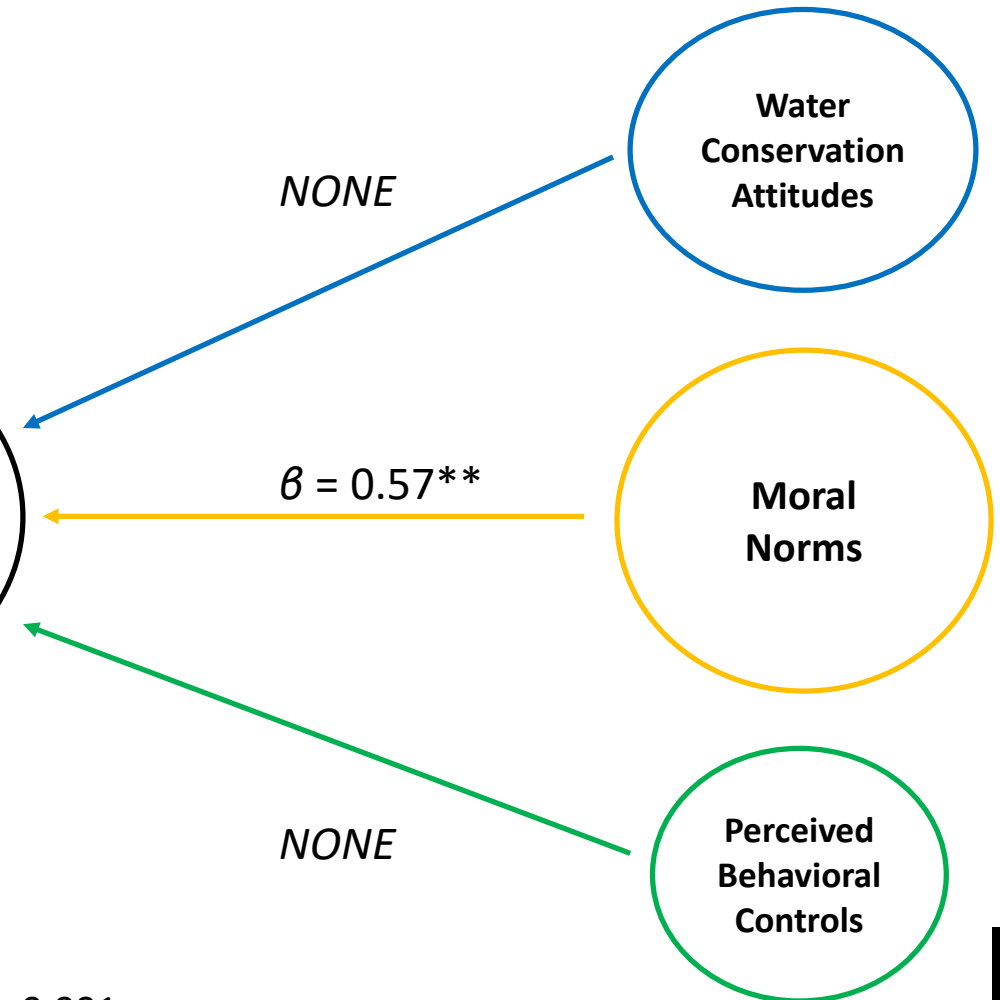
What we have uncovered...

Regression Model--CONSERVATIVES

GENERAL CONSERVATION



PREFERRED TECHNIQUE



* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$



What does it all mean???

Behavioral intention is most impacted by:

- Water conservation attitudes
- Perceived behavioral control
- Moral norms

People who:

1. possess positive attitudes toward water conservation,
2. perceive they have the 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

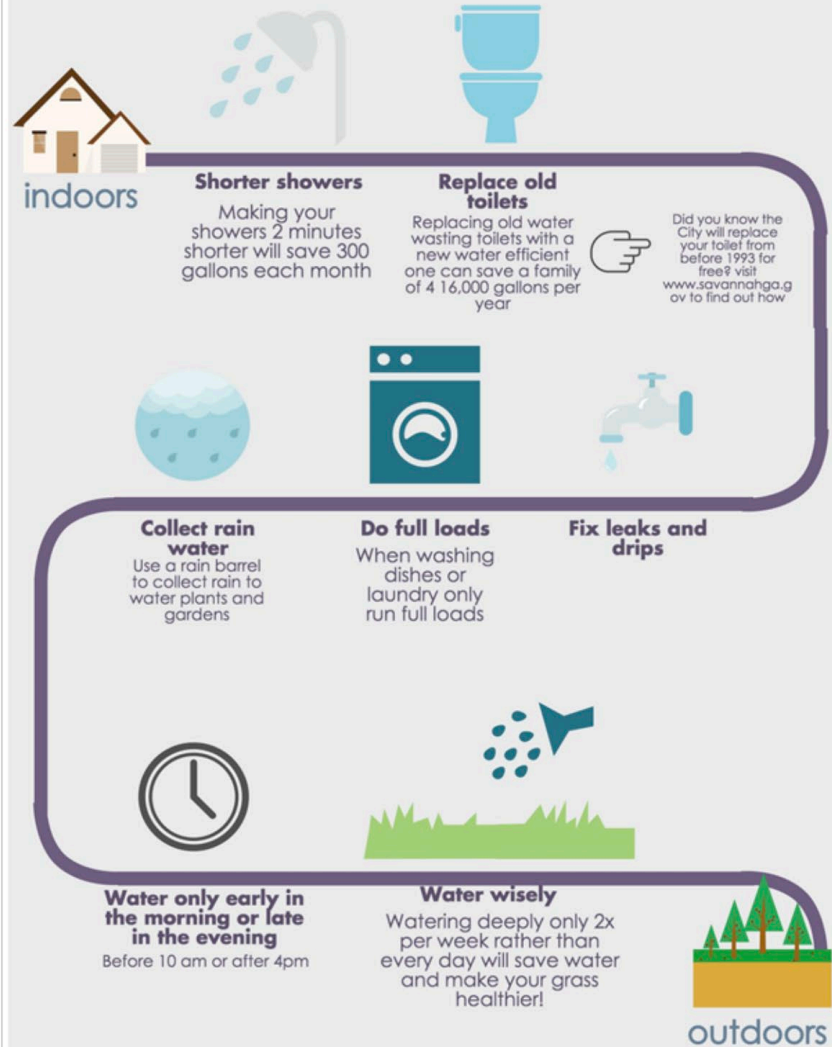
- Give them easy-to-accomplish, low-cost, low-barrier options.

Be cautious with “government sanctioning”

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



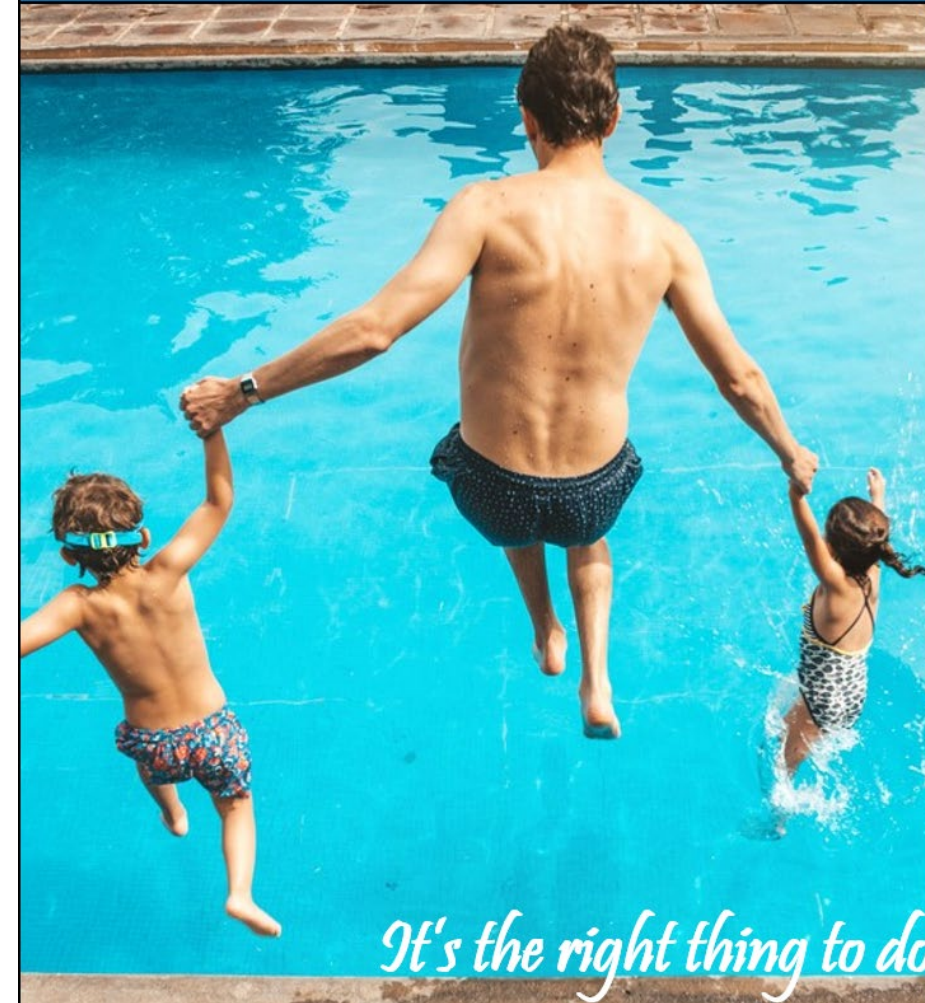
SAVE WATER AND MONEY



Lean on morals
while appealing to
pro-attitude



Do your part to conserve
water for tomorrow



Reference moral
obligation



Offer self-efficacy &
behavioral control



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?

Coy Callison, Ph.D.

Professor and Associate Dean for Graduate Studies

College of Media and Communication

Texas Tech University

coy.callison@ttu.edu

