

# How Psychology Can Save the Planet



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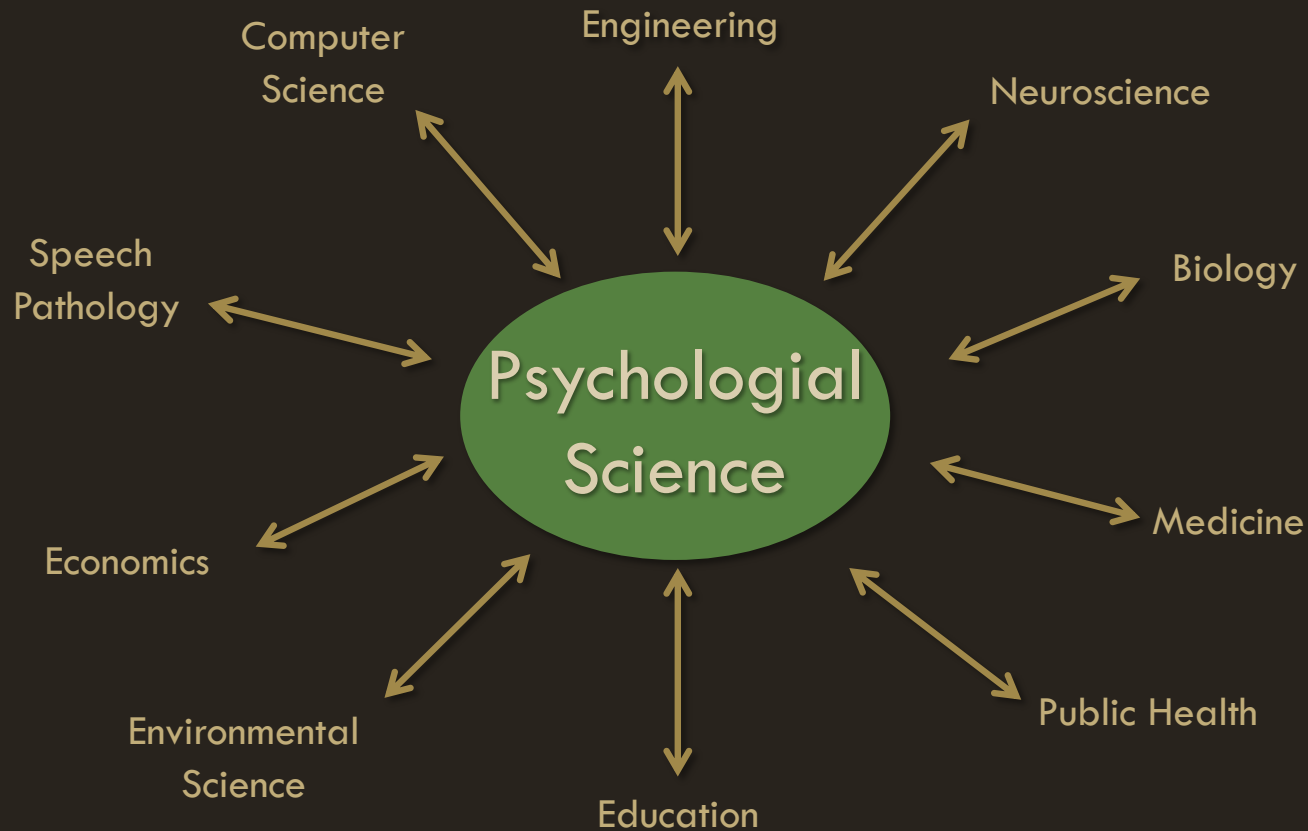
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# Psychology as a 'Hub Science' (Boyak et al., 2005)

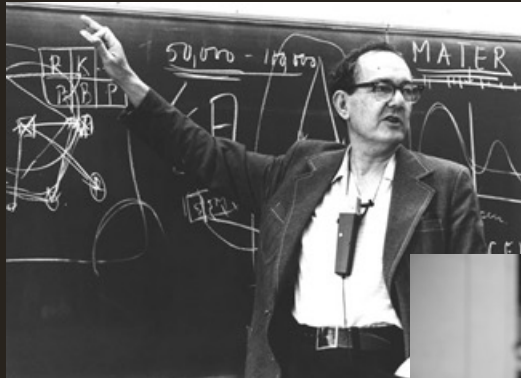


# Psychology as a 'Hub Science' (Boyak et al., 2005)



# How Psychology Fits In

## Lessons from three Nobel Prize winners



**Herbert Simon**  
1978 Nobel Prize in  
Economic Sciences



**Richard Thaler**  
2017 Nobel Prize in Economic Sciences



**Daniel Kahneman**  
2002 Nobel Prize in  
Economic Sciences

# 1. Perception of the Problem

- > Perception works on a short time scale
- > Attention: Limited 'resources'\*

\*relates to Simon's *bounded rationality* & Kahneman's *Thinking, Fast and Slow*



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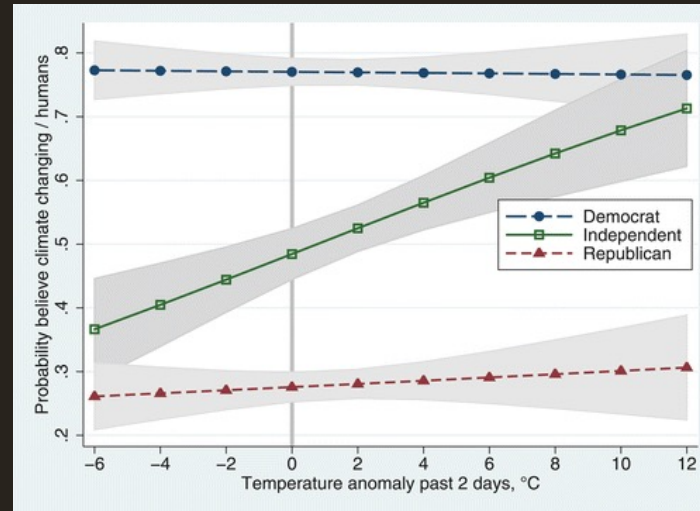
*\*relates to Simon's bounded rationality & Kahneman's Thinking, Fast and Slow*

How can we recognize there's a problem?

- > *not necessarily determined by education or knowledge*
- > *determined by direct experience, attitudes, beliefs, and cognitive biases*

# Case Study 1: Direct Experience

The weather affects perception of climate change (e.g., Li et al., 2011; Hamilton & Stampone, 2013)



Two-way street

(Howe & Leiserowitz, 2013)

>local temperature perception biased by beliefs

# Case Study 1: Direct Experience

Personal, weather-related impacts affect perception of climate change

## Impact of Hurricane Sandy

(Rudman et al., 2013)

beliefs about anthropogenic climate change  
implicit preferences for “green” politicians



# Case Study 2: Cognitive Biases\*

\* Kahneman's heuristics and biases

## Impacts not perceived or experienced veridically

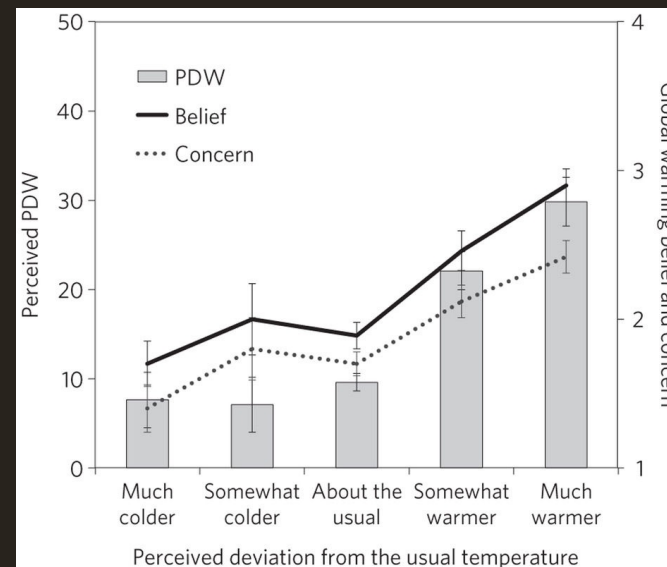
### > Availability heuristic

thinking is biased toward what comes to mind most readily

(Zaval et al., 2014)

### > Confirmation bias

look for confirming support,  
not contradictory evidence



## Case Study 2: Cognitive Biases

Attitudes and beliefs not always influenced by rational thought\*

\* Simon's bounded rationality & Kahneman's *Thinking, Fast and Slow*

> 'System 1' & 'System 2'

Automatic, effortless processing versus controlled, effortful processing

> Priming affects beliefs

(Zaval et al., 2014)

Bread → ?

Doctor → ?

Light → ?

## 2. How to change a mind



### Toward solutions

- > *can we alter perception of the problem?*
- > *how do we promote sustainable behaviors?*

# Case Study 1: Debunk Myths



Use principles of cognition to debunk myths about global warming (Cook & Lewandowsky, 2011; Corner et al., 2015)

> Familiarity backfire: Repetition of misinformation makes it believable (Skurnik et al., 2005)

> Overkill backfire (Schwarz et al., 2007)

> easy to process information more likely to be viewed as true

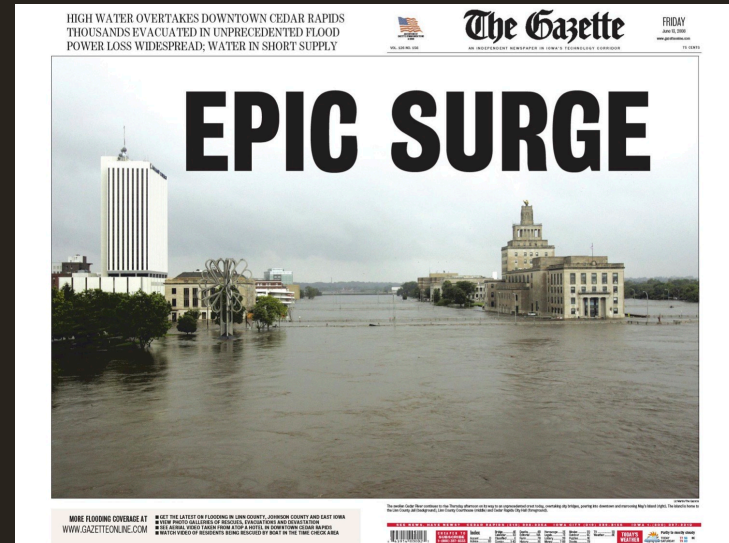
> fewer counter examples better at refuting misinformation

> Think 'System 1' and Availability

# Case Study 1: Debunk Myths

Use principles of cognition to debunk myths about global warming (Cook & Lewandowsky, 2011; Corner et al., 2015)

> Personal narratives that are relatable



# Case Study 3: Power of the Group\*

\* Thaler's *Nudge* (with Sunstein)

## Normative social influence

- > Messaging based on the desired norm (Cialdini, 2003)
  - work against availability and representativeness biases
  - messages that show proenvironmental behavior as the norm are effective



# Case Study 3: Power of the Group\*

\* Thaler's *Nudge* (with Sunstein)

## Normative social influence

### > Messaging based on the desired norm (Cialdini, 2003)

work against availability and representativeness biases

messages that show proenvironmental behavior as the norm are effective



“Your heritage is being vandalized every day by theft losses of 14 tons a year, mostly a small piece at a time.”

Many past visitors have removed petrified wood from the Park, changing the natural state of the Petrified Forest

Please don't remove the petrified wood from the Park, in order to preserve the natural state of the Petrified Forest

# Case Study 3: Power of the Group\*

\* Thaler's *Nudge* (with Sunstein)

Create social accountability



Commitment to act



Exposure/experience

Behavior needs to be *visible* and easy

# How Psychology Can Save the Planet



Sustainability is rooted in behavior

Understanding that behavior can lead to

- > altering the perception of the problem
- > moving behavior in proenvironmental directions