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Does Body Language Shape Who You Are?

Updated March 13, 2015 · 8:58 AM ET

Published December 13, 2013 · 9:27 AM ET

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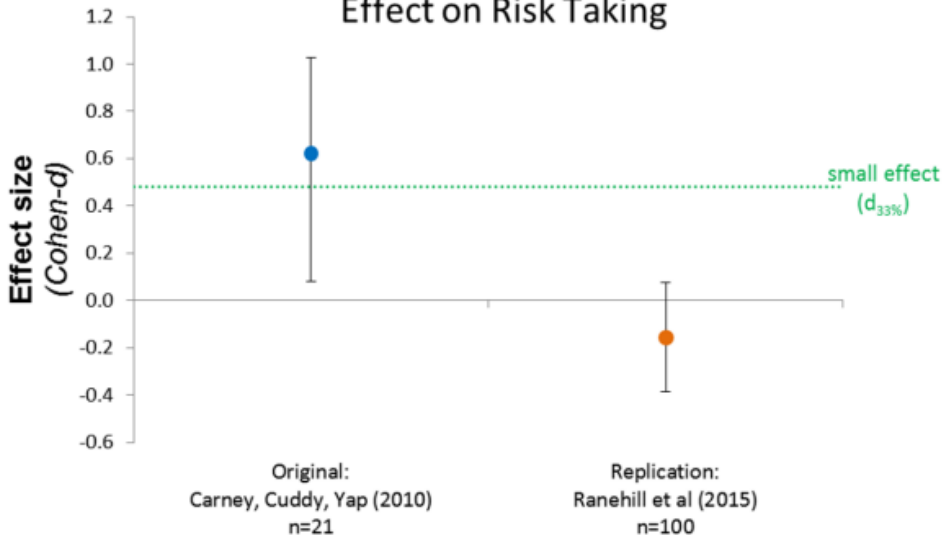
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## Effect on Risk Taking



# The Power of the “Power Pose”

Amy Cuddy’s famous finding is the latest example of scientific overreach.

By *Andrew Gelman* and *Kaiser Fung*



5.2k



541



187

**Nick** says:

January 27, 2016 at 7:44 pm (Edit)



Oh, and while we're on the subject of sloppy reporting, have a look at 10.1111/j.1540-4560.2005.00405.x and calculate the t statistics and associated p values.

# **This Old Stereotype: The Pervasiveness and Persistence of the Elderly Stereotype**

**Amy J. C. Cuddy\***

*Princeton University*

**Michael I. Norton**

*Massachusetts Institute of Technology*

**Susan T. Fiske**

*Princeton University*

*Americans stereotype elderly people as warm and incompetent, following from perceptions of them as noncompetitive and low status, respectively. This article extends existing research regarding stereotyping of older people in two ways. First, we discuss whether the mixed elderly stereotype is unique to American culture. Data from six non-U.S. countries, including three collectivist cultures, demonstrate elderly stereotypes are consistent across varied cultures. Second, we investigate*

## Results

We created a composite score of warmth by averaging the three warmth items,  $\alpha = .81$ . A one-way ANOVA revealed the predicted main effect on this score,  $F(2, 52) = 3.93$ ,  $p < .03$ , such that participants rated the high-incompetence elderly person as warmer ( $M = 7.47$ ,  $SD = .73$ ) than the low-incompetence ( $M = 6.85$ ,  $SD = 1.28$ ) and control ( $M = 6.59$ ,  $SD = .87$ ) elderly targets. Paired comparisons supported these findings, that the high-incompetence elderly person was rated as warmer than both the low-incompetence and control elderly targets,  $t(35) = 5.03$  and  $t(34) = 11.14$ , respectively, both  $ps < .01$ . In addition, reflecting the persistence of the stereotype of elderly people as incompetent, participants saw targets as equally (in)competent in all conditions,  $F(2, 52) = 1.32$ , *n.s.*

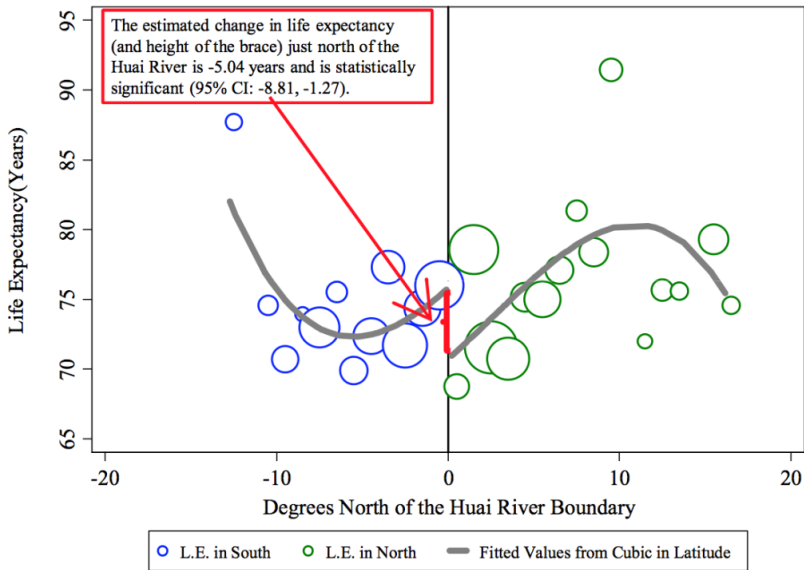
it's between-person. But then don't you need to know the N's for each of the 3 conditions? If we assume  $N=18, 18, 19$ , then the correct t statistics are  $(7.47 - 6.85)/\sqrt{.73^2/18 + 1.28^2/18} = 1.79$  and  $(7.47 - 6.59)/\sqrt{.73^2/18 + .87^2/19} = 3.34$ , respectively.

# It's not just silly psychology studies!

## Labor Market Returns to Early Childhood Stimulation: a 20-year Followup to an Experimental Intervention in Jamaica

Paul Gertler, James Heckman, Rodrigo Pinto, Arianna Zanolini, Christel Vermeersch, Susan Walker, Susan M. Chang, Sally Grantham-McGregor

We find large effects on the earnings of participants from a randomized intervention that gave psychosocial stimulation to stunted Jamaican toddlers living in poverty. The intervention consisted of one-hour weekly visits from community Jamaican health workers over a 2-year period that taught parenting skills and encouraged mothers to interact and play with their children in ways that would develop their children's cognitive and personality skills. We re-interviewed the study participants 20 years after the intervention. Stimulation increased the average earnings of participants by 42 percent. Treatment group earnings caught up to the earnings of a matched non-stunted comparison group. These findings show that psychosocial stimulation early in childhood in disadvantaged settings can have substantial effects on labor market outcomes and reduce later life inequality.



**Fig. 3.** The plotted line reports the fitted values from a regression of life expectancy on a cubic in latitude using the sample of DSP locations, weighted by the population at each location.

WORLD

U.S.

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BUSINESS

TECHNOLOGY

SCIENCE

HEALTH

SPORTS

OPINION

AFRICA AMERICAS **ASIA PACIFIC** EUROPE MIDDLE EAST

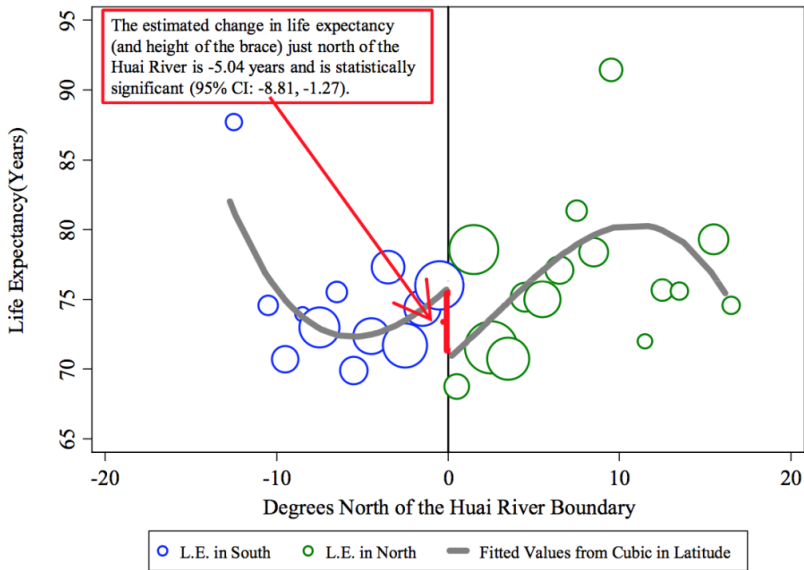
## Pollution Leads to Drop in Life Span in Northern China, Research Finds



# Evidence on the impact of sustained exposure to air pollution on life expectancy from China's Huai River policy

Yuyu Chen<sup>a,1</sup>, Avraham Ebenstein<sup>b,1</sup>, Michael Greenstone<sup>c,d,1,2</sup>, and Hongbin Li<sup>e,1</sup>

This paper's findings suggest that an arbitrary Chinese policy that greatly increases total suspended particulates (TSPs) air pollution is causing the 500 million residents of Northern China to lose more than 2.5 billion life years of life expectancy. The quasi-experimental empirical approach is based on China's Huai River policy, which provided free winter heating via the provision of coal for boilers in cities north of the Huai River but denied heat to the south. Using a regression discontinuity design based on distance from the Huai River, we find that ambient concentrations of TSPs are about  $184 \mu\text{g}/\text{m}^3$  [95% confidence interval (CI): 61, 307] or 55% higher in the north. Further, the results indicate that life expectancies are about 5.5 y (95% CI: 0.8, 10.2) lower in the north owing to an increased incidence of cardiorespiratory mortality. More generally, the analysis suggests that long-term exposure to an additional  $100 \mu\text{g}/\text{m}^3$  of TSPs is associated with a reduction in life expectancy at birth of about 3.0 y (95% CI: 0.4, 5.6).



**Fig. 3.** The plotted line reports the fitted values from a regression of life expectancy on a cubic in latitude using the sample of DSP locations, weighted by the population at each location.

# Crimes against data

Andrew Gelman

Department of Statistics and Department of Political Science  
Columbia University, New York

ESRC Research Methods Festival, 7 July 2016



ELSEVIER

Contents lists available at SciVerse ScienceDirect

## Social Science & Medicine

journal homepage: [www.elsevier.com/locate/socscimed](http://www.elsevier.com/locate/socscimed)



### Short report

## Influence of Valentine's Day and Halloween on Birth Timing

Becca R. Levy\*, Pil H. Chung, Martin D. Slade

*Yale University, School of Public Health, Division of Social & Behavioral Sciences, 60 College Street, New Haven, CT 06520-8034, United States*

### ARTICLE INFO

#### Article history:

Available online 28 July 2011

#### Keywords:

United States  
Culture  
Birth timing  
Holidays  
Pregnancy  
Biocultural  
Birth

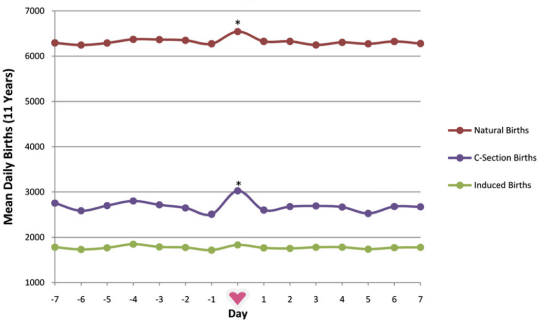
### ABSTRACT

It is known that cultural representations, in the form of stereotypes, can influence functional health. We predicted that the influence of cultural representations, in the form of salient holidays, would extend to birth timing. On Valentine's Day, which conveys positive symbolism, there was a 3.6% increase in spontaneous births and a 12.1% increase in cesarean births. Whereas, on Halloween, which conveys negative symbolism, there was a 5.3% decrease in spontaneous births and a 16.9% decrease in cesarean births. These effects reached significance at  $p < .0001$ , after adjusting for year and day of the week. The sample was based on birth-certificate information for all births in the United States within one week on either side of each holiday across 11 years. The Valentine's-Day window included 1,676,217 births and the Halloween window included 1,809,304 births. Our findings raise the possibility that pregnant women may be able to control the timing of spontaneous births, in contrast to the traditional assumption, and that scheduled births are also influenced by the cultural representations of the two holidays.

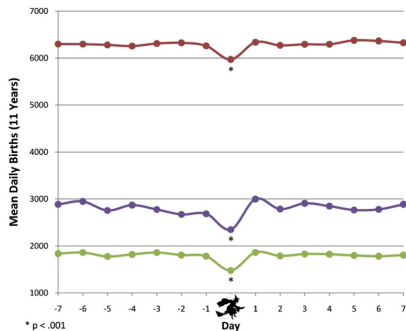
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# The published graphs show data from 30 days in the year

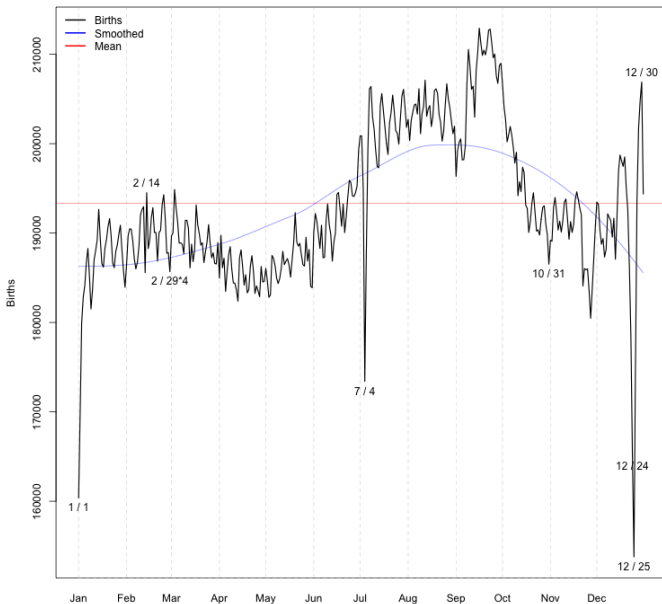
## Valentine's Day: Two-Week Window



## Halloween: Two-Week Window



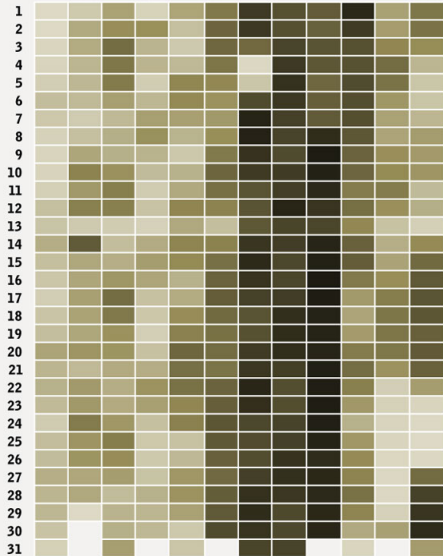
## Births by Day of Year



Source: National Vital Statistics System natality data, as provided by Google BigQuery. Graph by Chris Mulligan (chmullig.com)

# Which Birth Dates Are Most Common?

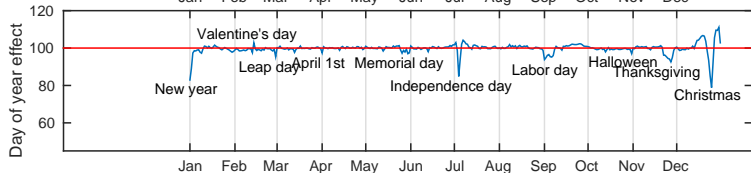
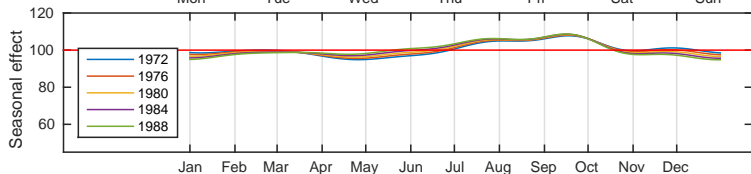
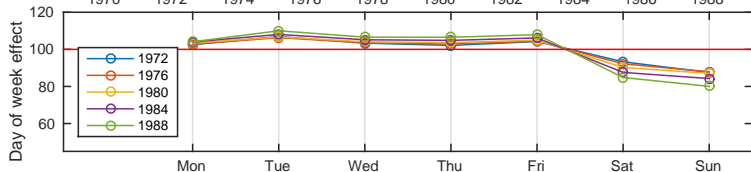
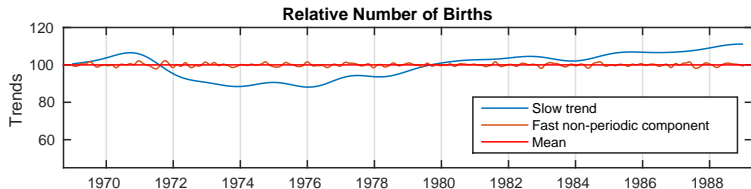
DAY JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

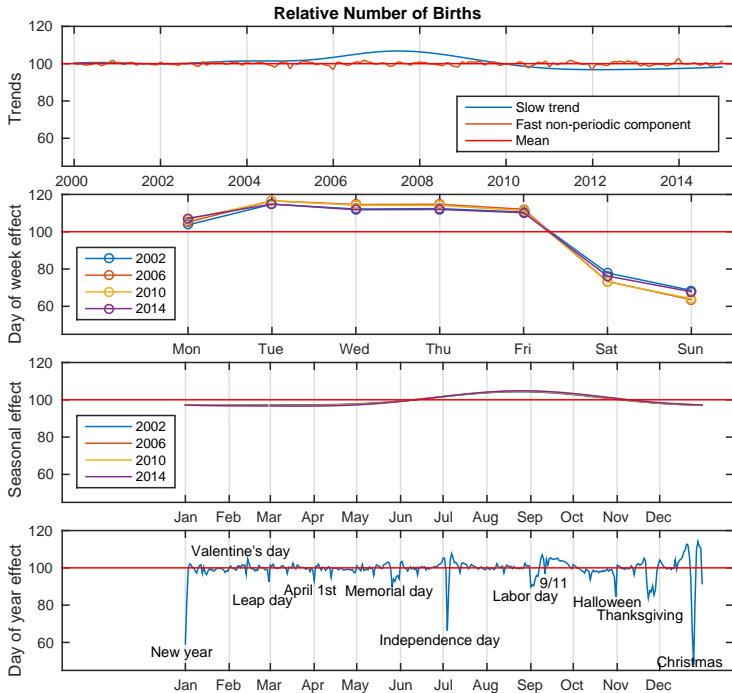


BIRTHDAY RANK

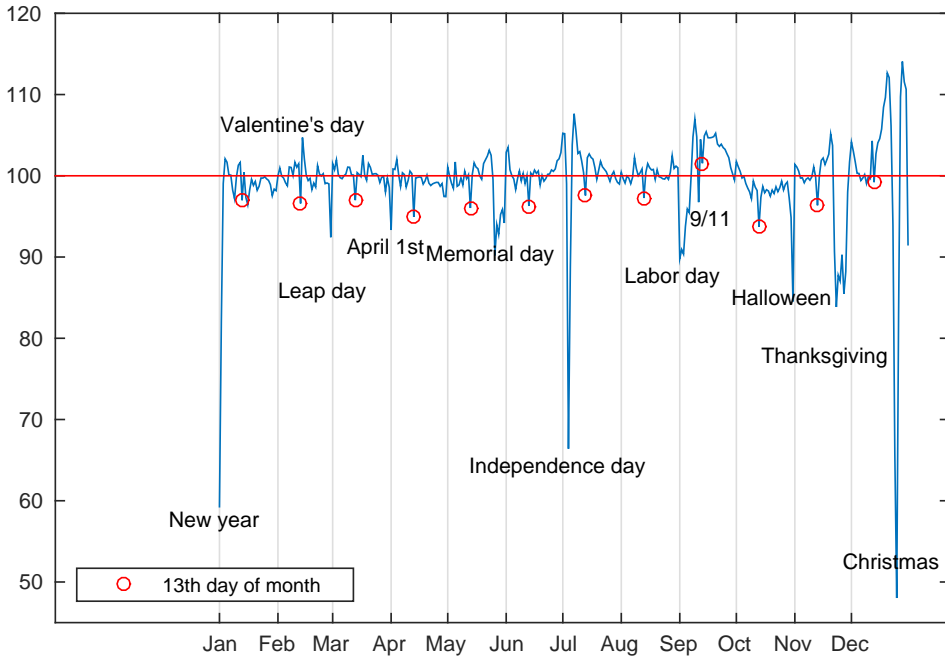
Less common

More common





Day of year effect



# The blessing of dimensionality

- ▶ We learned by looking at 366 questions at once!
- ▶ Consider the alternative ...

# The Fluctuating Female Vote: Politics, Religion, and the Ovulatory Cycle

**Kristina M. Durante<sup>1</sup>, Ashley Rae<sup>1</sup>, and  
Vladas Griskevicius<sup>2</sup>**

<sup>1</sup>College of Business, University of Texas, San Antonio, and <sup>2</sup>Carlson School of Management, University of Minnesota

## Abstract

Each month, many women experience an ovulatory cycle that regulates fertility. Although the cycle influences women's mating preferences, we proposed that it might also change women's political views. Building on theory suggesting that political and religious orientation are linked to reproductive behavior, we tested how fertility influenced women's politics, religiosity, and voting in the 2012 U.S. presidential election. Using data from two studies with large and diverse samples, ovulation had drastically different effects on single women and women in relationships. Ovulation led single women to become more liberal, less religious, and more likely to vote for Barack Obama. In contrast, ovulation led women in committed relationships to become more conservative and more likely to vote for Mitt Romney. In addition, ovulation-induced changes in political orientation mediated women's voting behavior. Overall, the ovulatory cycle not only influences women's politics and religion differently for single women than for women in relationships.

DEAD

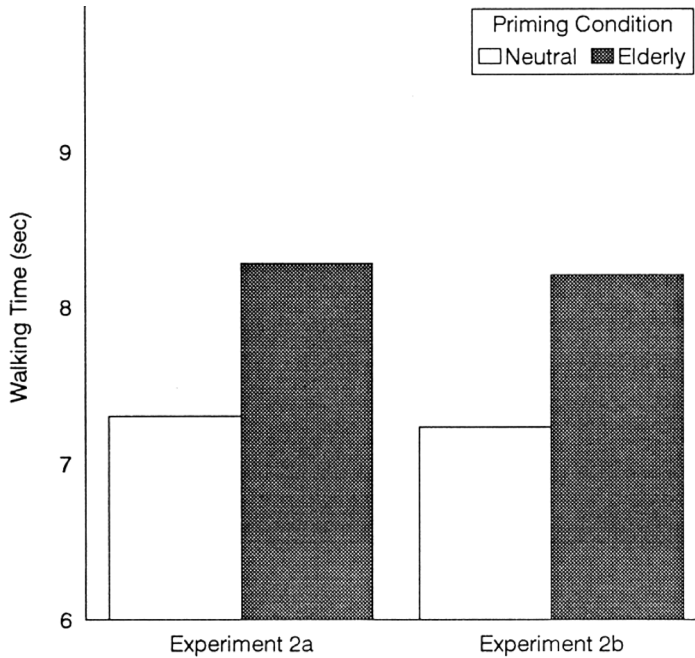
ON ARRIVAL

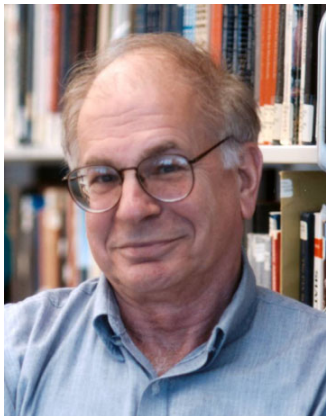
## The famous study of social priming

### *Results*

*Experiment 2a.* A  $t$  test was computed to ascertain the effect of the priming manipulation on walking speed. Participants in the elderly priming condition ( $M = 8.28$  s) had a slower walking speed compared to participants in the neutral priming condition ( $M = 7.30$  s),  $t(28) = 2.86$ ,  $p < .01$ , as predicted.

*Experiment 2b.* In the replication, analyses revealed that participants in the elderly priming condition ( $M = 8.20$  s) again had a slower walking speed compared to participants in the neutral priming condition ( $M = 7.23$  s),  $t(28) = 2.16$ ,  $p < .05$ .





Daniel Kahneman (2011):

*"When I describe priming studies to audiences, the reaction is often disbelief ... The idea you should focus on, however, is that disbelief is not an option. The results are not made up, nor are they statistical flukes. You have no choice but to accept that the major conclusions of these studies are true."*

# Elderly-Related Words Prime Slow Walking (#15)

[Return to View Chart](#)

[How to Cite this Report](#)

Reference to Original Report of Finding

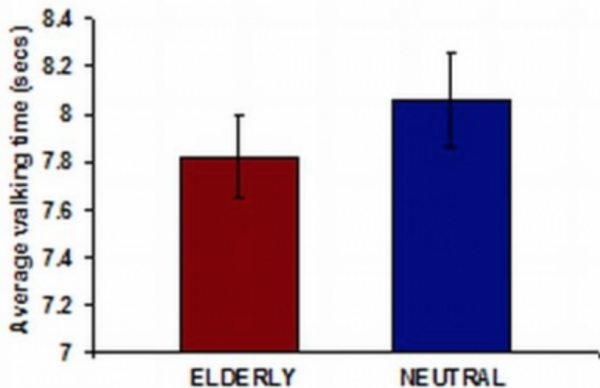
Bargh, J. A., Chen, M., & Burrows, L. (1996). Automatic action. *Journal of Personality and Social Psychology*, 71, 230-244.

Title

Elderly-Related Words Prime Slow Walking

# The attempted replication

Average time (secs) to walk 32ft, as a function of priming stereotype condition



Daniel Kahneman (2011):

*“When I describe priming studies to audiences, the reaction is often disbelief . . . The idea you should focus on, however, is that disbelief is not an option. The results are not made up, nor are they statistical flukes. You have no choice but to accept that the major conclusions of these studies are true.”*

Wagenmakers et al. (2014):

*“[After] a long series of failed replications . . . disbelief does in fact remain an option.”*

Alan Turing (1950):



*"I assume that the reader is familiar with the idea of extra-sensory perception, and the meaning of the four items of it, viz. telepathy, clairvoyance, precognition and psycho-kinesis. These disturbing phenomena seem to deny all our usual scientific ideas. How we should like to discredit them! Unfortunately the statistical evidence, at least for telepathy, is overwhelming."*



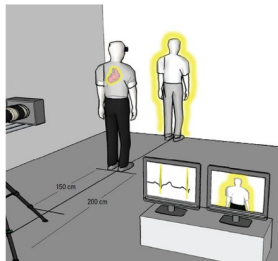


## This Week in *Psychological Science* (TWiPS)

The links below take you to the journal via the APS website. If not already logged in, you will be redirected to log-in using your last name (Gelman) and Member ID (8167).

### [Turning Body and Self Inside Out: Visualized Heartbeats Alter Bodily Self-Consciousness and Tactile Perception](#)

Jane Elizabeth Aspell, Lukas Heydrich, Guillaume Marillier, Tom Lavanchy, Bruno Herbelin, and Olaf Blanke



Studies of body perception have mostly focused on manipulations of exteroceptive cues (e.g., vision and touch); however, interoceptive cues (i.e., representations of internal bodily states) may be just as important for self-perception. Participants viewed a virtual body or a rectangle, each of which had a flashing outline that was synchronous or asynchronous with the participant's own heartbeat. Self-identification was stronger for people viewing the virtual body with the synchronous flashing outline than for those viewing the body with the asynchronous flashing outline or for those viewing the rectangles. This suggests that both interoceptive and exteroceptive cues play

important roles in bodily self-perception.

### [Aging 5 Years in 5 Minutes: The Effect of Taking a Memory Test on Older Adults' Subjective Age](#)

Matthew L. Hughes, Lisa Geraci, and Ross L. De Forrest

Subjective age – how old people feel – is related to psychological and physical well-being. In this study, the researchers examined whether common memory-testing procedures influence adults' subjective age. Older and younger adults rated their subjective age before and after taking a memory test. Older adults reported feeling older after taking the memory test, but younger adults did not. A follow-up study found that

# Psychological SCIENCE

Research, Theory, & Application in Psychology and Related Sciences

A Journal of the Association for Psychological Science

# This week in Psychological Science

- ▶ “Turning Body and Self Inside Out: Visualized Heartbeats Alter Bodily Self-Consciousness and Tactile Perception”
- ▶ “Aging 5 Years in 5 Minutes: The Effect of Taking a Memory Test on Older Adults’ Subjective Age”
- ▶ “The Double-Edged Sword of Grandiose Narcissism: Implications for Successful and Unsuccessful Leadership Among U.S. Presidents”
- ▶ “On the Nature and Nurture of Intelligence and Specific Cognitive Abilities: The More Heritable, the More Culture Dependent”
- ▶ “Beauty at the Ballot Box: Disease Threats Predict Preferences for Physically Attractive Leaders”
- ▶ “Shaping Attention With Reward: Effects of Reward on Space- and Object-Based Selection”
- ▶ “It Pays to Be Herr Kaiser: Germans With Noble-Sounding Surnames More Often Work as Managers Than as Employees”

# This week in Psychological Science

- ▶  $N = 17$
- ▶  $N = 57$
- ▶  $N = 42$
- ▶  $N = 7,582$
- ▶  $N = 123 + 156 + 66$
- ▶  $N = 47$
- ▶  $N = 222,924$

# The Fluctuating Female Vote: Politics, Religion, and the Ovulatory Cycle

**Kristina M. Durante<sup>1</sup>, Ashley Rae<sup>1</sup>, and  
Vladas Griskevicius<sup>2</sup>**

<sup>1</sup>College of Business, University of Texas, San Antonio, and <sup>2</sup>Carlson School of Management, University of Minnesota

## Abstract

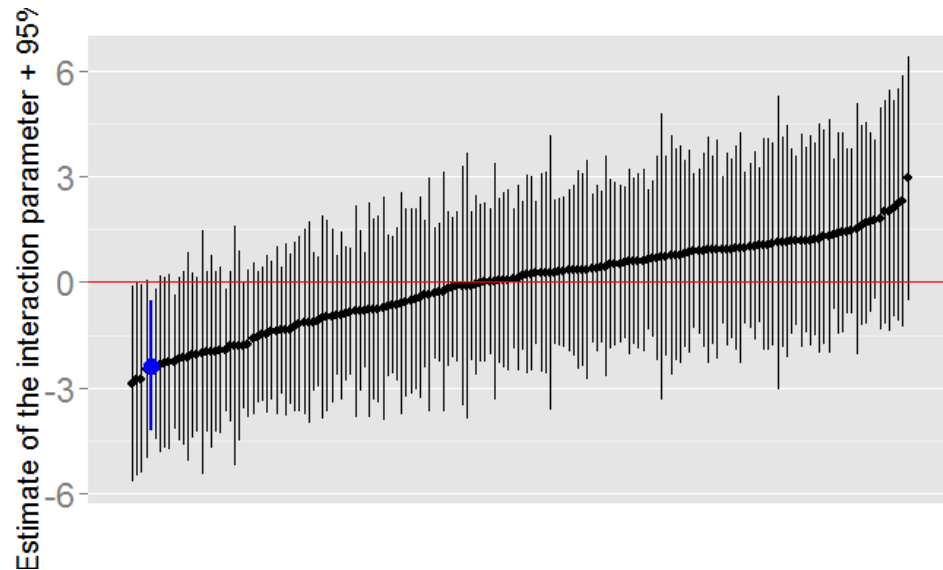
Each month, many women experience an ovulatory cycle that regulates fertility. Although the ovulatory cycle influences women's mating preferences, we proposed that it might also change women's political views. Building on theory suggesting that political and religious orientation are linked to reproductive goals, we tested how fertility influenced women's politics, religiosity, and voting in the 2012 U.S. presidential election. Using data with large and diverse samples, ovulation had drastically different effects on single women and women in relationships. Ovulation led single women to become more liberal, less religious, and more likely to vote for Obama. In contrast, ovulation led women in committed relationships to become more conservative.

# Choices!

1. Exclusion criteria based on cycle length (3 options)
2. Exclusion criteria based on “How sure are you?” response (2)
3. Cycle day assessment (3)
4. Fertility assessment (4)
5. Relationship status assessment (3)

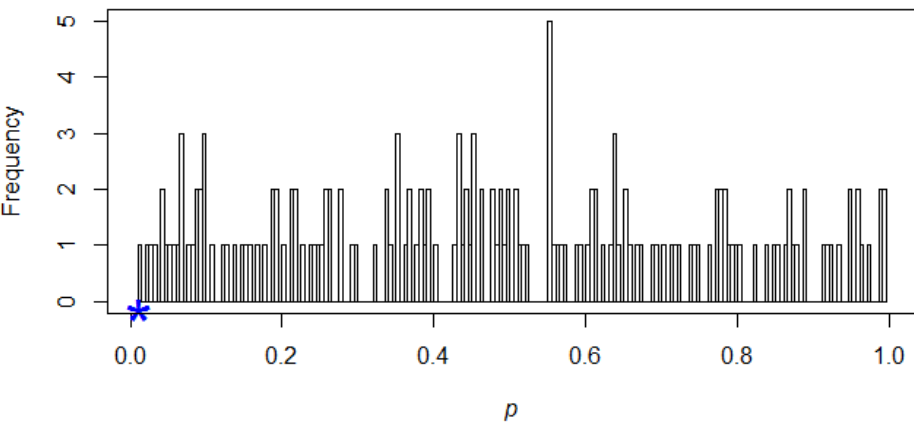
168 possibilities (after excluding some contradictory combinations)

# Living in the multiverse



# Living in the multiverse

Histogram of  $p$ -values for fertility x relationship

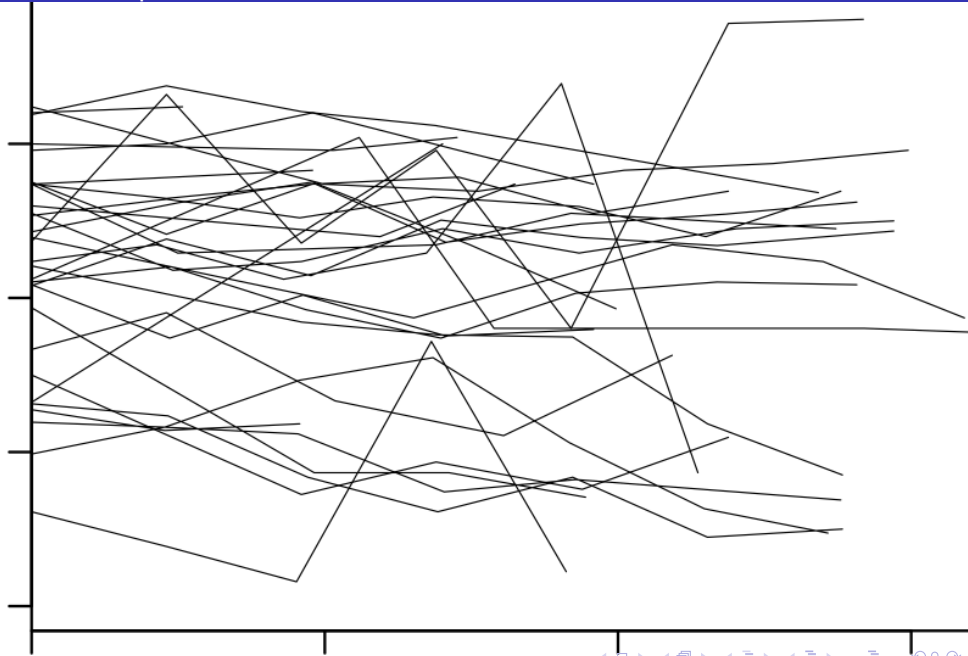


# Interactions and the freshman fallacy

From an email I received:

Complaining that subjects in an experiment were not randomly sampled is what freshmen do before they take their first psychology class. I really **\*hope\*** you why that is an absurd criticism – especially of authors who never claimed that their study generalized to all humans.

# Within-person studies







# The Fluctuating Female Vote: Politics, Religion, and the Ovulatory Cycle

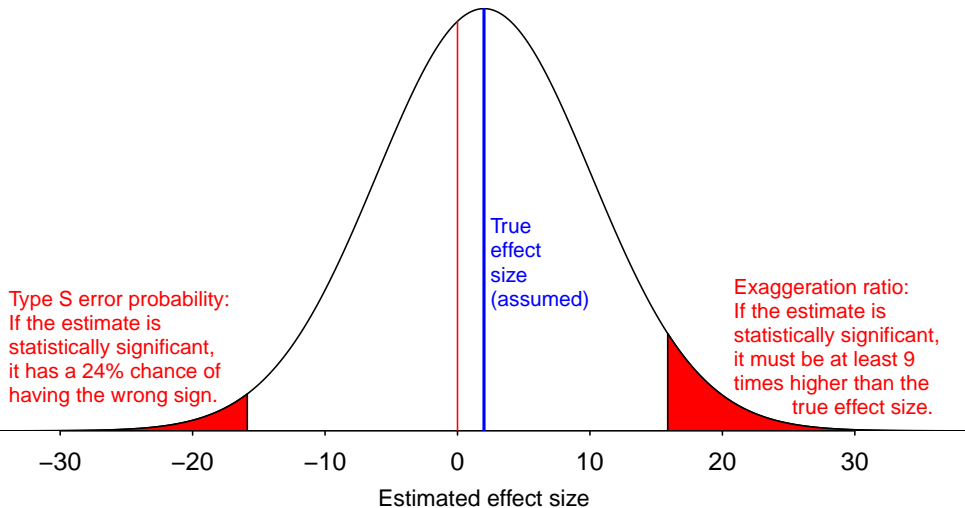
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**This is what "power = 0.06" looks like.  
Get used to it.**



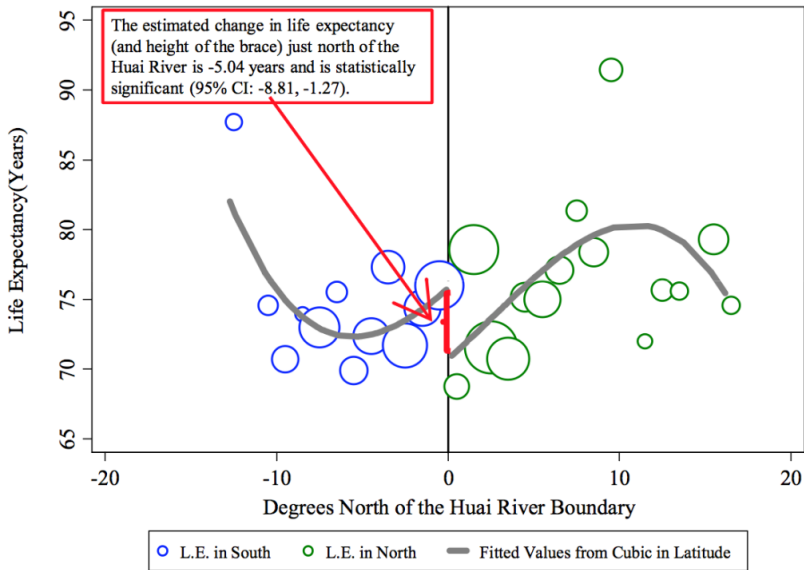
# Political science!

- ▶ Monthly cycle and voting
- ▶ Fat arms and political attitudes
- ▶ Subliminal smiley faces
- ▶ College football
- ▶ Shark attacks
- ▶ What if it were all true??



# Statistical errors are reinforced by statistical ideology

- ▶ Deterministic thinking
- ▶ “Statistical significance”
- ▶ “Unbiased estimation”
- ▶ “Rigor”



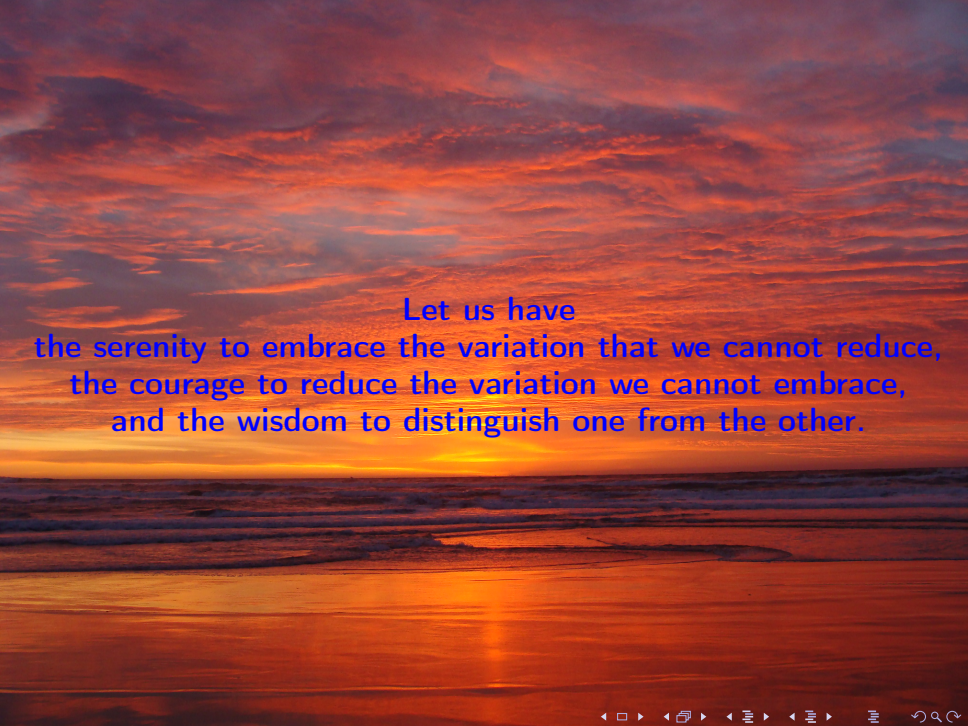
**Fig. 3.** The plotted line reports the fitted values from a regression of life expectancy on a cubic in latitude using the sample of DSP locations, weighted by the population at each location.

# The sociology of junk science

- ▶ The problem with peer review is the peers
- ▶ What do fraud, sloppy-on-purpose research, and incompetence often have in common?

# The way forward

- ▶ Changing the incentives
- ▶ Study effects in context, not in isolation
- ▶ Being “Bayesian”



Let us have  
the serenity to embrace the variation that we cannot reduce,  
the courage to reduce the variation we cannot embrace,  
and the wisdom to distinguish one from the other.