

# Physical and situational inequality on airplanes predicts air rage

Katherine A. DeCelles<sup>a,1</sup> and Michael I. Norton<sup>b</sup>

Author Affiliations 

Edited by Susan T. Fiske, Princeton University, Princeton, NJ, and approved March 30, 2016 (received for review November 3, 2015)

Abstract Full Text Authors & Info SI Metrics PDF PDF + SI

## Significance

We suggest that physical and situational inequality are built into people's everyday environments—such as the modern airplane—and that exposure to these forms of inequality can trigger antisocial behavior. Analyses reveal that air rage is more common in economy class on airplanes, where inequality is physically present, and in both economy and first class when inequality is situationally salient. We extend research demonstrating that the salience of inequality decreases prosocial behavior by higher class individuals, showing that temporary exposure to physical and situational inequality predicts antisocial behavior among individuals in both higher and lower classes. Moreover, we explore a novel predictor of inequality-induced antisocial behavior—the design of physical environments—augmenting research on macrostructural forms of inequality.



## First-class cabin fuels 'air rage' among passengers flying coach, study says

Los Angeles Times - 5 hours ago

If you've felt your blood pressure rise after seeing passengers being served champagne on the tarmac while you're fighting for overhead space in coach, you are not alone. A new **study** finds that class division in the skies can have a real and ...



## Air rage triggered by walking past first-class seating, study says

CNN - 20 hours ago

(CNN) What is it about **air** travel that brings out the worst in us? We squabble for space in the overhead compartment and on the armrest. Some passengers have even been caught kicking each other and screaming at the **flight** crew, as YouTube videos bear ...

## Higher Rates of 'Air Rage' Linked to Flights With First-Class Cabin, Study Finds

ABC News - 18 hours ago

Researchers from the University of Toronto examined how having a first-class cabin on board and having passengers walk through that cabin was associated with an increase of "**air rage**" incidents, where passengers become unruly or abusive. The **study** was ...



## 'Air rage' largely based on seat class, study finds

CTV News - 20 hours ago

That feeling lies behind her latest paper, published Monday, which concludes that inequality between seat classes is the largest single contributor to **air rage**. The effect intensifies, DeCelles suggests, when the plebes file past the high rollers ...

## Link Between Presence of First Class Cabin and Air Rage, Study Says

KMBZ - 19 hours ago



# Air rage? Blame the first-class cabin

By [Ben Panko](#) | May. 2, 2016 , 3:00 PM

It started commonly enough—a group of tourists returning to China from Thailand complained to the staff on their airplane about not being able to sit together. But one member of the group then threatened to blow up the plane after not getting their request, while another later threw a cup of boiling hot water onto a flight attendant after she couldn't give him change in Chinese currency. Such “air rage” incidents are on the rise, and a new study may reveal why. After analyzing data on “disruptive passenger incidents” from an airline company’s database of millions of domestic and international airline flights, researchers found that **flights with a first-class section were nearly four times more likely to have air rage incidents in their economy class**, and that these

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Nov 3, 2009 - **Susan Fiske**, Danny Kahneman, Debbie Prentice. September 1998 ...  
**Michael Norton**, Derek Rucker, and Cait Lamberton (Eds.) (2015).

### Ahhhh, PPNAS! - Statistical Modeling, Causal Inference, and ...

[andrewgelman.com/2016/05/03/ahhhh-ppnas/](http://andrewgelman.com/2016/05/03/ahhhh-ppnas/) ▼

May 3, 2016 - ... "Physical and situational inequality on airplanes predicts air rage," by Katherine DeCelles and **Michael Norton**, edited by **Susan Fiske**, and it ...

# **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*

# 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.



## 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.



MIND

# The Surprising Problem of Too Much Talent

A new finding from sports could have implications in business and elsewhere

Roderick Swaab and colleagues suggests there is a limit to the benefit top talents bring to a team. Swaab and colleagues compared the amount of individual talent on teams with the teams' success, and they find striking examples of more talent hurting the team.

# **The Too-Much-Talent Effect: Team Interdependence Determines When More Talent Is Too Much or Not Enough**

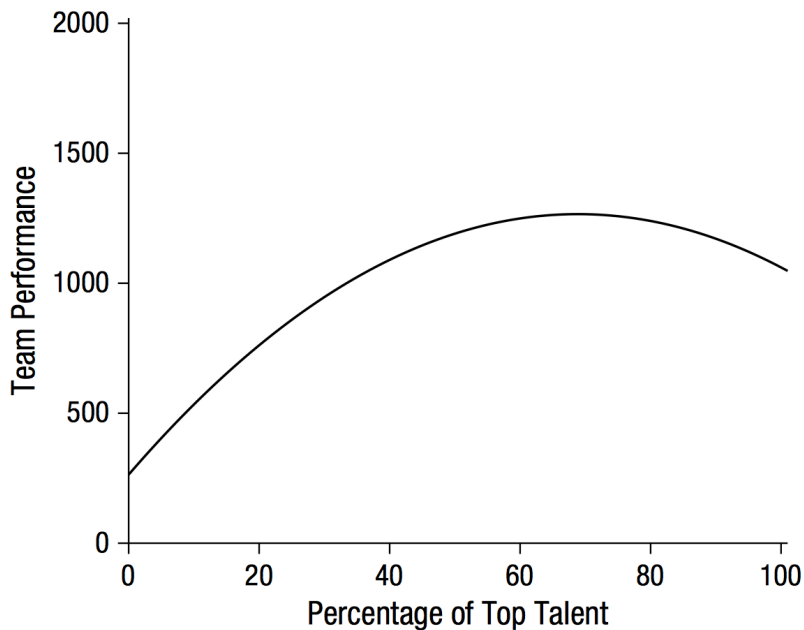


**Roderick I. Swaab<sup>1</sup>, Michael Schaerer<sup>1</sup>, Eric M. Anicich<sup>2</sup>,  
Richard Ronay<sup>3</sup>, and Adam D. Galinsky<sup>2</sup>**

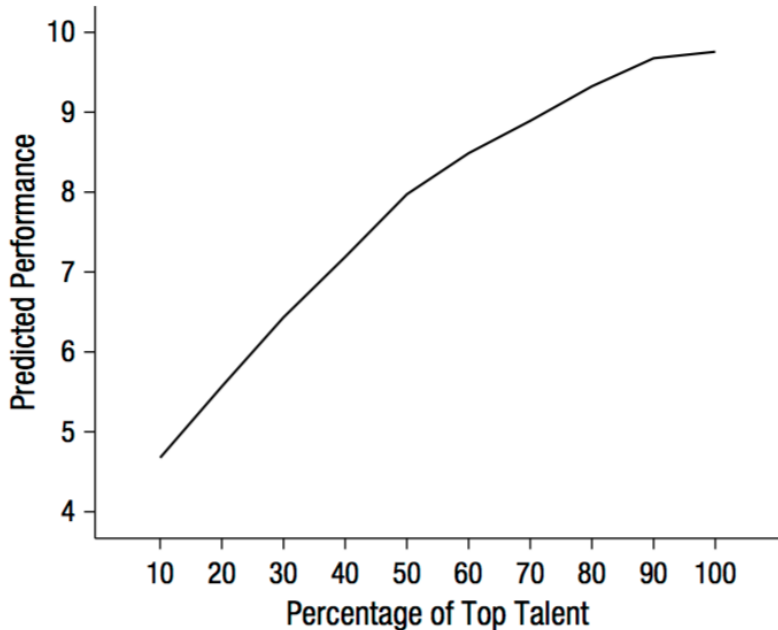
<sup>1</sup>Organisational Behaviour Area, INSEAD, Fontainebleau, France; <sup>2</sup>Management Department, Columbia University; and <sup>3</sup>Department of Social and Organizational Psychology, VU University Amsterdam

Psychological Science  
2014, Vol. 25(8) 1581–1591  
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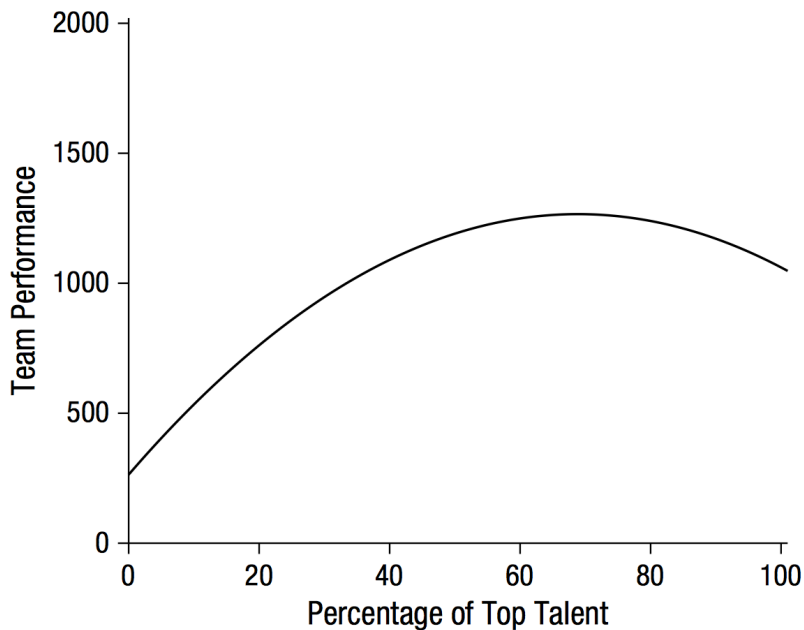
## The curve they fit to the data



## What ordinary people expected to see



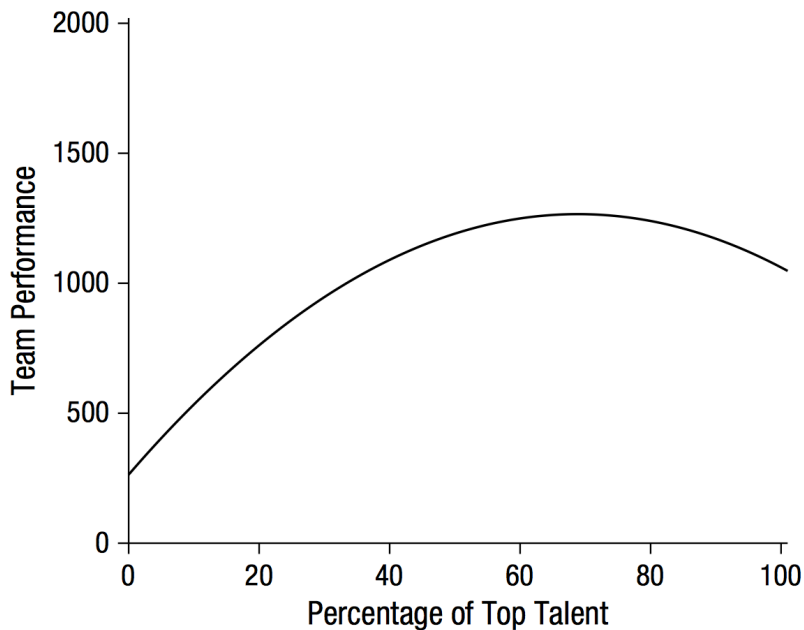
## The curve they fit to the data



**Table 1.** Descriptive Statistics and Correlations in Study 2

Measure	<i>M</i>	<i>SD</i>
1. Team performance (points)	393.30	320.12
2. Top-talent percentage	7%	16%
3. Roster size	18.53	6.79
4. Games played	8.90	4.65

The curve they fit to the data ...





...the data!

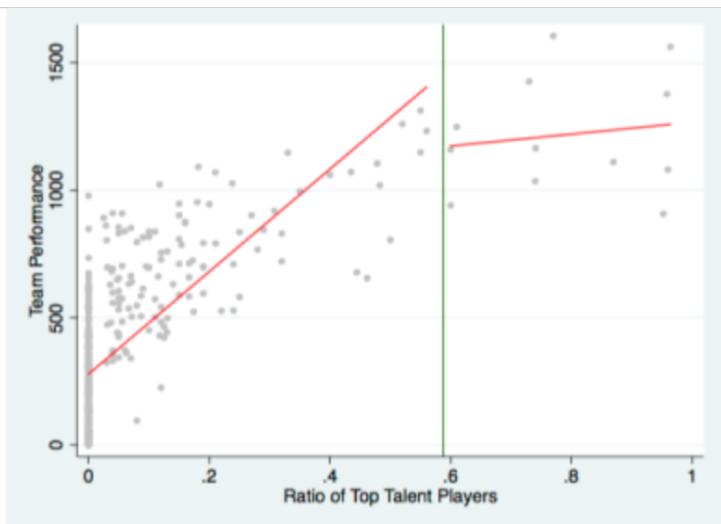


Figure 3d. Soccer performance – top talent (Top 20+ Clubs). S&N test reveals that the first slope is significant and positive ( $p \leq .001$ ) and that the second slope is not significant ( $p = .53$ ).

# The Crisis in Science and the Crisis in Science Journalism

Andrew Gelman

Department of Statistics and Department of Political Science,  
Columbia University

Swiss Association for Science Journalism, 11 May 2016

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[HTML] [Why \*\*most published\*\* research findings are false](#)

[JPA Ioannidis](#) - PLoS medicine, 2005 - [dx.plos.org](#)

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## Journal's Paper on ESP Expected to Prompt Outrage

By [BENEDICT CAREY](#)

Published: January 5, 2011

One of psychology's most respected journals has agreed to publish a paper presenting what its author describes as strong evidence for extrasensory perception, the ability to sense future events.

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The decision may delight believers in so-called paranormal events, but it is already mortifying

## Marc Hauser Resigns From Harvard



*By Tom Bartlett*

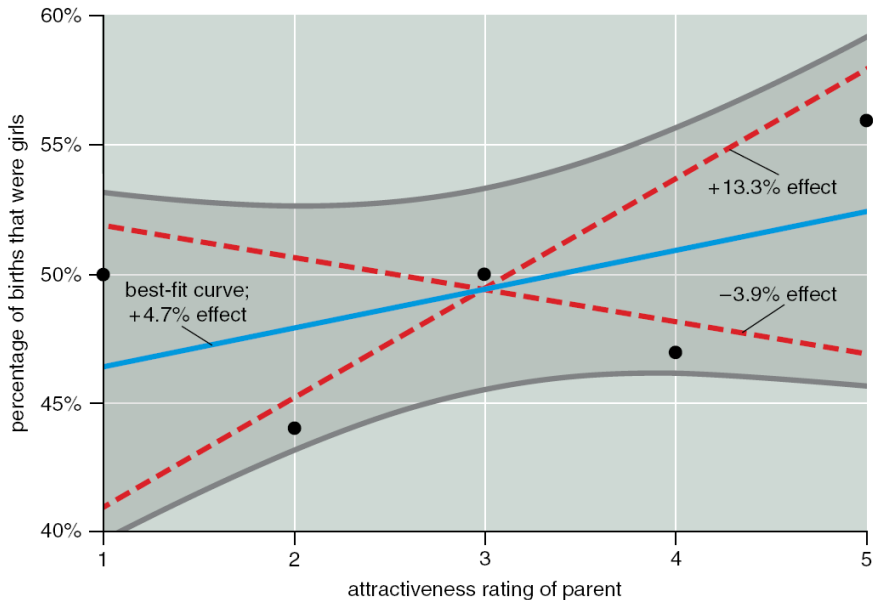
Marc D. Hauser, the Harvard psychologist found responsible for eight counts of misconduct by the university, has ended speculation about whether

# Beautiful parents have more daughters?

- ▶ S. Kanazawa (2007). Beautiful parents have more daughters: a further implication of the generalized Trivers-Willard hypothesis. *Journal of Theoretical Biology*.
- ▶ Attractiveness was measured on a 1–5 scale (“very unattractive” to “very attractive”)
  - ▶ 56% of children of parents in category 5 were girls
  - ▶ 48% of children of parents in categories 1–4 were girls
- ▶ Statistically significant (2.44 s.e.’s from zero,  $p = 1.5\%$ )



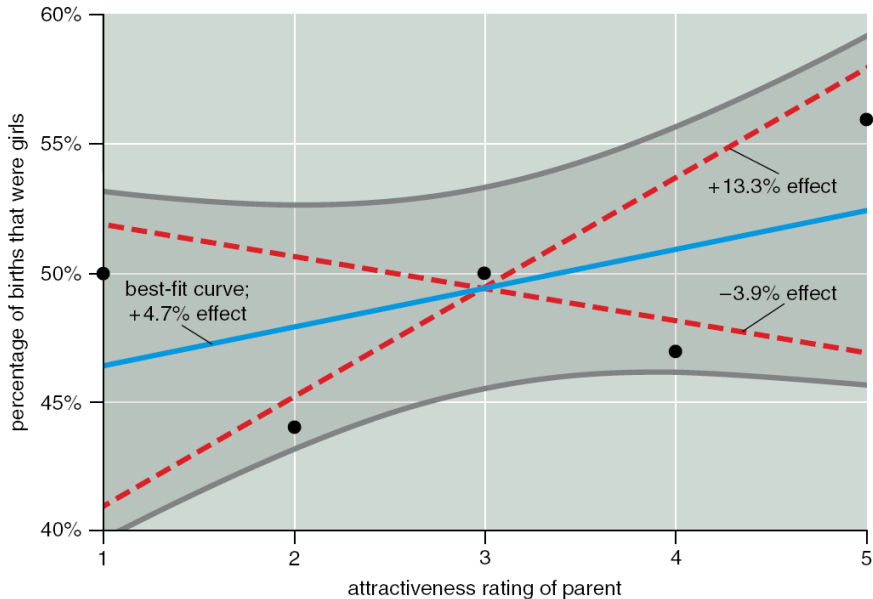
# The data and fitted regression line



# Background on sex ratios

- ▶ Pr (boy birth)  $\approx 51.5\%$ 
  - ▶ Boys die at a higher rate than girls
  - ▶ At age 20, the number of boys and girls is about the same
  - ▶ Evolutionary story
- ▶ What can affect Pr (boy births)?
  - ▶ Race, parental age, birth order, maternal weight, season of birth: effects of about 1% or less
  - ▶ Extreme poverty and famine: effects as high as 3%
- ▶ We expect any effects of beauty to be less than 1%

# Noise!



# Which headline sells more papers?

## The Daily Mail

Sunday, August 2, 2006

### Beautiful parents have more

A new study by Satoshi Kanazawa, an evolutionary psychologist at the London School of Economics, suggests there are more beautiful women in the world than there are handsome men.

Why? Kanazawa argues it's because good-looking parents are 36 percent more likely to have a baby daughter as their first child

than a baby son, which suggests, evolutionarily speaking, that beauty is a trait more valuable for women than for men.

The study was conducted with data from 3,000 Americans, derived from the National Longitudinal Study of Adolescent Health, and was published in the Journal of Theoretical Biology.

Research follows

The relationship between the behavior of a population in its behavior

## The Daily Mail

Sunday, August 2, 2006

### No compelling evidence that

A new study by Satoshi Kanazawa, a reader in management and research methodology at the London School of Economics, found no compelling evidence that beautiful parents are more or less likely to have daughters.

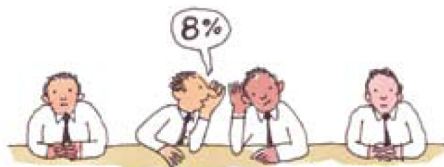
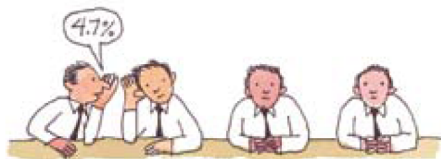
Why? A naive data summary appears to show that beautiful parents have daughters at a rate of 5

percentage points more than the general population, but in fact the sample size in this study was too small to have any chance at uncovering effects of 1 percentage points, which is all that could be realistically expected in this situation, given what is already known from the extensive existing literature on sex ratios.

Research follows

The relationship between the behavior of a population in its behavior

# Communication of the findings



# How to evaluate such claims?

- ▶ From the *Freakonomics* blog:
  - ▶ “A new study by Satoshi Kanazawa, an evolutionary psychologist at the London School of Economics, suggests . . . there are more beautiful women in the world than there are handsome men. Why? Kanazawa argues it’s because good-looking parents are 36 percent more likely to have a baby daughter as their first child than a baby son—which suggests, evolutionarily speaking, that beauty is a trait more valuable for women than for men. The study was conducted with data from 3,000 Americans, derived from the National Longitudinal Study of Adolescent Health, and was published in the *Journal of Theoretical Biology*.”
- ▶ If Steven Levitt can’t get this right, who can??

# My reaction

- ▶ The claim of “36%” raised suspicion
  - ▶ 10 to 100 times larger than reported sex-ratio effects in the literature
- ▶ An avoidable error:
  - ▶ Small sample size . . .
  - ▶ Standard error of 4.3 percentage points . . .
  - ▶ To be “statistically significant,” the estimate must be at least 2 standard errors away from 0 . . .
  - ▶ Any statistically significant finding is *necessarily* a huge overestimate!

# Why is this not obvious?

- ▶ Statistical theory and education are focused on estimating one effect at a time
- ▶ “Statistical significance” is a useful idea, but it doesn’t work when studying very small effects
- ▶ Methods exist for including prior knowledge of effect sizes, but these methods are not well integrated into statistical practice



## Discovered: the genetic secret of a happy life

BY JEREMY LAURANCE, HEALTH EDITOR | FRIDAY 06 MAY 2011

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Some people are born happy, scientists say. Researchers have identified a "happiness gene" that makes people more likely to feel satisfied with their lives. Their sunny disposition is an accident of birth, at least in part.

Those who carry the less efficient version of the gene are more likely to be pessimistic. Their tendency to see the glass half empty is equally a part of their inheritance.

The finding is the first to demonstrate a link between the gene, called 5-HTT, and satisfaction. People with the long version are more likely to be cheerful while sulkiness is the default position of those with the short version. Knowing which version of the gene they carry may help people improve their mood.

### Suggested Topics

[Biology](#)[Genetics](#)[Chemicals](#)[The Brain](#)

## “Discovered: the genetic secret of a happy life”

From the news article:

*“Researchers have identified a ‘happiness gene’ that makes people more likely to feel satisfied with their lives . . . The finding is the first to demonstrate a link between the gene, called 5-HTT, and satisfaction . . . Those with two long versions of the gene were 17 per cent more likely to say they were very satisfied. . . .”*

From the research article by De Neve, Fowler, and Frey:

*“Having one or two alleles . . . raises the average likelihood of being very satisfied with one’s life by 8.5% and 17.3%, respectively.”*

From the *text* of the research article:

*"Having one or two alleles ... raises the average likelihood of being very satisfied with one's life by 8.5% and 17.3%, respectively."*

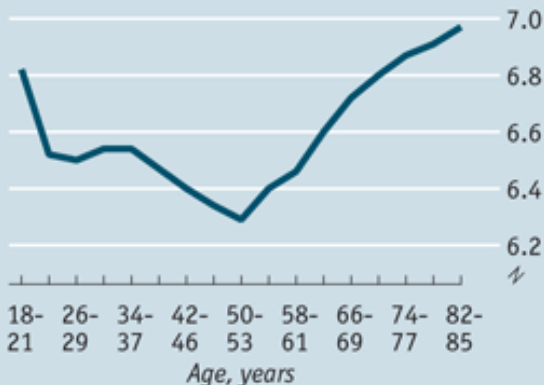
From the *tables*:

- ▶ 46% of people who had two copies of the gene described themselves as satisfied and 41% described themselves as very satisfied. The corresponding percentages for those with no copies were 44% and 37%.
- ▶ Reported maximum difference is 4 percentage points (and not statistically significant), *not* 17%.

# Happiness and life satisfaction

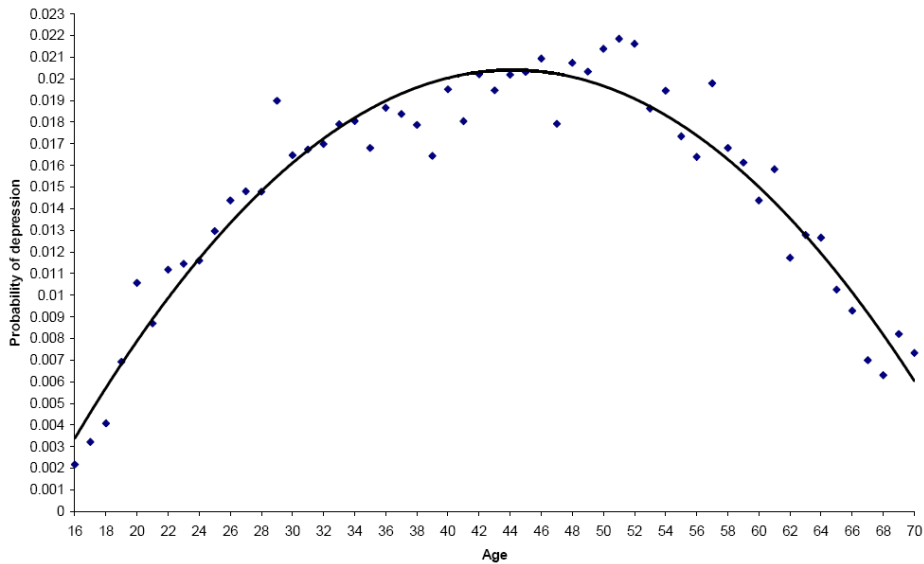
## The U-bend

Self-reported well-being, on a scale of 1-10



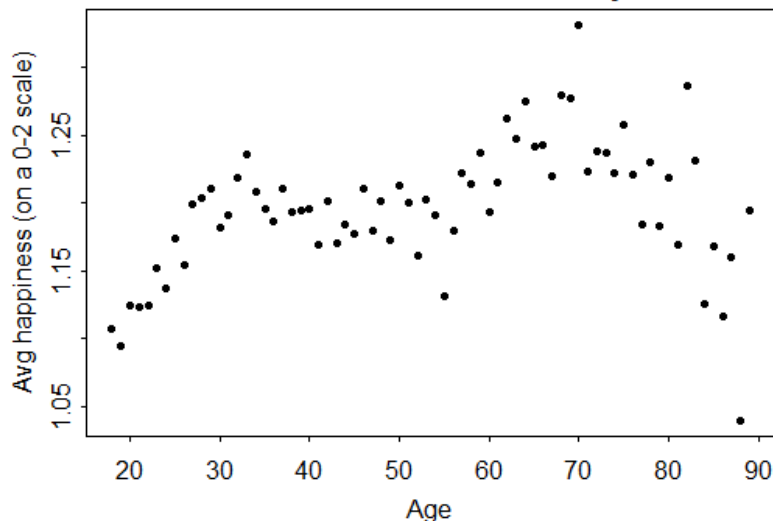
Source: PNAS paper: "A snapshot of the age distribution of psychological well-being in the United States" by Arthur Stone

# Data!



## More data

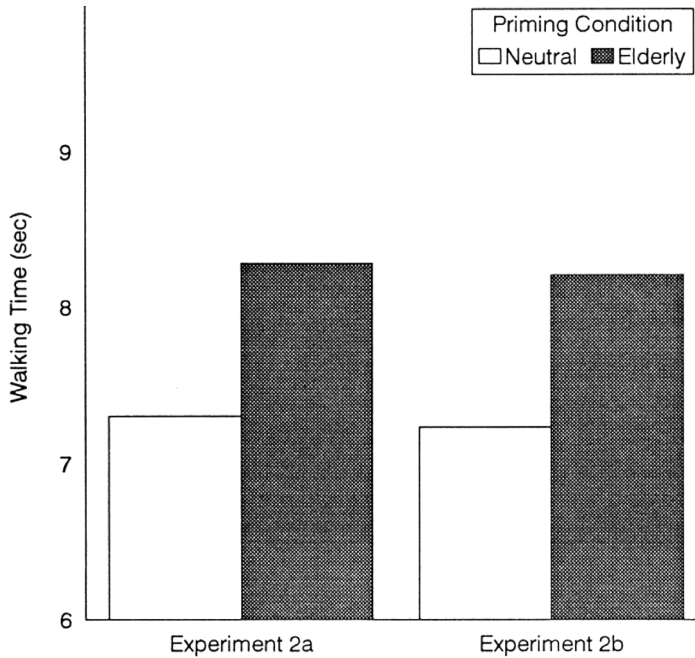
**Average happiness as a function of age,  
from General Social Survey**



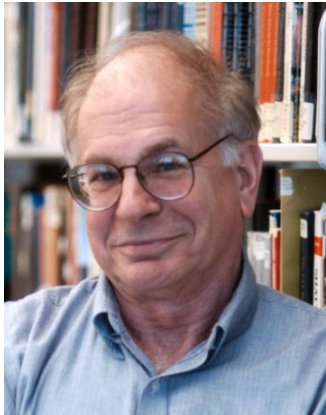
### *Results*

*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)

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Reference to Original Report of Finding

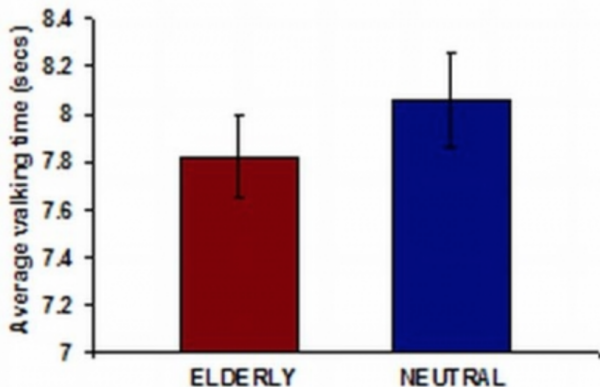
Bargh, J. A., Chen, M., & Burrows, L. (1996). Automatic action. *Journal of Personality and Social Psychology*, 71, 230-244.

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."*

# 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.

# 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?

# OK, time to stop!

- ▶ The problem
- ▶ What can YOU do about it?