

RESEARCH INTEGRITY: MACROETHICS

# RESEARCH ETHICS OUTSIDE THE BOX

Easiest way to live a happy life? Pose! Use the powers of nonverbal communication to achieve greatness!

Can Make You Feel More Powerful

# THE WALL STREET JOURNAL.

## How 'Power Poses' Can Help Your Career

Posture actually affects a person's hormones and behavior, new research shows

WIRED

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## This Simple 'Power Pose' Can Change Your Life And Career

# A New Replication Suggests 'Power Posing' Is a Waste of Time, but Here's Why You'll Still Be Told to Do It for Years to Come

🕒 Over a year ago

by SIMON OXENHAM



# How a study about Chronic Fatigue Syndrome was doctored, adding to pain and stigma

March 22, 2017 9:06pm EDT



Dr. Ellen Wright Clayton, who has worked with those who have Chronic Fatigue Syndrome, spoke to an open committee at the Institute of Medicine in February 2015 about the biomedical nature of CFS. Susan Walsh/AP

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The public relies on scientists to report their findings accurately and completely, but that does not always happen. Too often, researchers announce only their most favorable outcomes, while keeping more disappointing results [well out of sight](#).

This phenomenon, first identified by the psychologist [Robert Rosenthal](#) in 1979, is called the “file drawer problem.” Although it is widely recognized – affecting [drug trials](#), [psychology](#) experiments and most other fields – it has seldom been documented, for obvious reasons. Suppressed results are, well, suppressed, and they are usually discovered only by chance.

It was therefore almost unprecedented when a group of patients, at the end of last year, successfully [unmasked the skewed data](#) behind an [influential British study](#), first published in *Lancet* in 2011, of the devastating disease known as Chronic

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## Disclosure statement

Steven Lubet does not work for, consult, own shares in or receive funding from any company or organization that would benefit from this article, and has disclosed no relevant affiliations beyond the academic appointment above.

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COFFEE HOUSE

# It's time to admit that chronic fatigue syndrome is not actually a chronic illness

Rod Liddle



So, as we knew all along, chronic fatigue syndrome – or ME – is not a chronic illness at all.

The Oxford study suggests that what people suffering from ME need to do is quite simple: get out for a nice walk once in a while and maybe see a shrink. But I suppose the ME lobby will now turn its bizarre loathing on the university. Nothing will stop them believing it's a virus, or caused by pollution, or a conspiracy on the part of the government and health professionals.

–ROD LIDDLE , THE SPECTATOR

FIRST OPINION

# Bad science misled millions with chronic fatigue syndrome. Here's how we fought back

By JULIE REHMEYER / SEPTEMBER 21, 2016



# WHAT CAN BE DONE?

Should we rely on punishment? Are these bad actors?

The work was conducted in good faith based on phenomena thought to be true at the time... The data are real. It is an effect that doesn't replicate. And as the evidence against the effect mounted I updated my beliefs. It seems like this is the nature of good science and I am glad we know the effect is not likely real so that folks don't spend precious time on it.

—DANA CARNEY

# WHY DOES THIS HAPPEN?

- “Researchers don’t p-hack in a vacuum - they (usually) don’t sit around smoking cigars contriving ways to gin up fake results and hoodwink the public. Rather, when they cut corners it’s partly because they are too confident in their theory.” (Bartlett, 2017)
- There are “true believers” who are unable to imagine that the results won’t support their theory.
- “The scientific establishment too frequently rewards dubious work and seems to prefer flashiness over rigor.” (Bartlett, 2017)

Culture of the ‘scientific superstar’

# SOCIAL AND INFORMATIONAL BIASES

- Social biases influence connectivity with others - similarity attraction bias/in-group dynamics
- Informational biases influence the weight given to other points of view or contrary evidence/observations - confirmation bias

“It is hard to attend to divergent ideas and even more so when they are delivered by those who are not in one’s in-group” (Bourke 2016)

# HOW DO WE ALLOW RESEARCHERS TO SUCCEED?

- Methodological fixes and Organizational fixes
  - Blinding, double-blinding and randomization
  - Distance between investigator and subject
  - Looking at small sample size studies as exploratory (Gelman & Lohen 2013)

# ORGANIZATIONAL FIXES

- Education: not a “one-off” ethics course; social psychology and social and informational biases
- Transparency: record keeping systems and written policies that are robust and not optional; particularly of observations that do not support your hypothesis

“(I) followed a golden rule, namely, that whenever a published fact, a new observation or thought came across me, which was opposed to my general results, to make a memorandum of it without fail and at once; for I had found by experience that such facts and thoughts were far more apt to escape from the memory than favorable ones.”

—CHARLES DARWIN

# ORGANIZATIONAL FIXES

- Data-sharing exercises between researchers and teams foster accountability
- “Accountability motivates subjects to process social information in more analytic and complex ways that can check judgmental biases and the *timing* of accountability appears more effective in *preventing* than reversing judgmental bias.” (Tetlock, 1985)
- Creating a culture of diverse thinking

# ENABLERS OF DIVERSITY OF THINKING

- Surface level diversity - group composition: race, gender, functional roles and educational disciplines
- Deep level diversity - combinations of mental frameworks for problem solving (process oriented, evidence oriented etc...)
- Mitigation of bias that pulls towards the status quo: mindfulness and conscious effort
- Inclusive leadership that models collaboration, and creates an environment that respects and values diversity (generation of ideas/identification of risks) (Bourke 2016)

# CHANGING THE CULTURE OF A RESEARCH ENTERPRISE

- Enhancing community between diverse people by providing opportunities for conversation and exchanges of ideas both formal and informal
- Creating a culture that respectfully questions all assumptions and generalizations, whether biased or not. (Murray 2016)
- Absolute adherence to ensuring all members of a group feel comfortable questioning assumptions - the anti-hierarchy.

# CHANGE IN LEADERSHIP STRUCTURE

“The old IQ was focused around individual intelligence. The new IQ is based on more of a group intelligence. The old IQ is about how smart you are; the new IQ is about how smart you make your team.... Instead of a leader leading from the top of the pyramid, they lead from the middle of the circle.”

–BRUCE STEWART IN BOURKE & DILLON 2015

# A WORD ABOUT COMMUNICATION: WHAT SCIENTISTS SAY MATTERS

- Reliability of Science - people rely on science to do it right, get it right and tell it right
- Obligation of individual researchers and on research laboratories
- Take care in communicating about small sample sizes
- Avoid hype - not good scientific practices to make strong general claims based on noisy data

# Exposed: How world leaders were duped into investing billions over manipulated global warming data



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## Former NOAA Scientist Confirms Colleagues Manipulated Climate Records

Feb 5, 2017 | Press Release

WASHINGTON – U.S. House of Representatives Committee on Science, Space, and Technology members today responded to reports about the National Oceanic and Atmospheric Administration’s (NOAA) 2015 climate change study (“the Karl study”). According to Dr. John Bates, the recently retired principal scientist at NOAA’s National Climatic Data Center, the Karl study was used “to discredit the notion of a global warming hiatus and rush to time the publication of the paper to influence national and international deliberations on climate policy.”

**Chairman Lamar Smith (R-Texas):** “I thank Dr. John Bates for courageously stepping forward to tell the truth about NOAA’s senior officials playing fast and loose with the data in order to meet a politically predetermined conclusion. In the summer of 2015, whistleblowers alerted the Committee that the Karl study was rushed to publication before underlying data issues were resolved to help influence public debate about the so-called Clean Power Plan and upcoming Paris climate

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newspaper the representative Lamar Smith (R-Texas) yesterday expressed his true feelings in public, but speaking yesterday to a like-minded crowd of climate change doubters and skeptics, the chairman of the

# MACRO EFFECTS

- Bringing science into disrepute
- Facts become disputable in nature - the era of “alternative facts”
  - Facts that are successfully disputed cease to be facts; theories that are successfully disputed continue to be theories

