



Elsevier Publishing Campus

Gender Bias in Academic Publishing

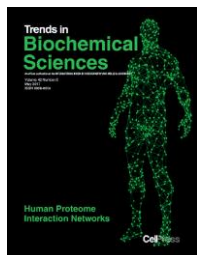


Dr Joanne Kamens, *Executive Director, Addgene*

Dr Nicole Neuman, *Editor, Trends in Biochemical Sciences*

Dr Kate Hibbert, *Associate Publisher, Elsevier*

 **addgene**
The nonprofit plasmid repository



11 May 2017

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PUBLISHING CAMPUS WEBINAR

Gender bias in
academic publishing

Speakers: Kate Hibbert,
Joanne Kamens
and Nicole Neuman

ELSEVIER

Public

Gender bias in academic publishing

Biochemistry, Genetics and Molecular Biology

Member

About the speaker

Joanne Kamens

1986: BA in biology, University of Pennsylvania

1992: PhD in genetics, Harvard University



Currently:

Executive Director, Addgene

Expertise: Science sharing, diversity in science, women in the workplace, mentoring, management and science careers.



@JKamens & @Addgene



The nonprofit plasmid repository

About the speaker

Nicole Neuman

2004: BS in biotechnology, Calvin College

2009: PhD in biochemistry, Tufts University

Currently:

Editor, Trends in Biochemical Sciences, Cell Press

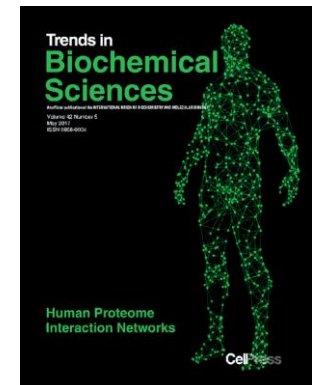
Contributor, Cell Press 'Cross Talk' blog

Expertise: biochemistry, science communication,
women in STEM, scientific publishing



@TrendsBiochem

<http://crosstalk.cell.com/>



About the speaker

Kate Hibbert

2010: Masters in Earth Sciences, University of Oxford

2015: PhD in isotope geochemistry, University of Bristol



Currently:

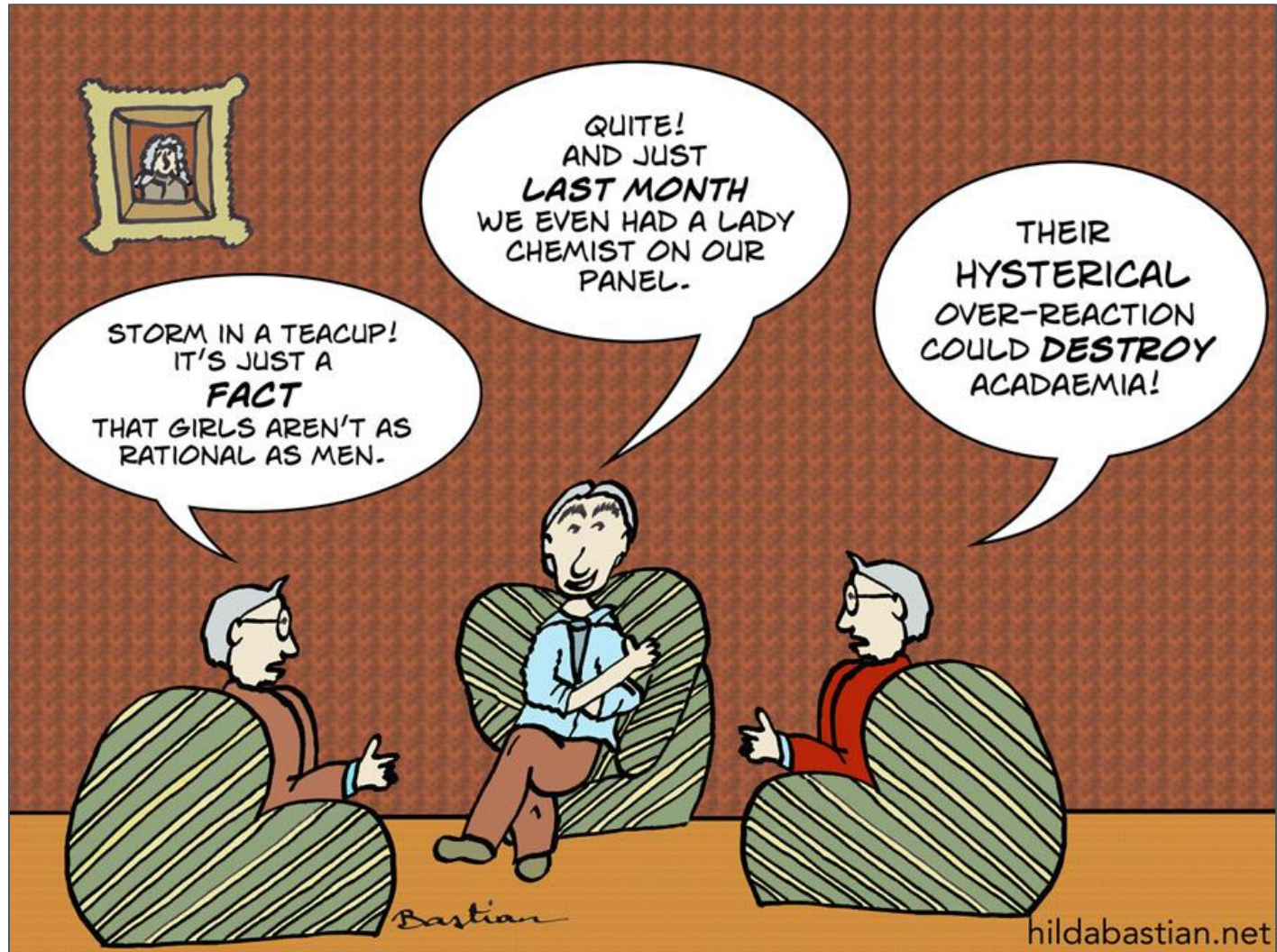
Associate Publisher, geochemistry and planetary sciences, Elsevier

Expertise: Publishing, geochemistry, women in STEM

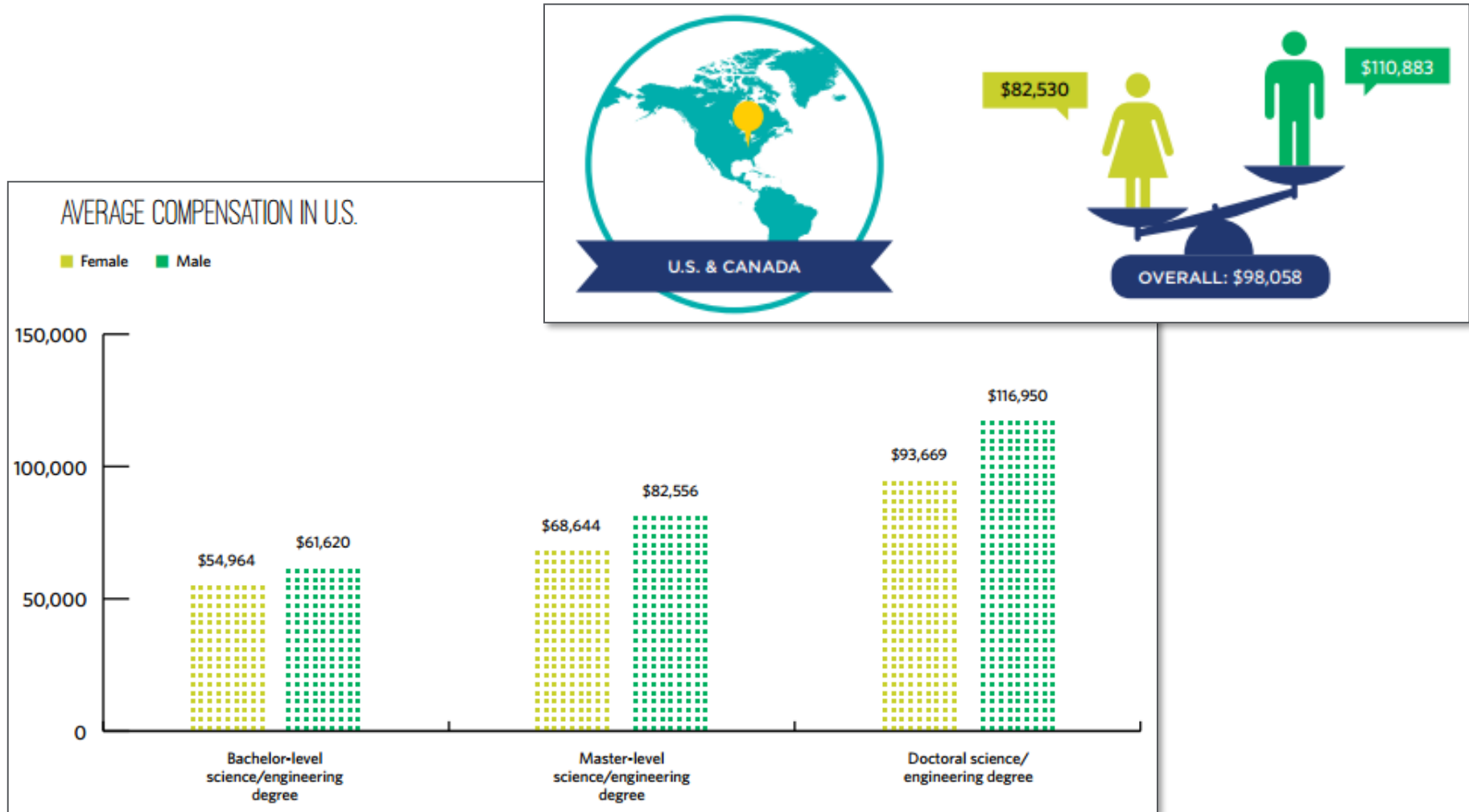


@hibbert_kate

Implicit Bias Made Visible

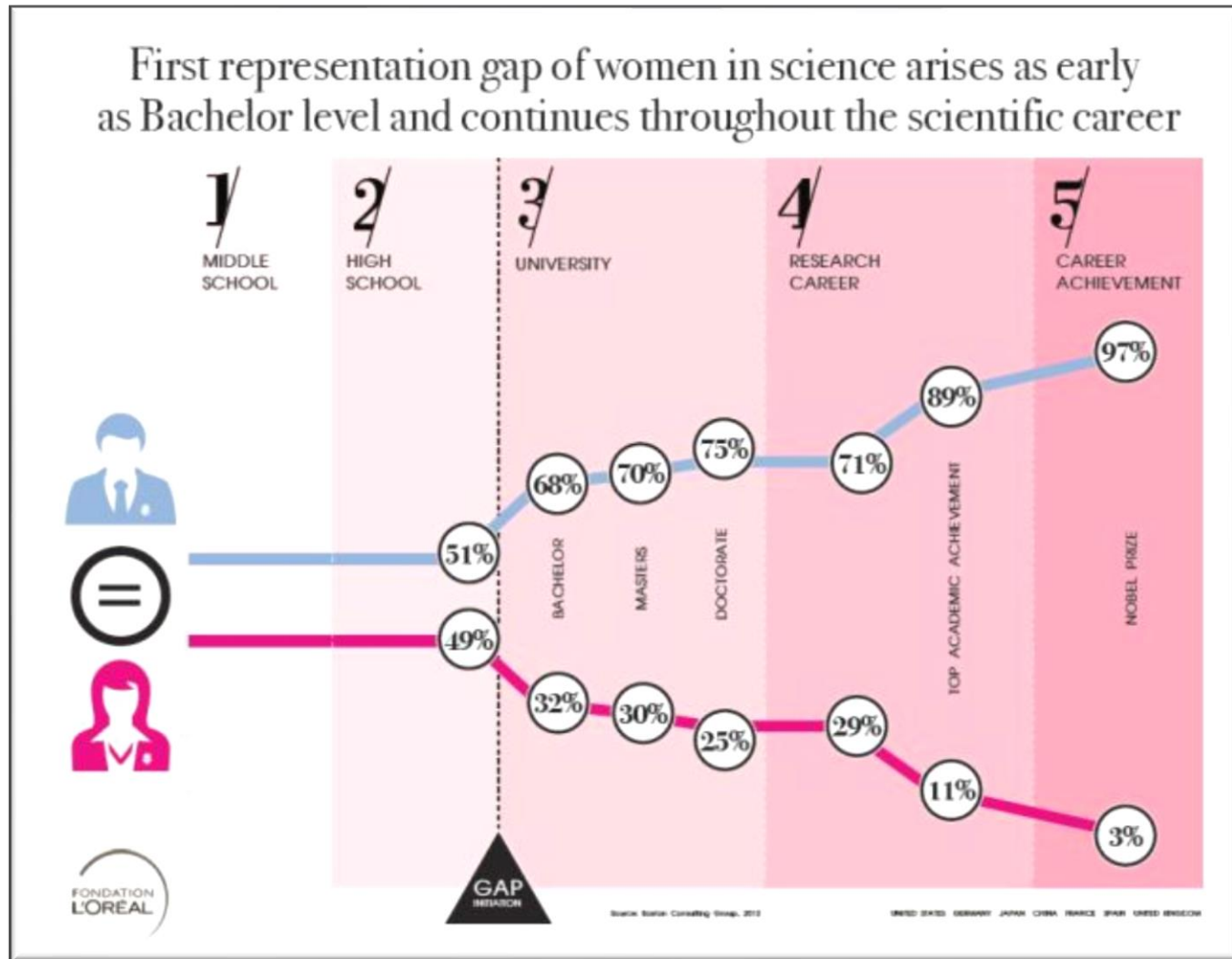


The Pay Gap Persists



2015 Wage Study – *The Scientist*

Academia Doesn't Leak, It Gushes



Not Just in Academia....

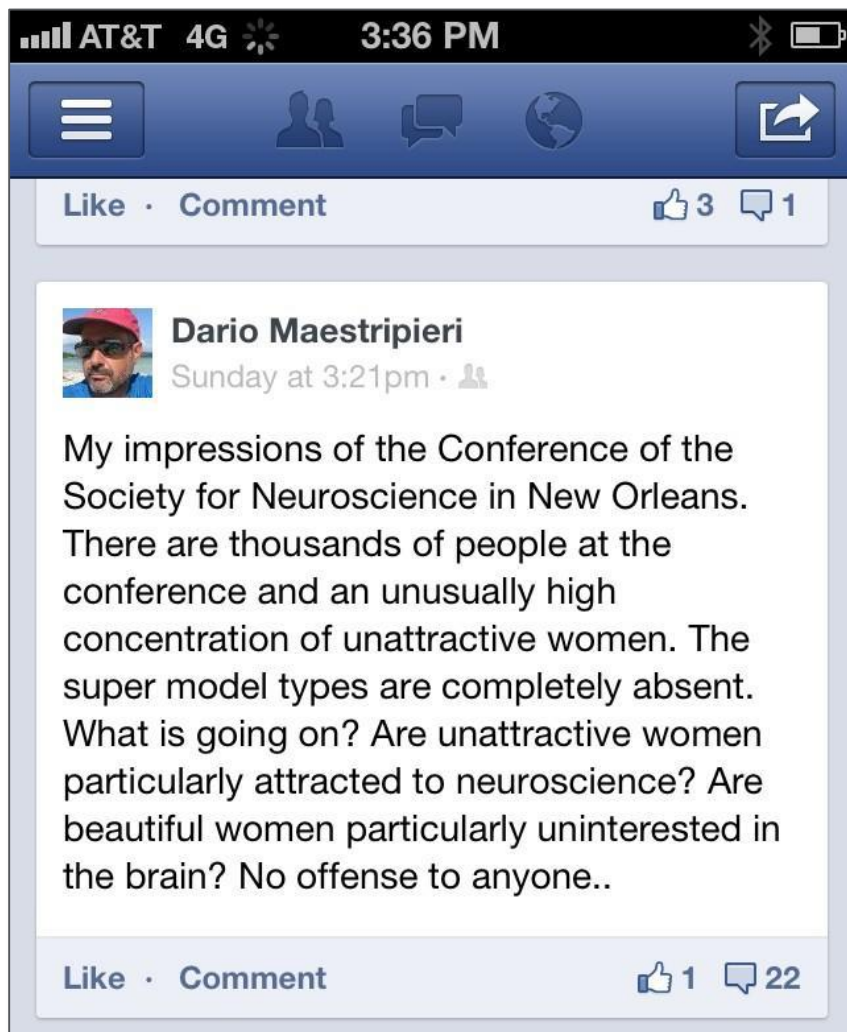
Juniper's board has greater ratio of women than any other firm in Mass.

Mar 28, 2016, 11:23am EDT



- FYI—Juniper is a “Women’s Health” company
 - Most “diverse” large company
- Boston Scientific with 40%
- **Why is this still news????**

Harassment by “Respected Leaders”



- Yes...still at University of Chicago studying (no kidding) *“research on the evolution of human behavior”*
- Yes...still has a lab with 50% women

Overt Harassment Finally Starting to Backfire

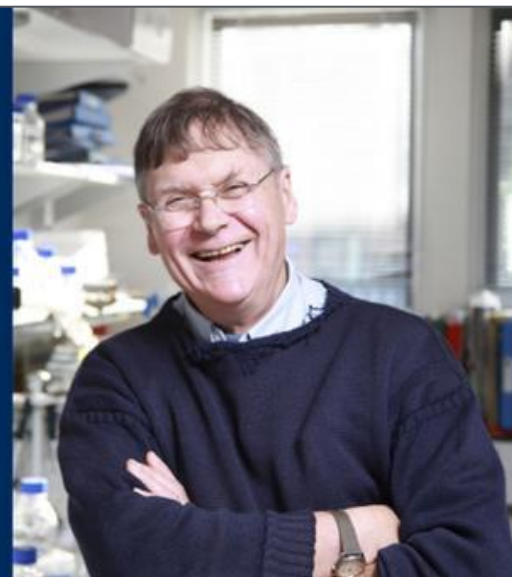


‘You fall in love with them. They fall in love with you. And when you criticise them they cry’

Sir Tim Hunt
On ‘girls’ in the laboratory



TODAY

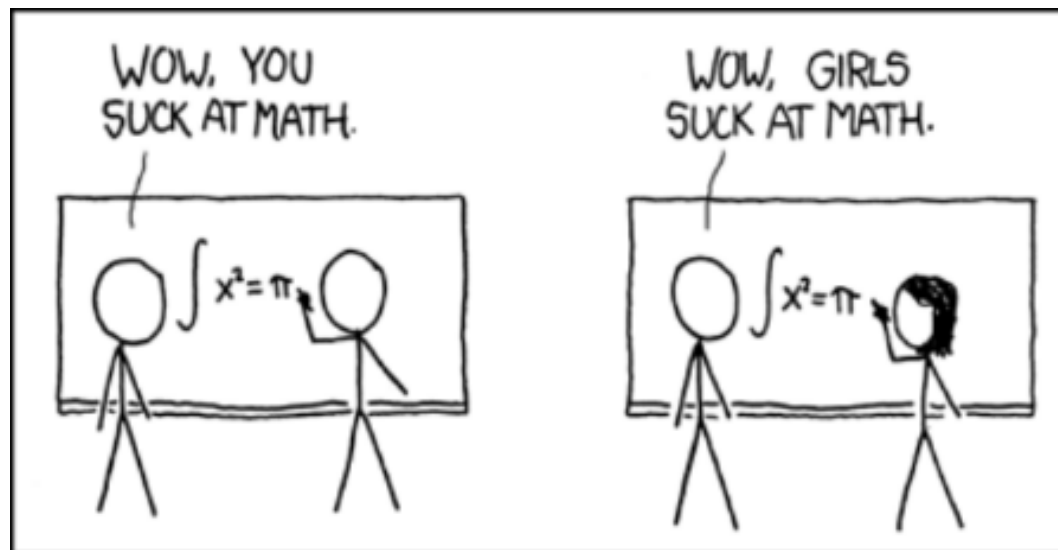


Sexual harassment in science is not rare. Last year, a [survey](#) of 666 scientists found that nearly two-thirds had experienced some form of verbal sexual harassment while doing field research, while 1 in 5 had experienced sexual assault. Overwhelmingly, those experiencing harassment were students or postdocs.

Here's How Geoff Marcy's Sexual Harassment Went On For Decades, Azeen Ghorayshi, BuzzFeed

Overt Harassment Finally Starting to Backfire

Implicit bias refers to the **attitudes or stereotypes** that affect our **understanding, actions and decisions** in an **unconscious manner**

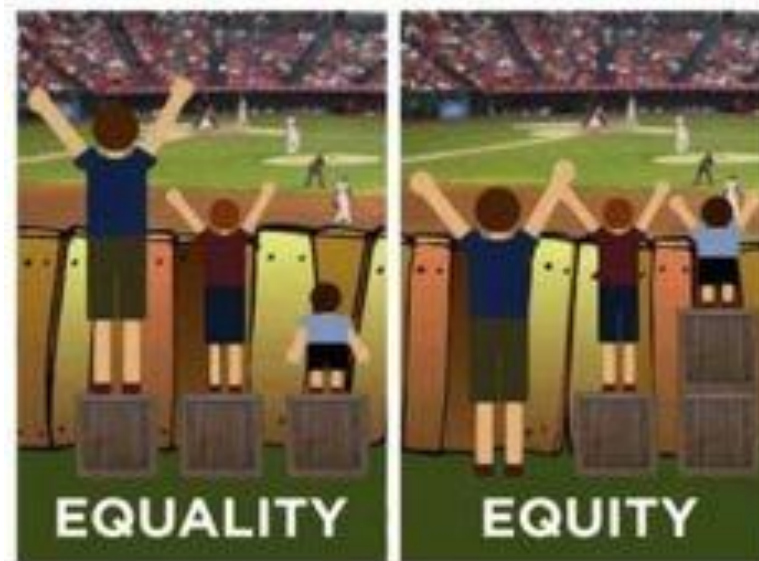


<https://implicit.harvard.edu/implicit/>

Why is All This Important?

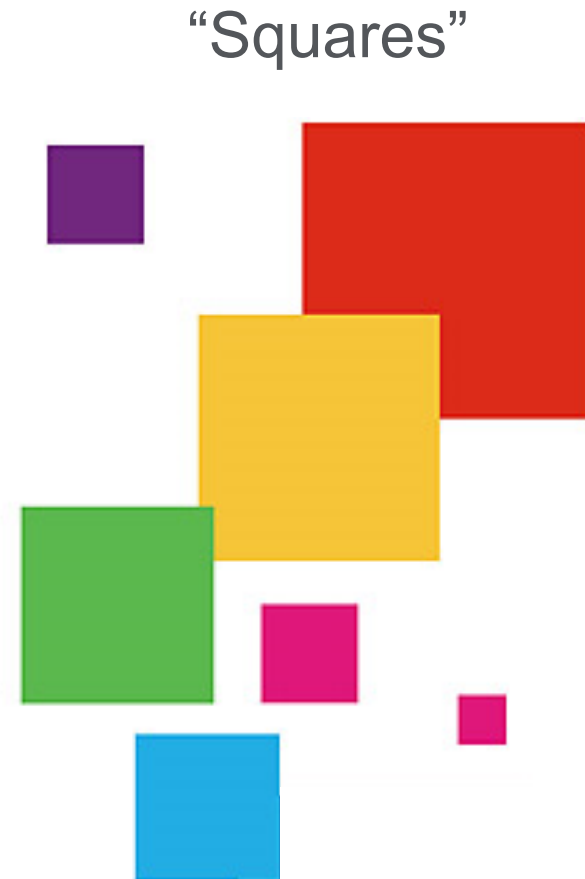
“Just because there isn’t a conscious bias doesn’t mean that it doesn’t exist..”

Richard Gallagher, *The Scientist* (Jan 2008, editorial)



How Our Brains Work to Organize Lots of Information

- We use “schema”
 - Mental shortcuts
 - Used to organize or categorize information
 - It is automatic
 - It is very fast



Shorthand Schemas Can be Vital



But Sometimes Schemas Backfire

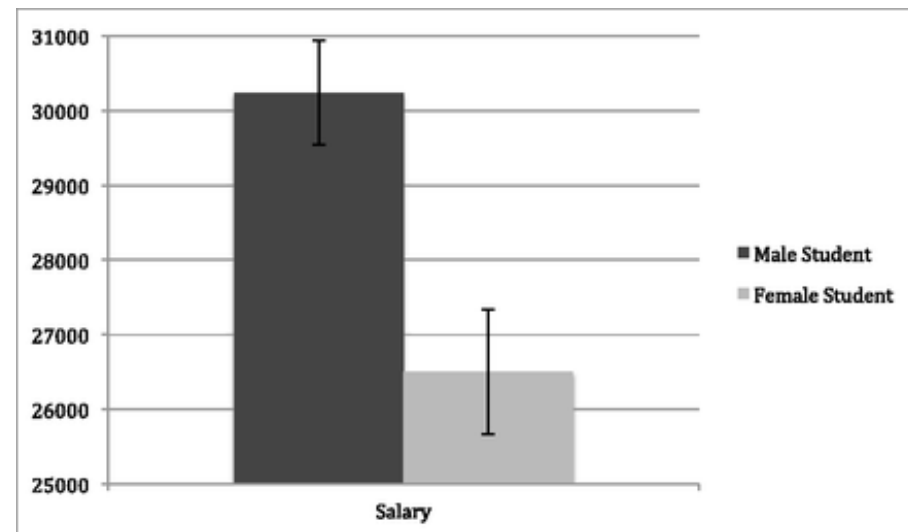
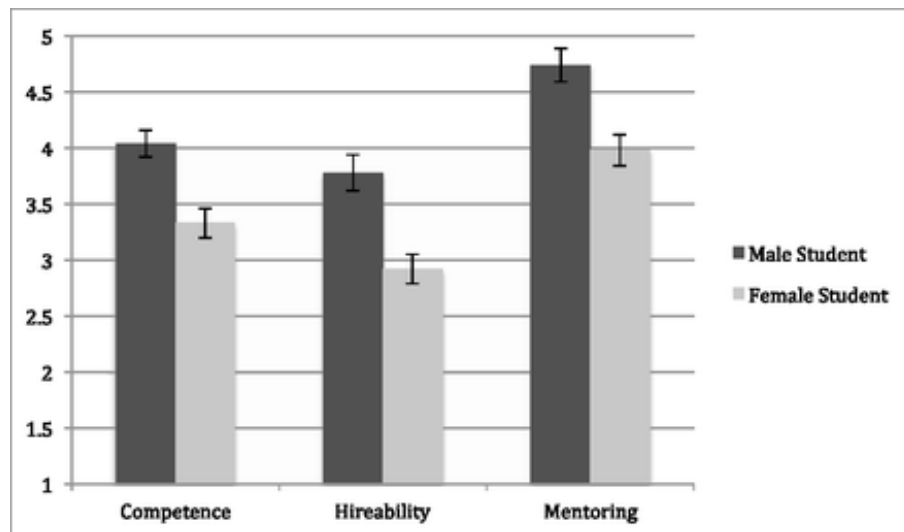


Trayvon Martin, RIP 2012

For more detail and links see
my blog at NatureJobs
“Spot the Sexist in You”

We All Do It...

Scientists rated a student's competence, hireability, suggested salary and amount of mentoring they would offer

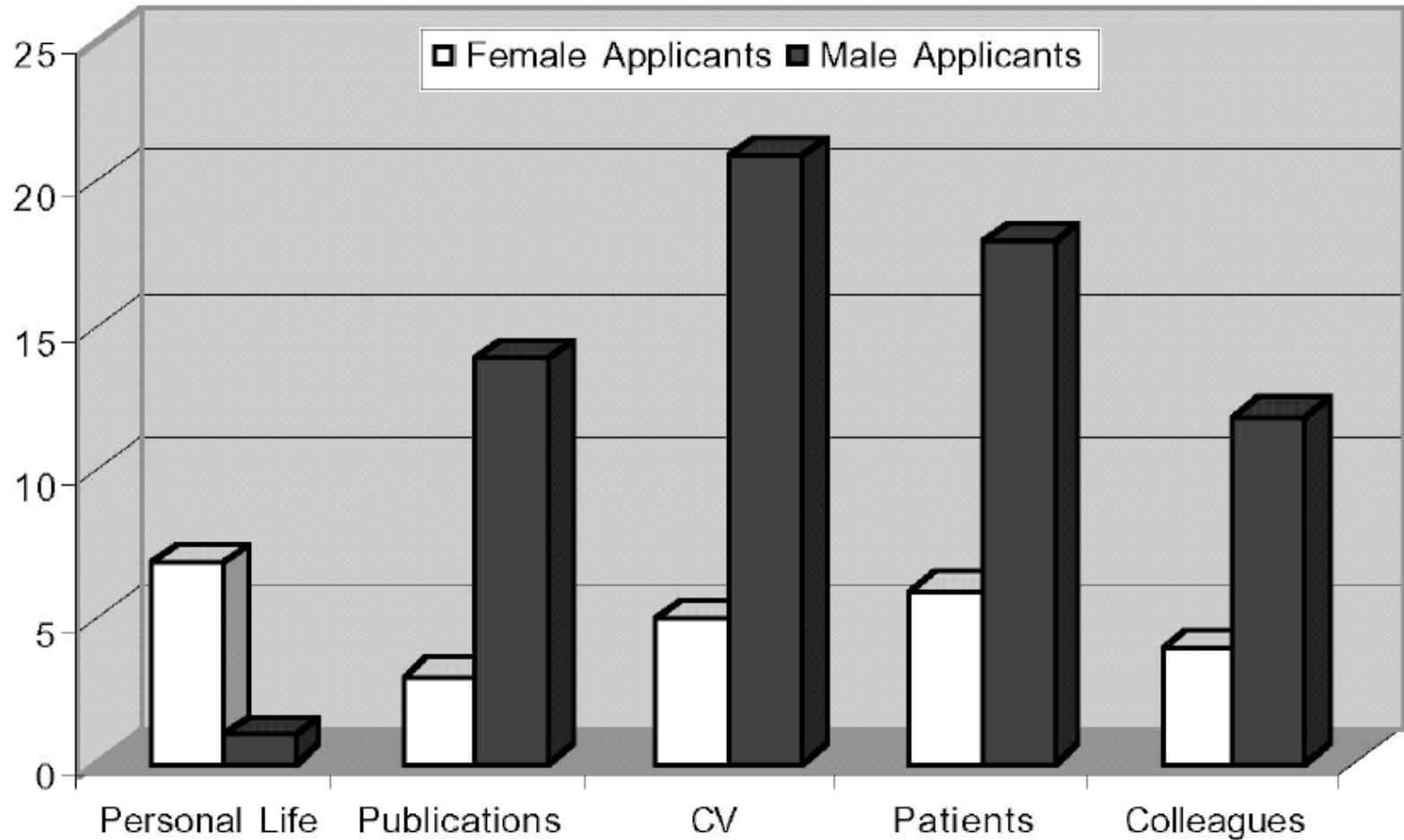


Science faculty's subtle gender biases favor male students
Moss-Racusin et al PNAS, 2012

A Thousand Little Cuts

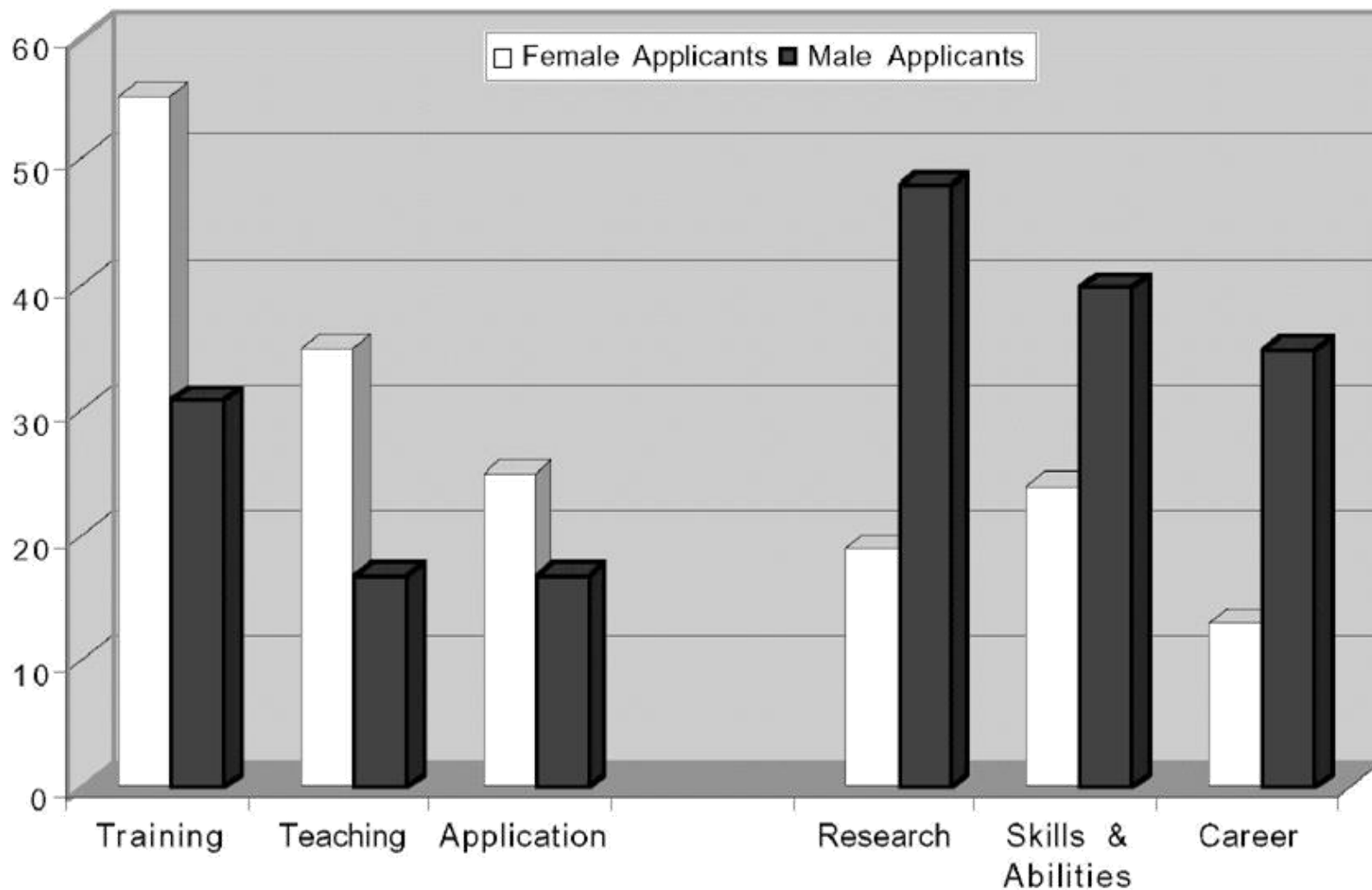


“He is Accomplished and Intelligent”



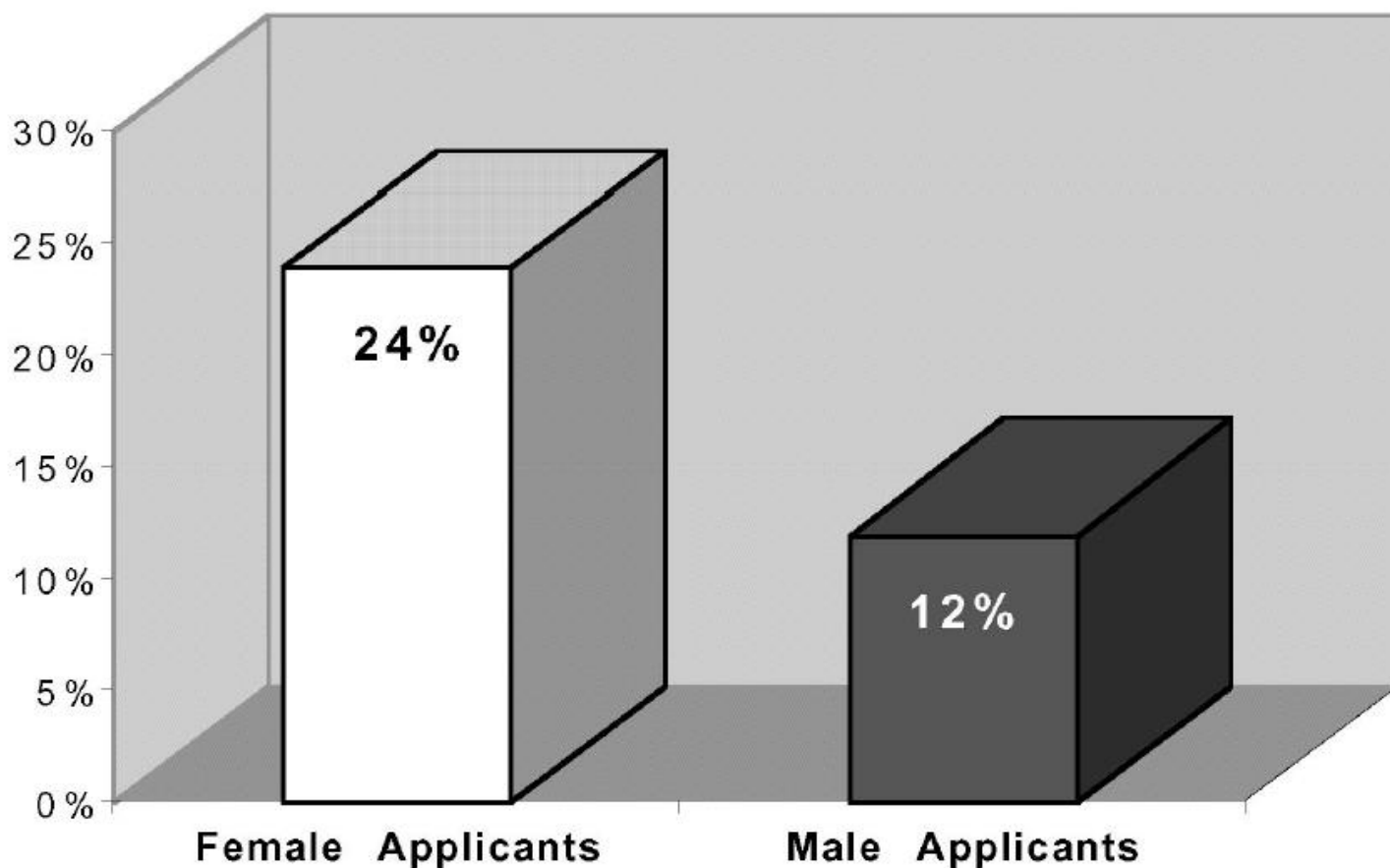
Exploring the color of glass: letters of recommendation for female and male medical faculty

“She Tries Hard...”



Faint Praise—Who Would You Hire?

% of letters with doubt raising language, hedges, potential negatives, faint praise or irrelevancies



#1 Structure Processes for Success

- **Inoculate against bias.** Require education for employment, pay, benefits
- **Mask the gender of candidates** When possible
- **Create heterogeneous committees** Be aspirational about what this should be
- **Evaluate accomplishments in public** Do not allow “gut feelings” as an excuse

Derived from “Implicit Bias and the Workplace.” (2014) by Dean and Bandows Koster

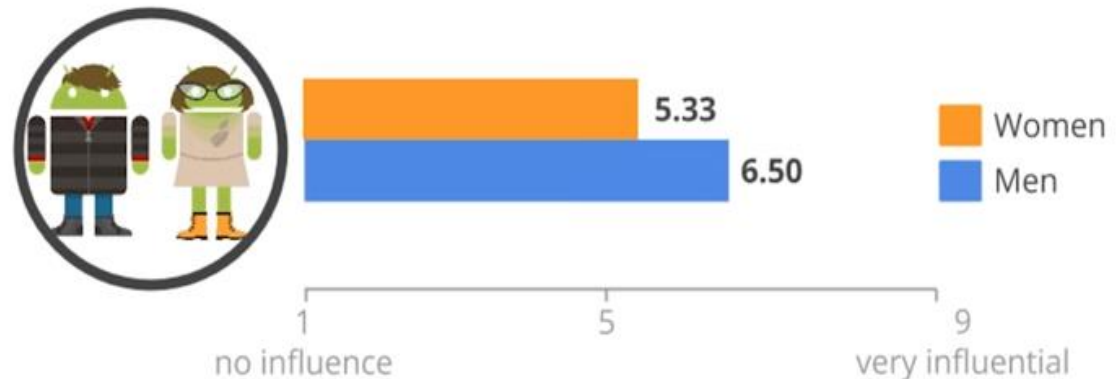
#2 Collect Data

- Review pay and promotion equity routinely
- Collect data about yourself – you are part of the problem
- Google studied male/female performance/influence scores on projects

**Contributions
specifically
attributed to the
individuals**





**Contributions
attributed to the
“team”**



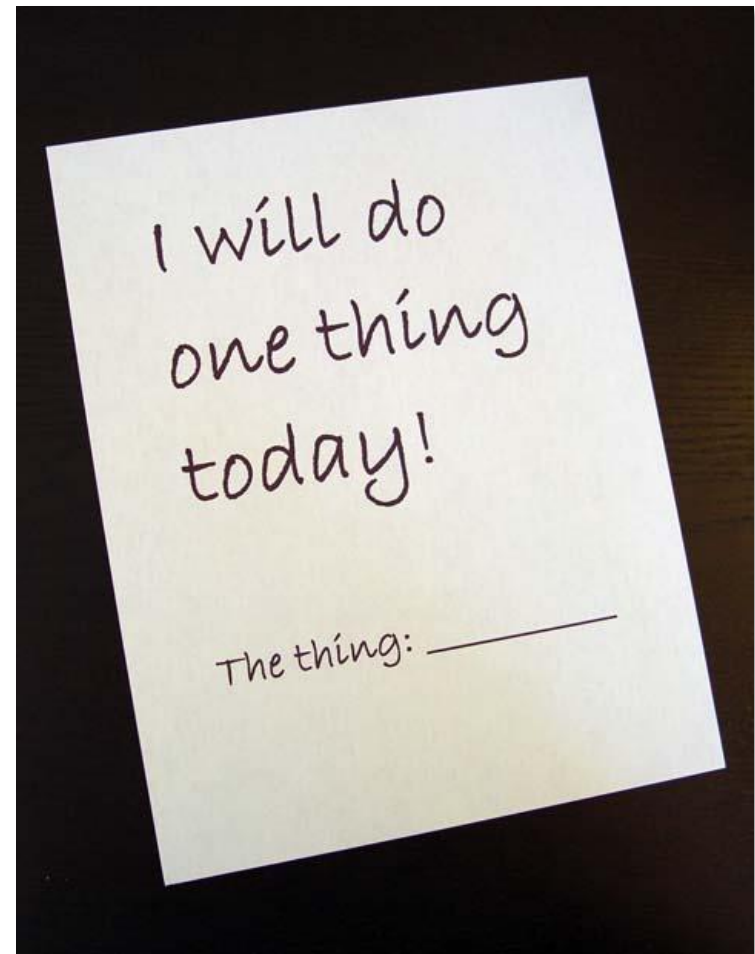
#3 Evaluate Subtle Messages

- **Microaggressions** Small cues about contribution and interaction
- **Environment** Consider design of physical space
- **Language** Job solicitations, letters of recommendation, honorary names to awards, lecture series, etc.

		
# of words used	257	169
Interaction length	6m, 23s	4m, 5s
Perceived negativity (1=not negative, 5=very negative)	2.94	3.84

#4 Hold Everyone Accountable

- Empower everyone to call out bias!! Training goes nowhere if it isn't a part of every day
- Be aware of “nested minorities”. It's even worse for them (e.g. black and female, gay and disabled)
- See something, say something



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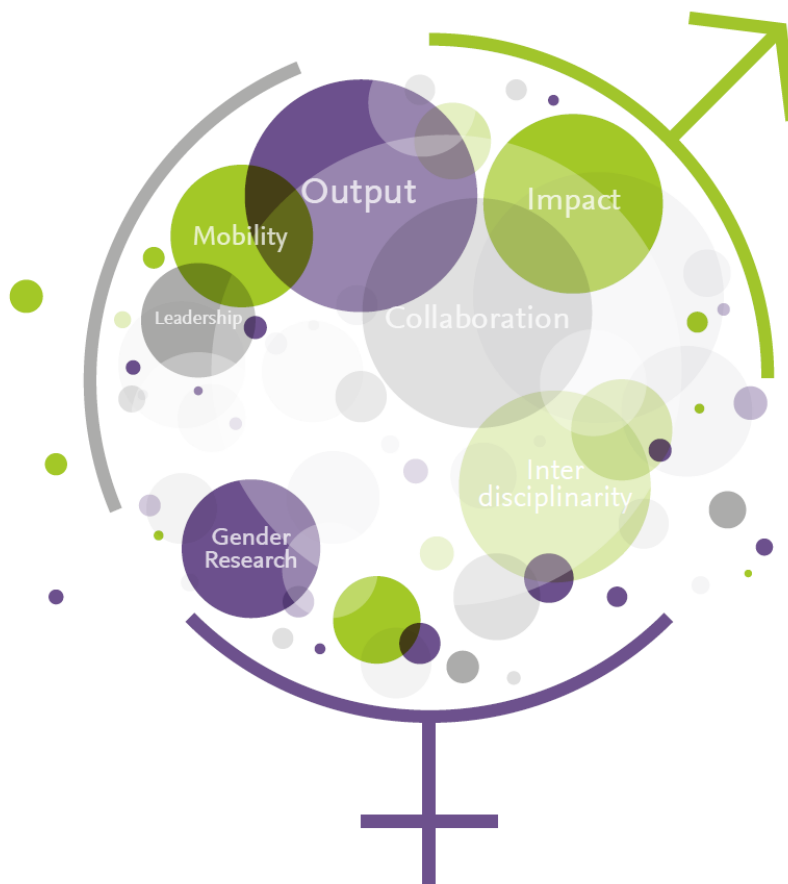
Does unconscious
bias have an effect
on scientific
publishing?

ELSEVIER

Gender in the Global Research Landscape

Analysis of research performance through a gender lens – across 20 years, 12 geographies, and 27 subject areas

<https://www.elsevier.com/research-intelligence/resource-library/gender-report>



Gender in the Global Research Landscape Report

- In general men published slightly more papers than women
- Citation impact for papers was very similar for men and women
- The download impact was slightly higher for women than for men
- In engineering, men are more likely to be the first or corresponding author than when women publish in the same field



Gender in the Global Research Landscape Report

SCHOLARLY OUTPUT RESULTING FROM INTERNATIONAL COLLABORATION AS A SHARE OF TOTAL SCHOLARLY OUTPUT



Is there evidence for gender disparities in publishing?

NATURE | COMMENT



Bibliometrics: Global gender disparities in science

Vincent Larivière, Chaoqun Ni, Yves Gingras, Blaise Cronin & Cassidy R. Sugimoto

11 December 2013

Cassidy R. Sugimoto and colleagues present a bibliometric analysis confirming that gender imbalances persist in research output worldwide.

‘in the most productive countries, all articles with women in dominant author positions receive fewer citations than those with men in the same positions.’

‘women's publication portfolios are more domestic than their male colleagues — they profit less from the extra citations that international collaborations accrue.’

Papers with female first authors are less likely to be published

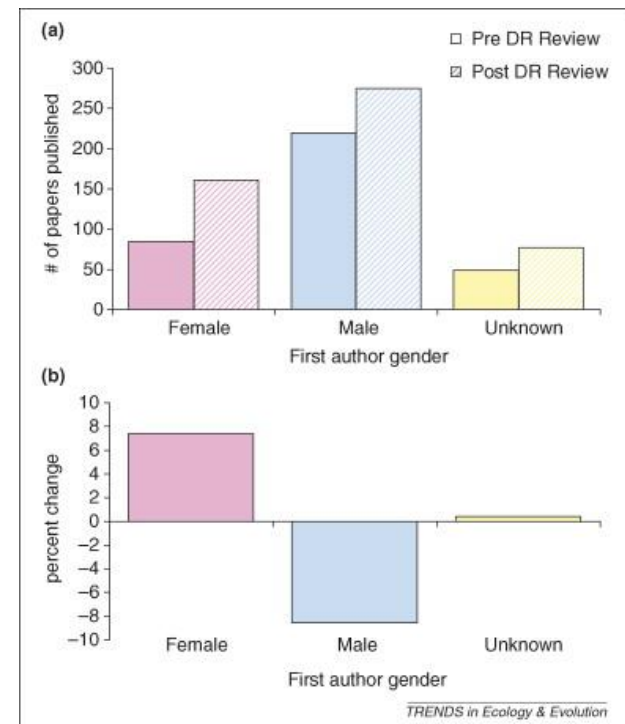
Update*TRENDS in Ecology and Evolution* Vol.23 No.1

Research Focus

Double-blind review favours increased representation of female authors

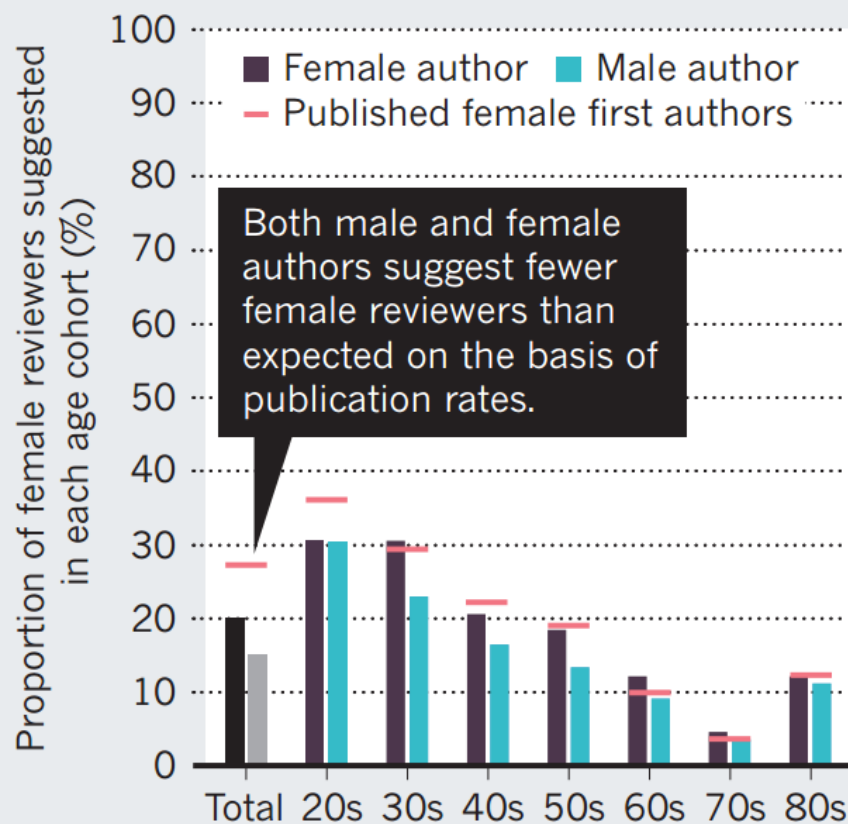
Amber E. Budden^{1,2}, Tom Tregenza³, Lonnie W. Aarssen⁴, Julia Koricheva⁵, Roosa Leimu⁶ and Christopher J. Lortie⁷

Papers published in Behavioral Ecology by first-author gender. (a) Total number of papers published in BE in the four years before and after the implementation of a double-blind review policy in 2001. (b) Percentage change in author representation.

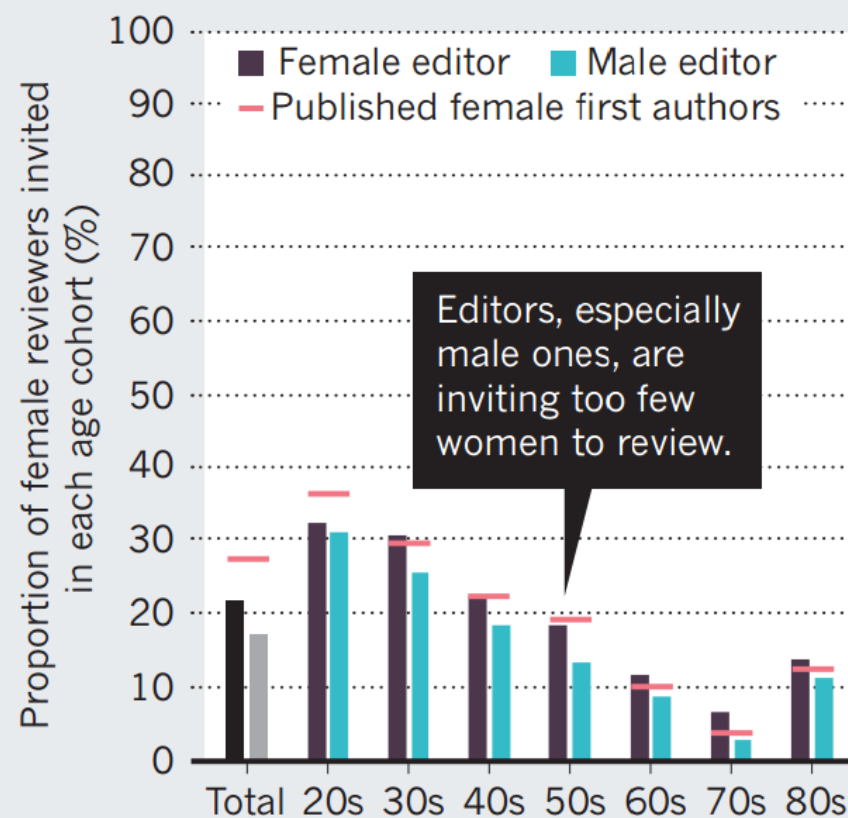


Bias in reviewer invitations

B Female reviewers suggested by authors



C Female reviewers invited by editors



How can publishers help?

Elsevier is committed to ensuring that publishing is fair and equitable for all. Some examples of actions we are taking:

- Examining our processes and policies to ensure that our journals publish leading research in the most equitable and inclusive manner
- Establishing best practises for editorial policies and processes, board recruitment, etc. that engender inclusive researcher opportunities.
- Reviewing and addressing the gender diversity of editors, editorial boards, and reviewers
- Reviewing editor and reviewer training to look at the inclusion of unconscious bias
- Stimulating analytics and studies on gender in research and science, technical and medical publishing

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Addressing gender bias in a leading reviews journal



Trends in Biochemical Sciences



CellPress



$IF_{2015} = 12.81$, Ranked 8th in Category



$CiteScore_{2015} = 11.49$, Ranked 7th in Category

Combating Gender Bias at TiBS

- What are the potential sources of gender bias at TiBS?
- Where do we have biases?
- What can we do to correct the biases?

But first:

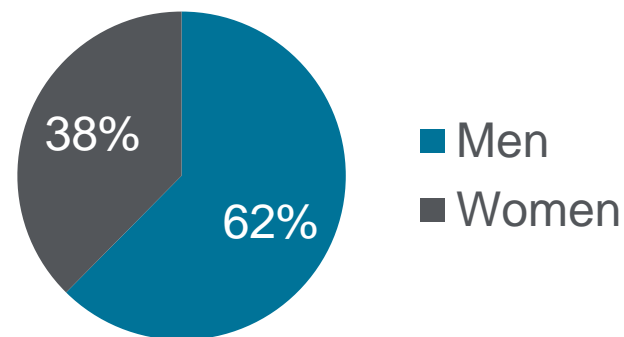
What gender
balance should
we be aiming
for?



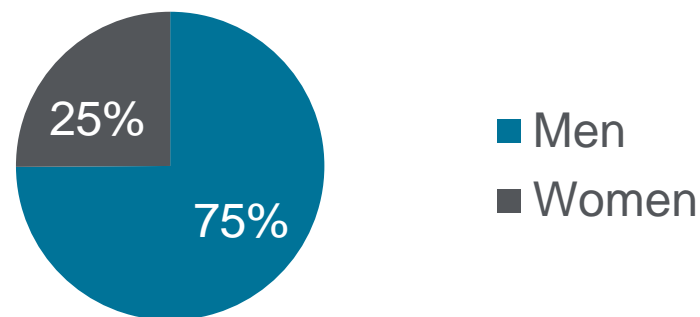
Looking to the community

- What percentage of your community is women?
- What is the “community”?
 - All researchers including trainees?
 - Just the tenured professors?
 - What field(s)?

**Life Science PhDs
employed by
Academia***



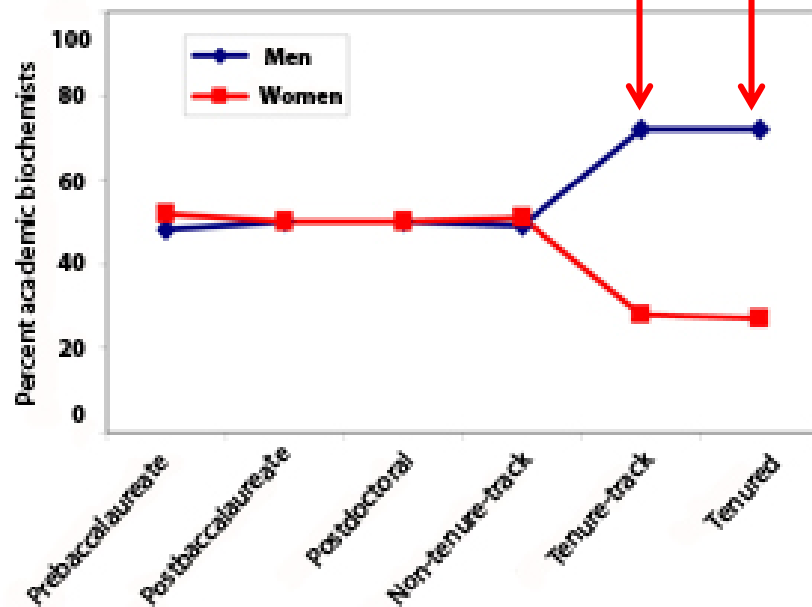
**Tenured Life Sciences
Faculty***



*Data from <https://www.nsf.gov/statistics/2017/nsf17310/static/data/tab9-26.pdf>

Best estimate

28:72 Women:Men
ratio for Tenured or
Tenure-track



- American Society of Biochemistry and Molecular Biology
- Survey of 1780 members in biochemistry departments

Examining internal sources of bias

- Choosing and inviting peer reviewers
 - 21% Women
- Editorial Board members
 - 27% Women
- Inviting authors to write (e.g., Reviews)
 - 26% Women
- Choosing which uninvited submissions to consider
 - 13% Women (senior authors)



Examining external sources of bias



- Authors decide where to submit
 - 13% women
- Authors suggest peer reviewers
 - 22% women
- Peer reviewers self-select
 - 21% women

Main findings

- All measures were lower than minimum benchmark (28% women)
- Worst bias in author-initiated article suggestions
- Women accept referee invitations at the same rate as men
- The *least bias* was found in the editorial board (27% women) and in published authors (26% women), which are both editor-driven.



What to improve, and how to improve it?

- Continue to collect and monitor data
- Consider what barriers may decrease self-promotion for women researchers
- Move past the “usual suspects” when inviting authors and reviewers
- Ask ourselves if we have considered all equally qualified women before inviting authors and reviewers
- Consider making composition aspirational



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Thank you