



# Breaking Bias

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**University of Colorado, Boulder**  
**Leeds School of Business**

# PNAS

## Gender diversity leads to better science

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Pick up any recent policy paper on women's participation in science and you will find assurances that gender diversity enhances knowledge outcomes. Universities and science-policy stakeholders, including the European Commission and the US National Institutes of Health, readily subscribe to this argument (1–3). But is there, in fact, a gender-diversity dividend in science?

The data suggest that there is. Under the right conditions, teams may benefit from various types of diversity, including scientific discipline, work experience, gender, ethnicity, and nationality. In this paper, we highlight gender diversity (Fig. 1). Guided by key research findings, we propose the following

“mechanisms for innovation” specifying why gender diversity matters for scientific discovery and what managers should do to maximize its benefits (Fig. 2). Encouraging greater diversity is not only the right thing to do: it allows scientific organizations to derive an “innovation dividend” that leads to smarter, more creative teams, hence opening the door to new discoveries.

### Productive Team Mechanisms

Well-run, well-performing research teams have become increasingly crucial to the success of modern scientific investigations. Already, experimental research points to positive links between gender diversity and collective



## Science

# Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India

Lori Beaman,<sup>1\*</sup> Esther Duflo,<sup>2\*</sup> Rohini Pande,<sup>3\*</sup> Petia Topalova<sup>4\*</sup>

Exploiting a randomized natural experiment in India, we show that female leadership influences adolescent girls' career aspirations and educational attainment. A 1993 law reserved leadership positions for women in randomly selected village councils. Using 8453 surveys of adolescents aged 11 to 15 and their parents in 495 villages, we found that, relative to villages in which such positions were never reserved, the gender gap in aspirations closed by 20% in parents and 32% in adolescents in villages assigned a female leader for two election cycles. The gender gap in adolescent educational attainment was erased, and girls spent less time on household chores. We found no evidence of changes in young women's labor market opportunities, which suggests that the impact of women leaders primarily reflects a role model effect.

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Belonging to Build Innovative Teams



## Financial Management



# Do Pro-Diversity Policies Improve Corporate Innovation?

**Roger C. Mayer, Richard S. Warr, and Jing Zhao\***

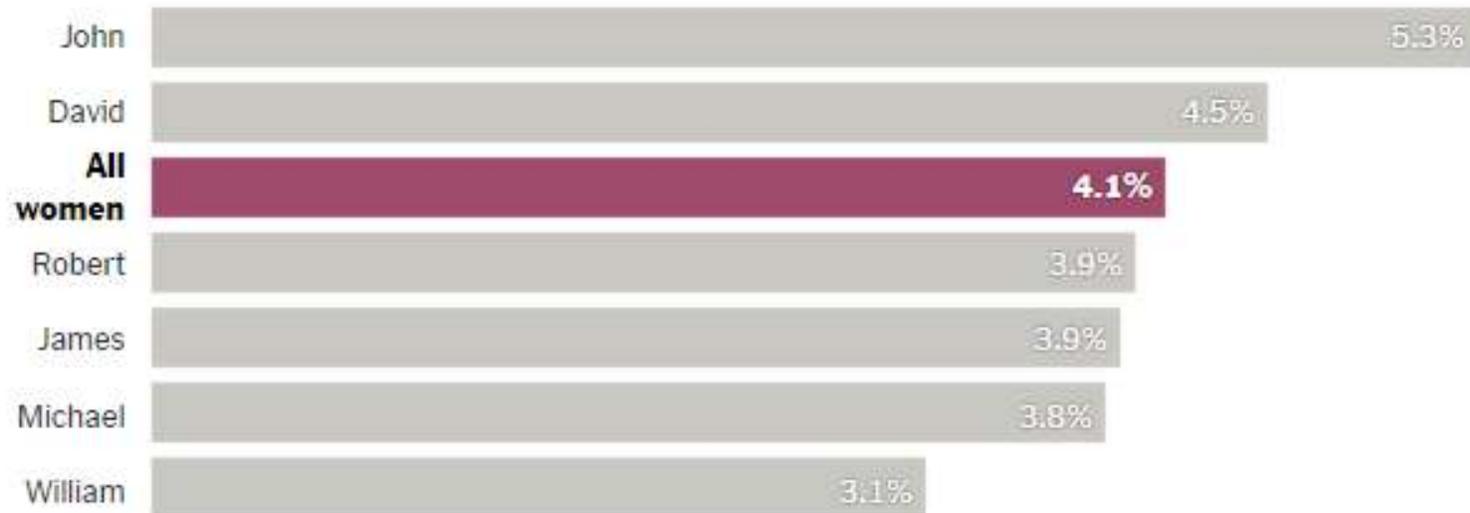
*Using new product announcements, patents, and patent citations as measures of corporate innovation, we find that corporate policies that promote more pro-diversity cultures, specifically treatment of women and minorities, enhance future innovative efficiency. This positive effect is stronger during economic downturns and in firms that are more innovative, value intangibles and human capital more highly, have greater growth options, have higher cash flow, and have stronger governance. Pro-diversity policies also increase firm value via this stimulating effect on innovative efficiency. Our results suggest a channel through which workforce diversity may enhance firm value.*

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Despite that...

## Guys Named John, and Gender Inequality

Share of C.E.O.s of S.&P. 1500 companies by C.E.O. name



Source: Execucomp

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Which line is  
the same  
length as X

- A
- B
- C



**X**



**A**



**B**



**C**

# INCLUSIVE

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THE HUFFINGTON POST

INFORM • INSPIRE • ENTERTAIN • EMPOWER

ENTERTAINMENT

WELLNESS

WHAT'S WORKING

VOICES

VIDEO

WOMEN

## LOL, 56 Percent Of Men Think Sexism Is Over

Huzzah!

© 08/18/2016 03:09 pm ET | Updated Aug 19, 2016

8.3k



Catherine Pearson

Women & Parents Senior Reporter, The Huffington Post



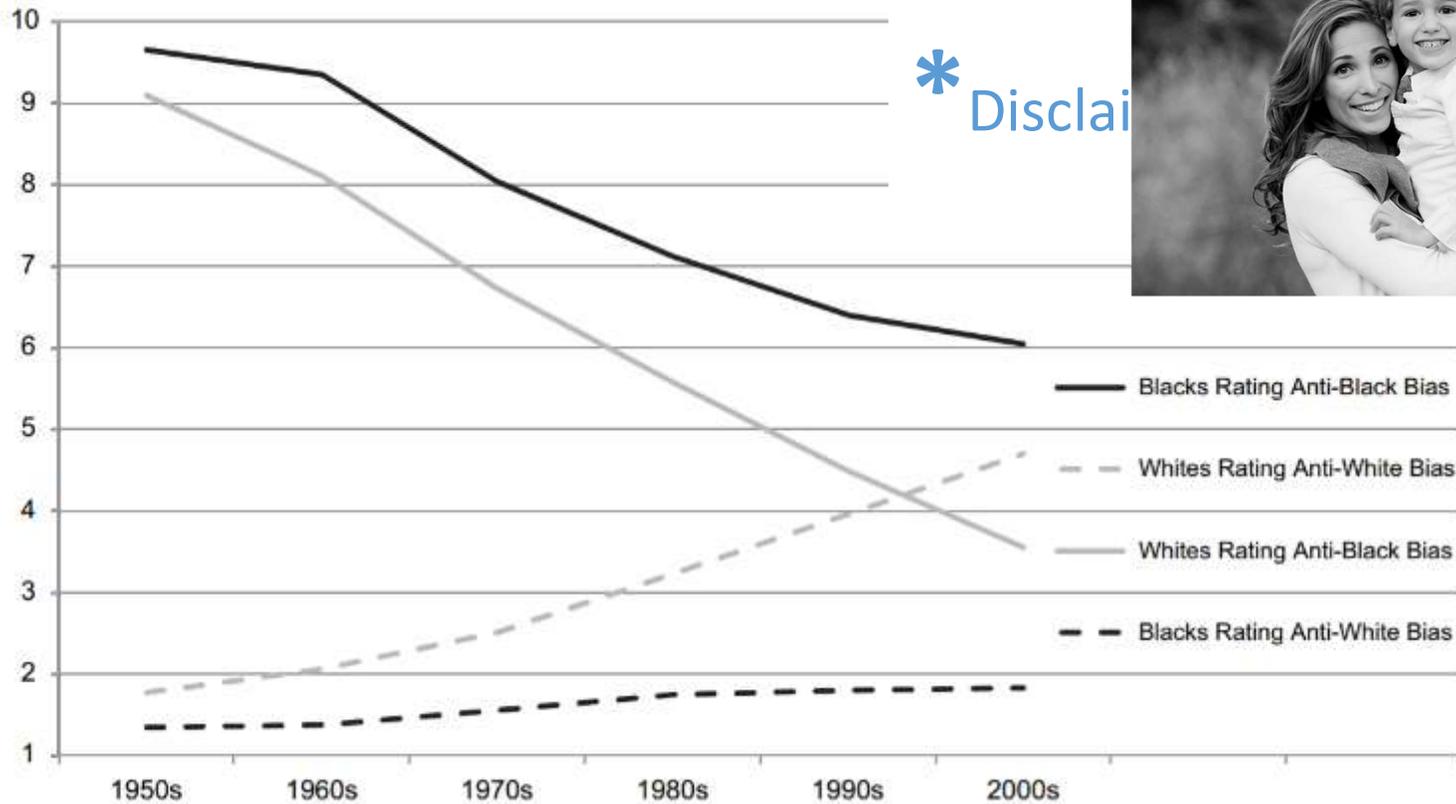
H. ARMSTRONG ROBERTS/CLASSICSTOCK VIA GETTY IMAGES

Sexism? Over.

2016  
Pew Study  
of 4,602 People

Resume Studies Say  
Otherwise

# Whites think that Anti-white bias is stronger than anti-black bias



## Unconscious bias

- The ROCK STAR was unhappy with the amount of alcohol at the party
- The NUN was unhappy with the amount of alcohol at the party
- After weighing all the circumstances, the CEO decided to terminate a few employees
- After weighing all the circumstances, the DRUG DEALER decided to terminate a few employees





Did folks in the 1950s think black men were better BB players?  
1953 NBA Champions Minneapolis Lakers



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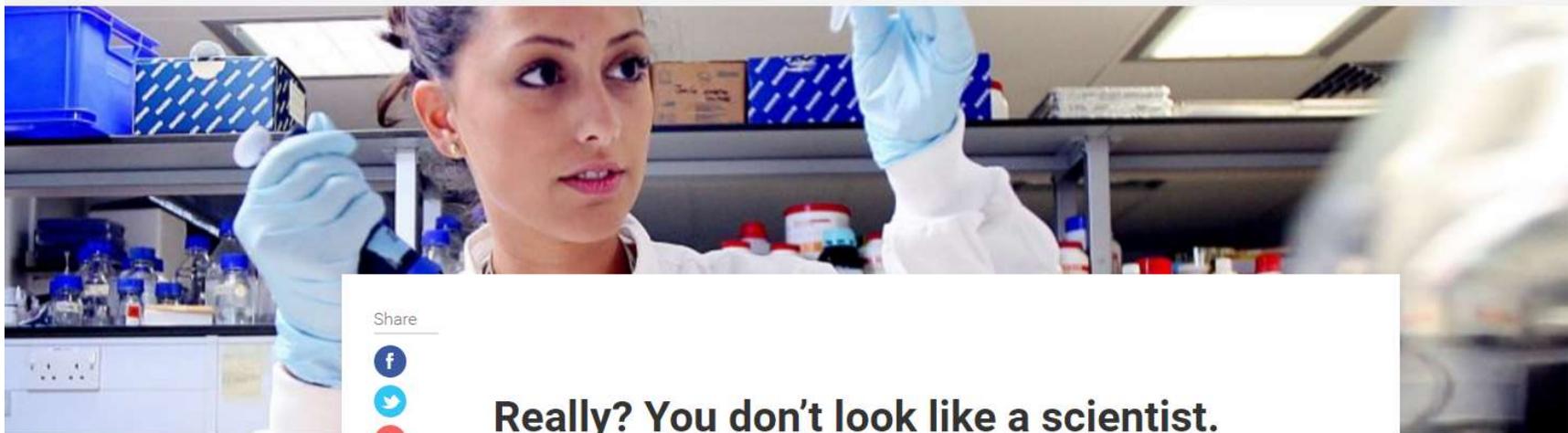
## CEOs



# National Academy



## our eyes deceive us



Share



### Really? You don't look like a scientist.

20th July 2016 by Katherine Lindemann

Research shows women who look feminine are judged less likely to be scientists.

*Women in science have plenty of anecdotal evidence that looking feminine and "looking like a scientist" at times seem mutually exclusive. They've revealed their professions at parties to be met with surprise, been asked where the professor is in their own university offices, thought maybe they shouldn't wear a dress to that conference. Now there's scientific evidence as well. A recent paper in the journal Sex Roles reveals that people viewing photos of real researchers are more likely to associate women with non-science occupations if they appear more feminine. Lead author Sarah Banchevsky of the University of Colorado Boulder tells us more.*

What the human being is best at doing is interpreting all new information so that their prior conclusions remain intact.”

– Warren Buffet

**Who would you hire?**

**Book smart female officer**

**Street smart male officer**



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BUSINESS INSIDER

CAREERS

## Why companies are using 'blind auditions' to hire top talent



Jacquelyn Smith

May 31, 2015, 8:00 AM 14,649 4



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1970, the top five orchestras in the U.S. had fewer than 5% women. Today, some... are well into the 30s.”

## Performance Evaluations

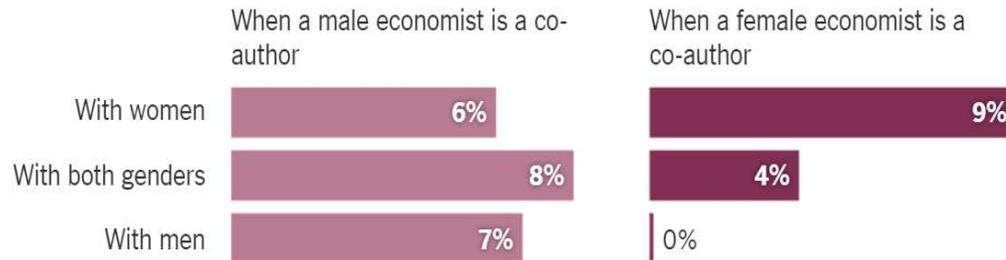
*Behavioral Ecology* switched to double blind review and there was a significant increase in women first authored publications



## Who Gets the Credit for Collaboration?

Women get full credit, in terms of earning tenure, only when writing papers with other women. Writing one with a man has no impact on the female author, only the male.

### Effect of writing an additional paper on the probability of earning tenure



Source: Heather Sarsons, "Gender Differences in Recognition for Group Work"

Solo authored papers contribute to one's chance of getting tenure at 8-9%

## Performance Evaluations

### Looks Like Women Code Better Than Men, if No One Knows They're Women

A look at GitHub puts the work of women in computer science in a new perspective.

BY KIMBERLY WEISUL Editor-at-large, Inc.com [@weisul](#)



3 COMMENTS



GitHub study shows that women's code was accepted 4% more than men's  
Women used-gender neutral profiles 71.8%  
When it was clear she was female 62.5%

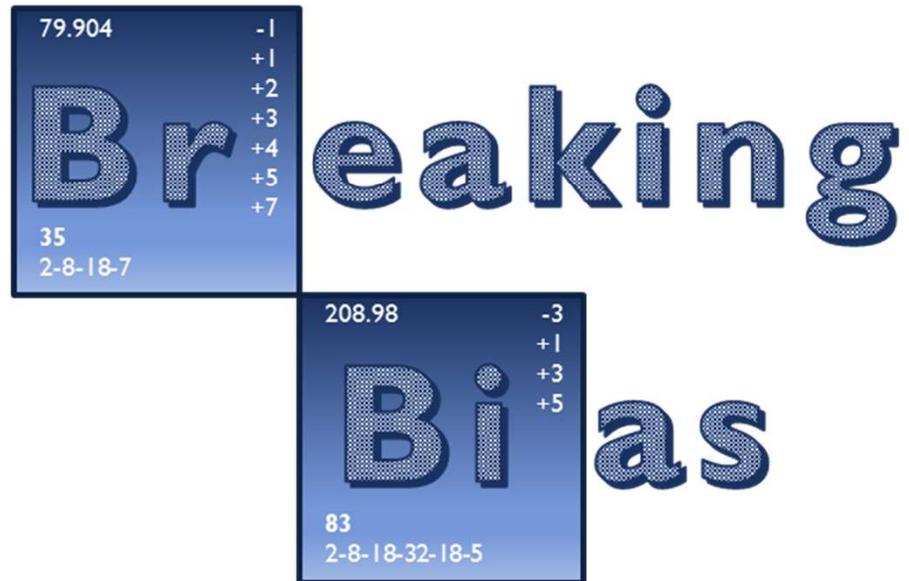
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## THE ABCS OF



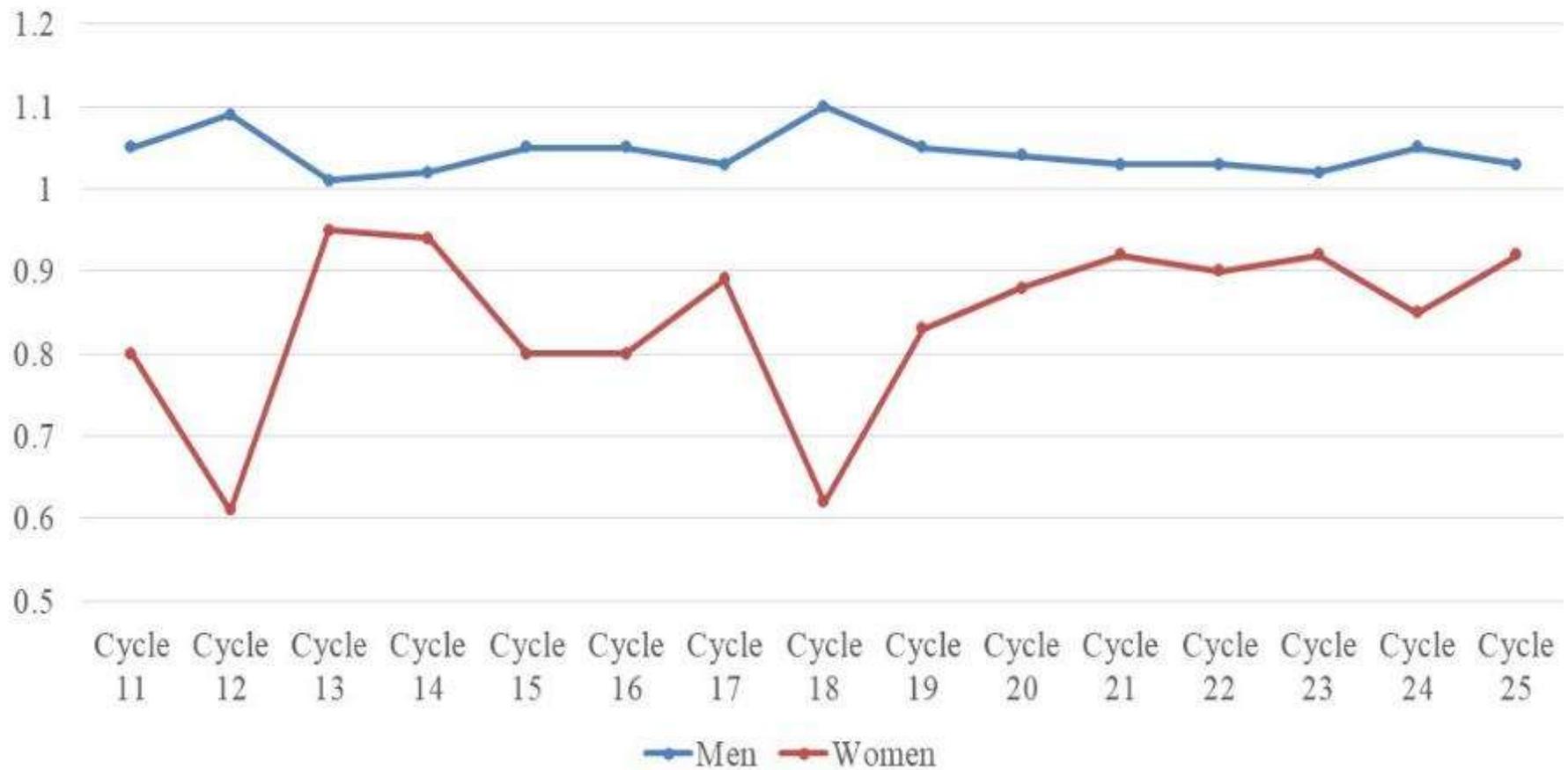
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## A. ADMIT IT



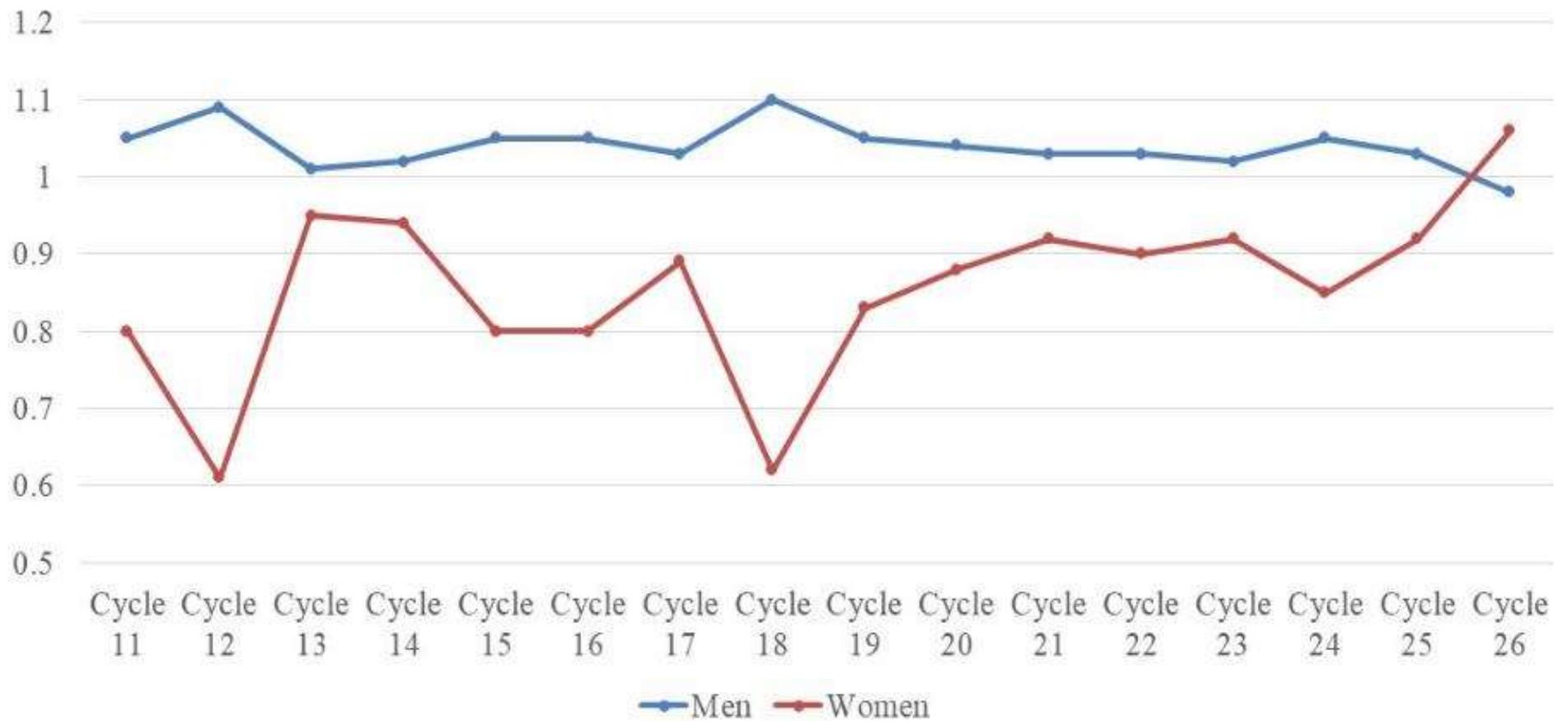
## B. BLOCK IT

Hubble Acceptance by Sex



## B. BLOCK IT

Hubble Acceptance by Sex



## C. Count it

### Method

1,031 participants  
4 studies: 3 experiments  
(Mturk workers, undergrads  
and a correlational field study  
professors)  
IAT to measure bias

Harvard  
Business  
Review

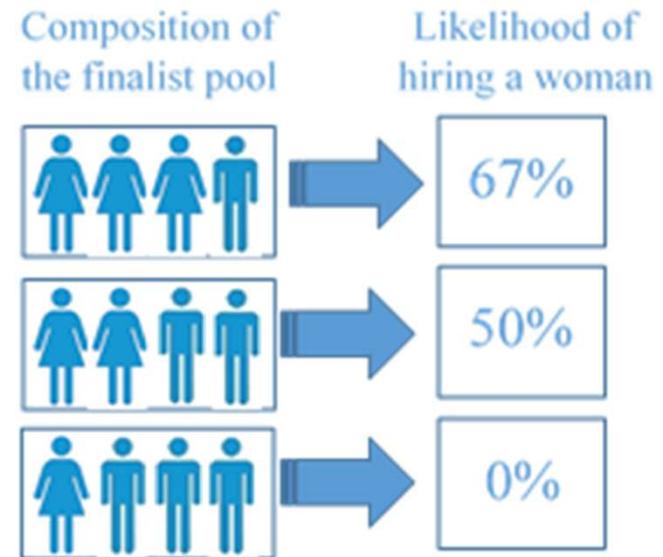
DIVERSITY

## If There's Only One Woman in Your Candidate Pool, There's Statistically No Chance She'll Be Hired

by Stefanie K. Johnson, David R. Hekman, and Elsa T. Chan

APRIL 26, 2016

## Finalist slates





## C. Count it

By 2020

**Starbucks** 50% increase of women and minorities in leadership

**Medtronic** 40% women in top management and 20% minorities

By 2025

**Accenture** set a goal of 50% gender balance worldwide and 25% women managing directors

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BUSINESS | JOURNAL REPORTS: LEADERSHIP

## More Companies Say Targets Are the Key to Diversity

Some businesses believe that voicing support isn't enough. They also have to set discrete goals.

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## S. Support it

Harvard  
Business  
Review

BOARDS

### CEOs Explain How They Gender- Balanced Their Boards

by Stefanie K. Johnson and Kimberly Davis

OCTOBER 08, 2017    UPDATED OCTOBER 16, 2017

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DIVERSITY

### What 11 CEOs Have Learned About Championing Diversity

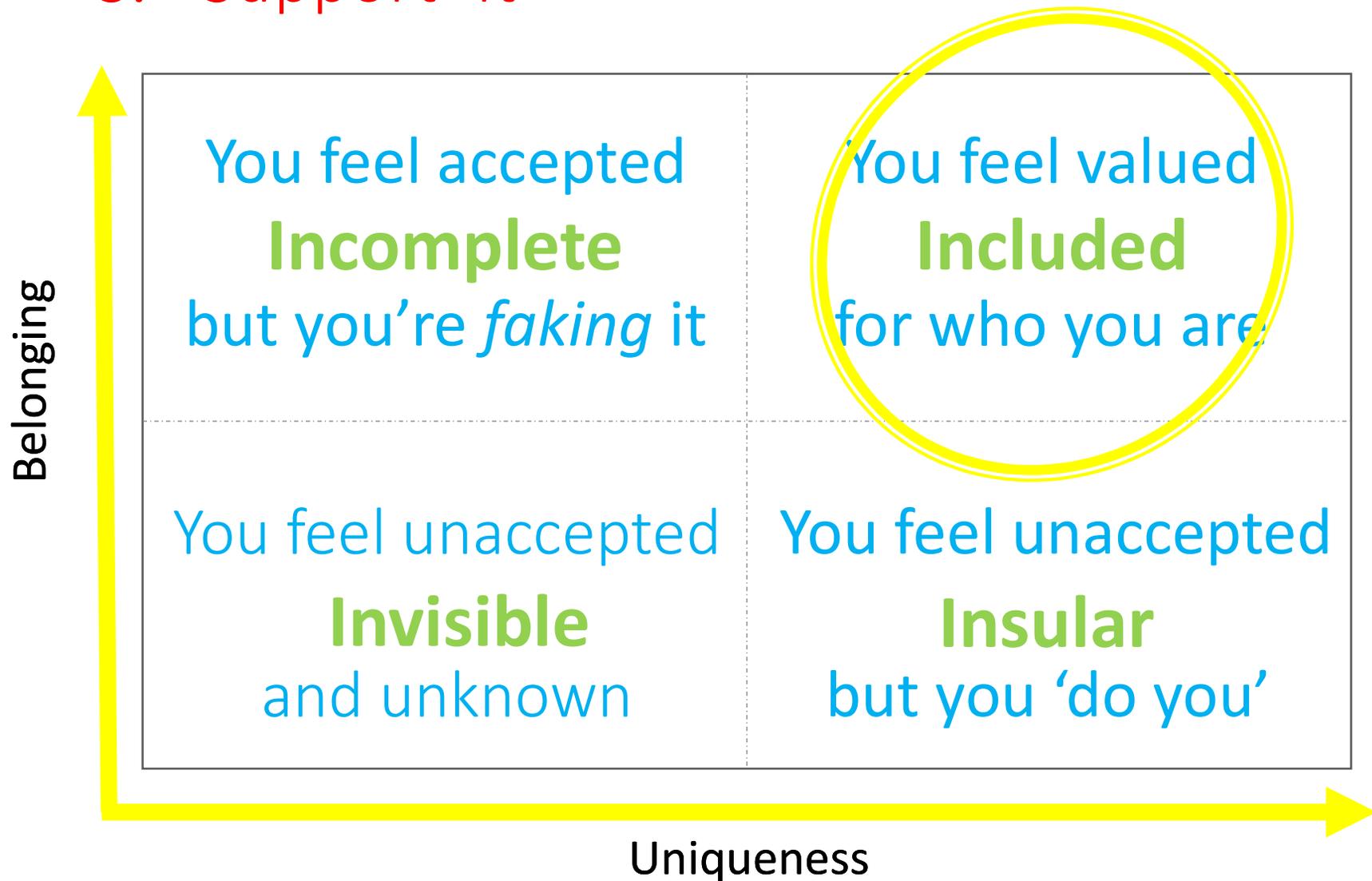
by Stefanie K. Johnson

AUGUST 17, 2017    UPDATED AUGUST 29, 2017

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## S. Support it



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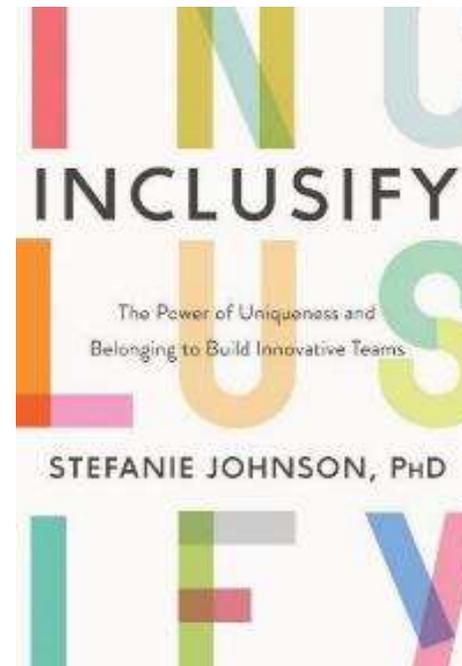
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to Stay in Contact

Text NCAR to  
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Thank You