



ELSEVIER

# How to make a case for gender diversity to people who don't know why they should care

A presentation for the  
Gender Summit 9 Europe  
#GSEu9

By Alison Bert ([@alisonbert](#))  
Editor-in-Chief, Elsevier Connect  
([@ElsevierConnect](#))

9 November 2016

# Elsevier Connect

Honoring the 2016 Nobel laureates with free access to selections of their research  
 Download the most cited papers the laureates published with Elsevier

By Elisa Nelissen | Posted on 3 October 2016

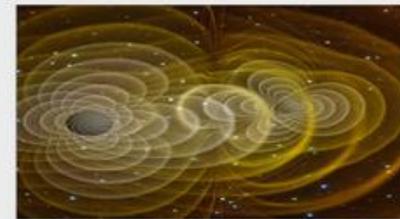
[Read full story](#) / [Comment](#)



Zika Virus Resource Center...



When seconds count – finding a new way...



A tweet from the universe transforms physics and...

## Publishing Ethics



### A fascinating experiment into measuring dishonesty

By Dan Ariely and Yael Melamed | Posted on 22 September 2016

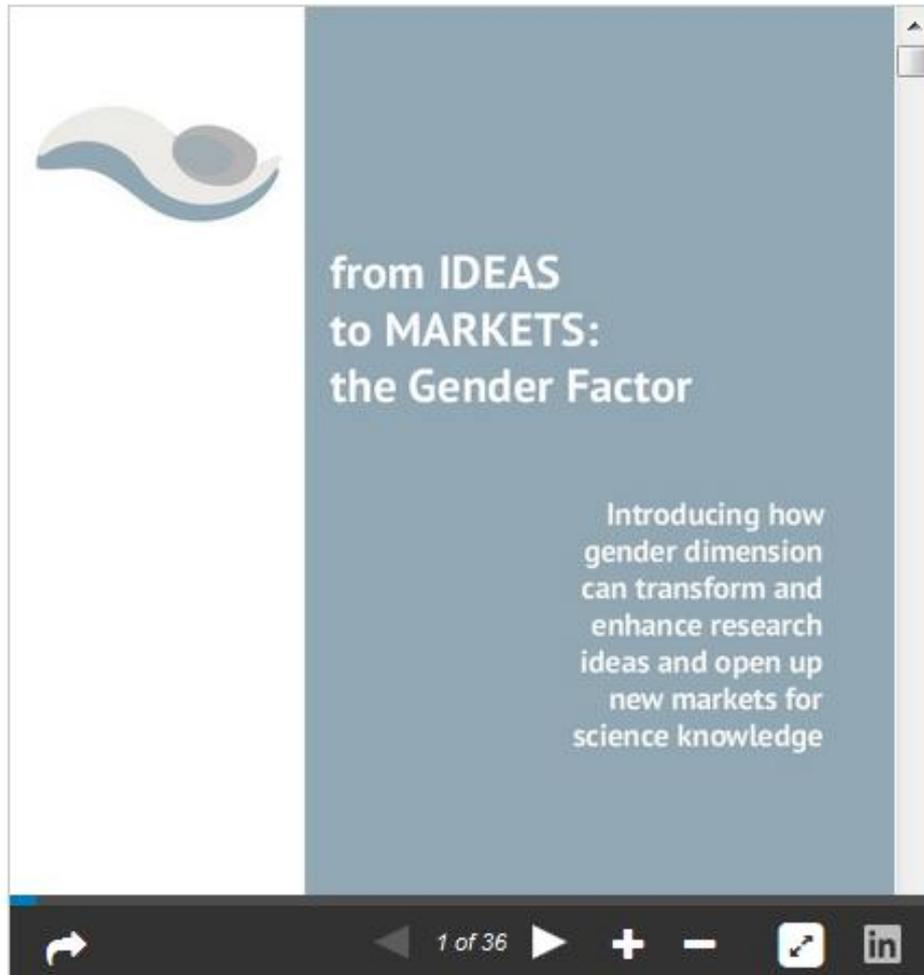
Is peer review a major deterrent in keeping science honest?

[2 Comments](#)

## Really?

The 550 participants at  
the Gender Summit  
agreed that ...

# Keep your audience in mind



## From IDEAS to MARKETS: the Gender Factor

How gender dimension can transform and enhance research ideas and open up new markets for scientific knowledge



What science is missing  
when women are missing

From drug discovery to seat belt design,  
women matter a lot, findings show

# Keep your audience in mind

Women in Science

## Report: What science is missing when women are missing

From biochemical discoveries to seat belt design, women matter a lot, findings show

By Elizabeth Pollitzer, PhD Posted on 12 March 2013

Share story: [f](#) [t](#) [g+](#) [in](#) [v](#) [e](#) [e](#)

Women's history in science is a story of dogged determination to be recognized as equals of men, and treated as such. Today, many of the barriers that stood in the way of women's progress in science have disappeared. We understand much better the nature of these barriers and how to deal with them, such as the lack of transparency in institutional practices, the implicit gender stereotypes both in society and in research cultures that favor men when appointments are made, and women's greater family commitments, which can have significant impact at the critical, early career stage.

The consequences of science where men traditionally have been in a majority has been an acceptance of "male" as the norm, and the belief that science is gender neutral, i.e., that the paucity of women in research, as experimenters and as subjects, did not matter.

Now we know that it does matter because a science knowledge base that has much more evidence for men than for women (with the exception of some cases, such as breast cancer where reverse is the case) propagates research that produces different outcomes for women and men.



Elizabeth Pollitzer, PhD

## Don't just tell me — *show me*

The new perspectives emerging from the [gender in science](#) project create opportunities to be specific about what it means for science to be “gender neutral,” that is, to show that the study design has taken into account the needs of both women and men as equally important.



Examples?

The benefits are considerable, not only for the quality and outcomes of research, but also for new opportunities to apply research findings to create new markets for science knowledge.

## For example ...

**When voice recognition products were first introduced to the market, they generally worked better for men than for women — and still do.** These technologies could be made better if the voice recognition algorithms were more sensitive to the frequency of female voice, which is different to the men's.

**The safety of cars, which are tested using crash dummies based on the male body, could be improved for women, who are not scaled down versions of men;** they have, for instance, less muscle tissue around the neck and upper torso than men and hence suffer considerably greater risk of whiplash injury in a car crash than men do, almost five times as big. Women also get pregnant but designers of car seatbelts seem to be unaware that in this state the traditional seatbelt is a hindrance, and poses a risk to the baby.

**The lack of data on women in toxicology models means potentially greater risk that a drug will be more dangerous to women than to men,** and that the goals of personal medicine cannot be achieved.

# Huh?



Do explain  
academic terms  
and jargon

# Gendered innovations?

Women in Science

# Why science is gender-biased — and what we can do about it

Speakers at Gender Summit Asia Pacific show how including women as research subjects can result in better, safer products

By Heisook Lee, PhD    Posted on 1 October 2015

By now, historical inequalities between women's and men's science participation are broadly known, if not yet overcome.

But many still don't know that failing to consider sex and gender in the research itself is also limiting the benefits of today's science. Most scientific research does not consider sex or gender as variables and treats male as the norm, resulting in different health and safety outcomes for women and men.

Evidence on this problem is quickly stacking up. The [Gender Summit Asia Pacific](#) in Seoul August 26 to 28 presented 38 new examples of gendered innovations in research. More than 500 participants from 32 countries and regions joined to discuss better science and technology through gendered innovations, with a focus on innovations that can spark more creative economies.



Prof. Heisook Lee, PhD, speaks at the Gender Summit 6 Asia Pacific.

## For example ...

For example, Dr. Jeffrey Mogil [↗](#), who heads the [Pain Genetics Lab at McGill University](#) [↗](#) in Montreal, presented research that shows that mediation of chronic pain processing in the spinal cord of male and female mice is radically different. New data from his lab demonstrates that different neural circuits, transmitters, receptors and genes may be relevant to pain processing in males and females.

The research of Dr. Sun-Young Rieh [↗](#), professor in the Department of Architecture at the University of Seoul, showed why rapidly changing gender roles must be considered in Korean Urban Public Rental Housing Guidelines. The housewives in aprons that illustrate the guidelines are no longer the only female demographic to consider. Single women's safety issues such as designing communal facilities to be well-lit and in full view, and designing more adaptable room layouts that can be used for family, but also for sublets or study were mentioned.

These studies and many others detailed on the [Gendered Innovations website](#) [↗](#) of Dr. Londa Schiebinger [↗](#), the John L. Hinds Professor of History of Science at [Stanford University](#) [↗](#), show that gendered innovations are important. But what are we doing about this?

The Gender Summit 6 aimed to integrate considerations of



Prof. Jeffrey Mogil, PhD, presents research that shows gender differences in pain processing.



## What is Gendered Innovations?

### SEX & GENDER ANALYSIS

[Methods](#)

[Terms](#)

[Checklists](#)

### CASE STUDIES

[Science](#)

[Health & Medicine](#)

[Engineering](#)

[Environment](#)

### iGIANT PROGRAM

### POLICY RECOMMENDATIONS

### INSTITUTIONAL TRANSFORMATION

### VIDEOS

[Print](#) 

[Tweet](#) 

[Facebook](#) 

## What is Gendered Innovations?

Gendered Innovations harness the creative power of sex and gender analysis to discover new things.

The peer-reviewed Gendered Innovations project:

- 1) develops practical methods of sex and gender analysis for scientists and engineers;
- 2) provides case studies as concrete illustrations of how sex and gender analysis leads to innovation.

Londa Schiebinger discusses the project in the video clip below:





**Rats are scared of men**

## Apparently they prefer women ...

Male, but not female, experimenters induce intense stress in rodents that can dampen pain responses. Such reactions affect the rodents' behavior and potentially confound the results of animal studies, the study suggests.

The authors discovered this surprising gender disparity while investigating whether the presence of experimenters affects rodent pain studies. For years, anecdotal reports have suggested that rodents show a diminished pain response when a handler remains in the room.

<http://www.nature.com/news/male-researchers-stress-out-rodents-1.15106>

Olfactory exposure to males, including men, causes stress and related analgesia in rodents," *Nature Methods* (2014) <http://www.nature.com/nmeth/journal/v11/n6/full/nmeth.2935.html>

## Rats are scared of men ...

Mogil's team measured the response of mice and rats to an injection in the ankle, either in the presence of different experimenters or while alone in an empty room (the experimenters gave the injection and then quickly left). To their surprise, the animals seemed to show a decrease in pain response of about 40% when a man rather than a woman remained in the room, based on pain levels analysed using the [mouse grimace scale](#).



Left to right: as the pain a mouse is in increases, its expression changes.

Olfactory exposure to males, including men, causes stress and related analgesia in rodents,” *Nature Methods* (2014) <http://www.nature.com/nmeth/journal/v11/n6/full/nmeth.2935.html>

## Rats are scared of men ...

“Scientists whisper to each other at conferences that their rodent research subjects appear to be aware of their presence, and that this might affect the results of experiments, but this has never been directly demonstrated until now,” says Jeffrey Mogil, a psychology professor at McGill and senior author of the paper.

<https://www.mcgill.ca/newsroom/channels/news/scent-man-235492>

Olfactory exposure to males, including men, causes stress and related analgesia in rodents,” *Nature Methods* (2014)

<http://www.nature.com/nmeth/journal/v11/n6/full/nmeth.2935.html>

## Why more women in science and the workplace?

There is plenty of evidence to show *quantitatively* that gender diversity in the workplace – and in senior management – can improve an institution's performance. ...

But do we know why?

## Business case for gender diversity

- Gender is the only diversity measure that can be legally tracked globally
- Evolution of discussion from equality and justice to competitiveness and good corporate governance<sup>1</sup>
- Women bring in key leadership skills relevant for addressing future global challenges<sup>2</sup>
  - Intellectual stimulation, inspiration, participatory decision-making and expectation setting
- Gender equality positively correlates with company's financial performance<sup>3</sup>
  - Companies with the most female board members outperform those with the least on return on invested capital (ROIC) by 26%
  - Companies with 3+ women on their board in at least four of five years significantly outperformed those with sustained low representation by:



### Sources:

1. The Current State of Corporate Gender Equality Global Trends and Figures. March 2013.
2. McKinsey's "Women Matter", 2008 edition
3. Catalyst, *The Bottom Line: Corporate Performance and Women's representation on Boards (2004–2008)*. <http://www.catalyst.org/>, 2011

McKinsey&Company

# Women Matter

The business and economic case for gender diversity.



Report

## Women in the Workplace 2016

*September 2016* – In corporate America, women fall behind early and keep losing ground with every step.

<http://www.mckinsey.com/global-themes/women-matter>

## Make a compelling case for gender diversity

Companies need to more fully communicate why gender diversity matters and how it benefits everyone.

**Using a combination of storytelling and data**, companies should speak to the positive impact greater gender diversity has on individuals, on the company and its customers, and on society more broadly.

## Make a compelling case for gender diversity

Transparency is also critical, yet fewer than a third of companies disclose any gender metrics to employees, and a mere 4 percent share them all.<sup>14</sup> Giving employees more information will help them better understand the state of women in their companies and what's working—and what's not—in their efforts to reach gender equality.

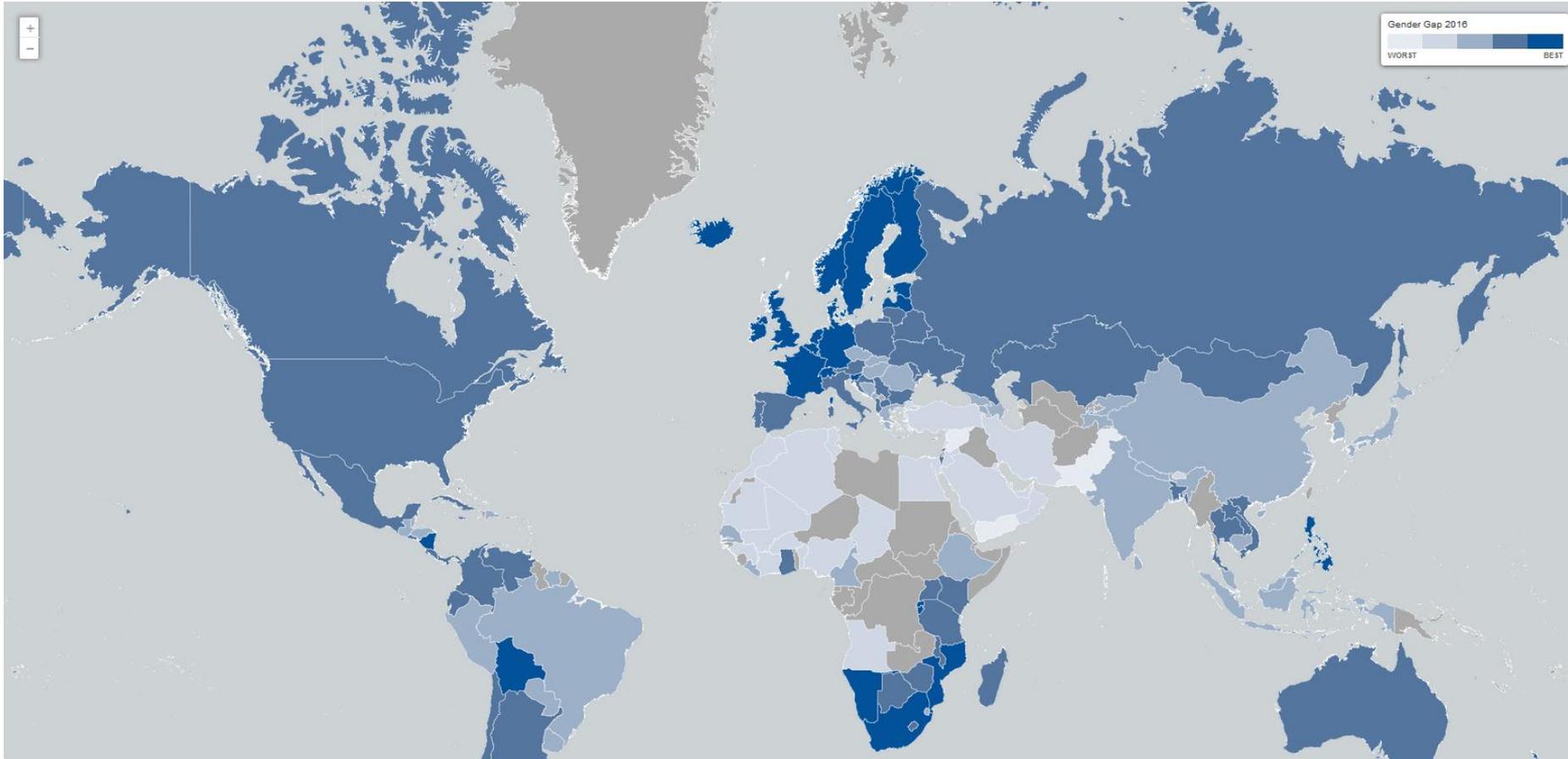
<sup>14</sup> The quantitative metrics companies track could include recruiting pipeline by gender, gender representation at promotion rounds, and salary differences at comparable job positions by gender

# World Economic Forum: Global Gender Gap Report 2016



## Gender Gap 2016

The Gender Gap Index 2016 benchmarks national gender gaps on economic, political, educational and health criteria, and provides country rankings that allow for effective comparisons.

[Top countries ▾](#)[Explore the report](#)[Embed ▾](#)[Share ▾](#)

<http://widgets.weforum.org/gender-gap-2016/>

# World Economic Forum: Global Gender Gap Report 2016



Agenda

Events

Reports

Projects

About

Login to TopLink

中文 日本語



Report Home

Previous

Next

Rankings and Data

Country Profiles:

Select Country

Infographics

The Global Gender Gap Report 2016

Measuring the global gender gap

Results and analysis

Top Ten

Performance by region and country

Progress over time

Gender gaps and income

The case for gender parity

Gender parity and human capital

Conclusion

Appendices

Blog and opinion

Download full publication as

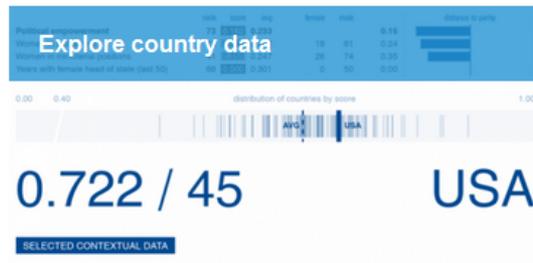
## The Global Gender Gap Report 2016

*Through the Global Gender Gap Report, the World Economic Forum quantifies the magnitude of gender disparities and tracks their progress over time, with a specific focus on the relative gaps between women and men across four key areas: health, education, economy and politics. The 2016 Report covers 144 countries. More than a decade of data has revealed that progress is still too slow for realizing the full potential of one half of humanity within our lifetimes.*

Share this page:

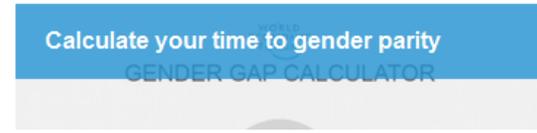


Read later:



**Compare global rankings**

Country	Economic	Political	Health	Education
China	1	1	1	1
Denmark	4	11	36	36
Norway	5	8	110	88
United States	6	10	100	100
Japan	7	12	100	100
Germany	8	13	100	100
France	9	14	100	100
Sweden	10	15	100	100
Finland	11	16	100	100
South Korea	12	17	100	100
Canada	13	18	100	100
Switzerland	14	19	100	100
Spain	15	20	100	100
Italy	16	21	100	100
United Kingdom	17	22	100	100
India	18	23	100	100
South Africa	19	24	100	100
Brazil	20	25	100	100
Mexico	21	26	100	100
Argentina	22	27	100	100
Chile	23	28	100	100
Colombia	24	29	100	100
Peru	25	30	100	100
Venezuela	26	31	100	100
Indonesia	27	32	100	100
Russia	28	33	100	100
Ukraine	29	34	100	100
Poland	30	35	100	100
Czechia	31	36	100	100
Slovakia	32	37	100	100
Hungary	33	38	100	100
Croatia	34	39	100	100
Slovenia	35	40	100	100
Lithuania	36	41	100	100
Latvia	37	42	100	100
Estonia	38	43	100	100
Belgium	39	44	100	100
Austria	40	45	100	100
Portugal	41	46	100	100
Greece	42	47	100	100
Turkey	43	48	100	100
Israel	44	49	100	100
South Africa	45	50	100	100
Canada	46	51	100	100
USA	47	52	100	100
China	48	53	100	100
India	49	54	100	100
Japan	50	55	100	100
Germany	51	56	100	100
France	52	57	100	100
Sweden	53	58	100	100
Finland	54	59	100	100
Denmark	55	60	100	100
Norway	56	61	100	100
South Korea	57	62	100	100
Canada	58	63	100	100
USA	59	64	100	100
China	60	65	100	100
India	61	66	100	100
Japan	62	67	100	100
Germany	63	68	100	100
France	64	69	100	100
Sweden	65	70	100	100
Finland	66	71	100	100
Denmark	67	72	100	100
Norway	68	73	100	100
South Korea	69	74	100	100
Canada	70	75	100	100
USA	71	76	100	100
China	72	77	100	100
India	73	78	100	100
Japan	74	79	100	100
Germany	75	80	100	100
France	76	81	100	100
Sweden	77	82	100	100
Finland	78	83	100	100
Denmark	79	84	100	100
Norway	80	85	100	100
South Korea	81	86	100	100
Canada	82	87	100	100
USA	83	88	100	100
China	84	89	100	100
India	85	90	100	100
Japan	86	91	100	100
Germany	87	92	100	100
France	88	93	100	100
Sweden	89	94	100	100
Finland	90	95	100	100
Denmark	91	96	100	100
Norway	92	97	100	100
South Korea	93	98	100	100
Canada	94	99	100	100
USA	95	100	100	100



# World Economic Forum: Global Gender Gap Report 2016

## The case for gender parity

There is a clear values-based case for promoting gender parity: women are one-half of the world's population and evidently deserve equal access to health, education, economic participation and earning potential, and political decision-making power. However, it is pertinent to note that gender parity is equally fundamental to whether and how societies thrive. Ensuring the healthy development and appropriate use of half of the world's total talent pool has a vast bearing on the growth, competitiveness and future-readiness of economies and businesses worldwide.

A variety of models and empirical studies have suggested that improving gender parity may result in significant economic dividends, which vary depending on the situation of different economies and the specific challenges they are facing. Notable recent estimates suggest that economic gender parity could add an additional US\$240 billion to the GDP of the United Kingdom, US\$1,201 billion to that of the United States, US\$526 billion to Japan's, and US\$285 billion to the GDP of Germany.<sup>9</sup> Another recent estimate suggests that China could see a US\$2.5 trillion GDP increase by 2020, and North America and Oceania could gain an additional US\$3.1 trillion over the same period if they closed their gender gaps.<sup>10</sup>

A number of recent studies also indicate that a reduction in the employment gender gap has been an important driver of European economic growth over the past decade, and has the potential to unleash even further growth. Conversely, limiting women's access to labour markets is costly, as poor female labour force participation hampers economic growth.<sup>11</sup> As a region, East Asia and the Pacific reportedly loses between US\$42 billion to US\$47 billion annually due to women's limited access to employment opportunities.<sup>12</sup> Research by the World Bank demonstrates that similar restrictions have also imposed sizable costs throughout the Middle East and North Africa<sup>13</sup> as well as the Sub-Saharan Africa region.<sup>14</sup>

<http://reports.weforum.org/global-gender-gap-report-2016/the-case-for-gender-parity/>

## World Economic Forum: Global Gender Gap Report 2016

Business leaders and governments increasingly note that tackling barriers to equality can unlock new opportunities for growth. In the World Economic Forum's *Future of Jobs Survey*, **42% of business leaders perceived addressing gender parity in their company as a matter of fairness and equality; yet ... more than a fifth of those surveyed also highlighted rationales closer to their core business: reflecting the changing gender composition of their customer base as well as enhancing corporate decision-making and innovation.**

# Responding to challenges and difficult questions

## Why gender balance at conferences should become the “new normal”

One Editor's bid to promote equality in his conference program has truly struck a chord with researchers

By Julian Eastoe, PhD September 6, 2016



<https://www.elsevier.com/editors-update/story/publishing-trends/why-gender-balance-at-conferences-should-become-the-new-normal>

# Responding to challenges and difficult questions

 **Siegfried** → Leonard · a month ago  
not only impossible but also unreasonable. **The gender issue is beyond any scientific reason.** to achieve the general goal of excellence in scientific progress there should be neither a bonus nor a malus on sex or gender  
^ v · Reply · Share ›

 **Matheus Carvalho** · 15 days ago  
**With so many way more important issues, caring about gender balance is just waste of time and money. As people have already said here, gender blindness is the goal.** It is not hard: you just need to get the best in the field. But, of course, someone must make things harder...  
^ v · Reply · Share ›

 **Justin Volke V** · 15 days ago  
**Gender balance? If a society's membership and its key academic leaders are 80% male, then forcing publications to be 50/50 gives female authors an unfair advantage in selecting manuscripts for publication. As long as the reviews are blinded to the sex(es) of the author(s), then I see no point in this. Plus what about all the other 57 genders available to google mail members?**  
**There are hardwired differences in the male and female brain. Maybe men are just better hardwired to think abstractly as in STEM fields, and women are more intuitive, and seek to publish in psychology and sociology?**  
As it stands, the pendulum has already swung against men in academics, with women now graduating with 60% of all degrees awarded.  
When I review, I look at the conclusions, and then the study design. If the study is not designed to prove the conclusion, I reject it, and never bother to see if it was written by a man or a woman. If this becomes policy, I'm dropping out of the editorial review game.  
^ v · Reply · Share ›

**No one should be afraid to ask difficult questions.**



# Responding to challenges and difficult questions



**Matheus Carvalho** · 15 days ago

With so many way more important issues, caring about gender balance is just waste of time and money. As people have already said here, gender blindness is the goal. It is not hard: you just need to get the best in the field. But, of course, someone must make things harder...

^ v · Reply · Share >

**Elizabeth Pollitzer:** Gender balance is not a waste of time or money. Promoting equality and status of women in research and, in turn, changing and improving systems, is a commitment that is shared today by major research funders around the world. For example:

- The European Union in their Horizon 2020 programme [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/gender/h2020-hi-guide-gender\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/gender/h2020-hi-guide-gender_en.pdf)
- The Global Research Council <http://www.globalresearchcouncil.org/meetings/2016-annual-meeting>

## Responding to challenges and difficult questions



**Matheus Carvalho** · 15 days ago

With so many way more important issues, caring about gender balance is just waste of time and money. As people have already said here, gender blindness is the goal. It is not hard: you just need to get the best in the field. But, of course, someone must make things harder...

^ v · Reply · Share ›

**Elizabeth Pollitzer:** ... All that happened at the Colloids Conference in Berlin was that excellent women in the field were made visible. **When men hold most of the academic professorial positions in a field, as is the case for many areas of science, it is men who decide what is “the best”: women; their needs and their talents are rendered invisible. This is what gender-blind science is like.**

## Responding to challenges and difficult questions



Siegfried → Leonard · a month ago

not only impossible but also unreasonable. **The gender issue is beyond any scientific reason.** to achieve the general goal of excellence in scientific progress there should be neither a bonus nor a malus on sex or gender

^ v · Reply · Share >

**Elizabeth Pollitzer:** Gender issues are definitely not “beyond any scientific reason.” **An extensive body of research literature is available showing when, why, and how sex gender difference effects (gender dimension) impact on research outcomes** and produce different quality of results for women and men. A good place to find this information is the Gendered Innovations website, hosted by Stanford University (<https://genderedinnovations.stanford.edu>), which offers in-depth scholarly explanations how gender bias can be prevented through the application of gender analysis methods in research process.

## Responding to difficult questions



Justin Volke V · 15 days ago

Gender balance? If a society's membership and its key academic leaders are 80% male, then forcing publications to be 50/50 gives female authors an unfair advantage in selecting manuscripts for publication. As long as the reviews are blinded to the sex(es) of the author(s), then I see no point in this. Plus what about all the other 57 genders available to google mail members?

There are hardwired differences in the male and female brain. Maybe men are just better hardwired to think abstractly as in STEM fields, and women are more intuitive, and seek to publish in psychology and sociology?

As it stands, the pendulum has already swung against men in academics, with women now graduating with 60% of all degrees awarded.

When I review, I look at the conclusions, and then the study design. If the study is not designed to prove the conclusion, I reject it, and never bother to see if it was written by a man or a woman. If this becomes policy, I'm dropping out of the editorial review game.

^ v · Reply · Share >

**Elizabeth Pollitzer:** Most people would not argue with taking “balance” to mean reflecting the proportion of females in the given field/pipeline. He says that 60% of all degrees are awarded to women; then OK, let's use this as the target for the representation elsewhere. ...

## Responding to difficult questions



Justin Volke V · 15 days ago

Gender balance? If a society's membership and its key academic leaders are 80% male, then forcing publications to be 50/50 gives female authors an unfair advantage in selecting manuscripts for publication. As long as the reviews are blinded to the sex(es) of the author(s), then I see no point in this. Plus what about all the other 57 genders available to google mail members?

There are hardwired differences in the male and female brain. Maybe men are just better hardwired to think abstractly as in STEM fields, and women are more intuitive, and seek to publish in psychology and sociology?

As it stands, the pendulum has already swung against men in academics, with women now graduating with 60% of all degrees awarded.

When I review, I look at the conclusions, and then the study design. If the study is not designed to prove the conclusion, I reject it, and never bother to see if it was written by a man or a woman. If this becomes policy, I'm dropping out of the editorial review game.

^ v · Reply · Share ›

... But even in medicine, where the proportion of women in the field has been growing, this balance has not been achieved. For example, see Amrein K et al: "Women underrepresented on editorial boards of 60 major medical journals," *Gender Medicine* (Dec. 2011) <https://www.ncbi.nlm.nih.gov/pubmed/22153882>

# Responding to difficult questions



Justin Volke V · 15 days ago

Gender balance? If a society's membership and its key academic leaders are 80% male, then forcing publications to be 50/50 gives female authors an unfair advantage in selecting manuscripts for publication. As long as the reviews are blinded to the sex(es) of the author(s), then I see no point in this. Plus what about all the other 57 genders available to google mail members?

There are hardwired differences in the male and female brain. Maybe men are just better hardwired to think abstractly as in STEM fields, and women are more intuitive, and seek to publish in psychology and sociology?

As it stands, the pendulum has already swung against men in academics, with women now graduating with 60% of all degrees awarded.

When I review, I look at the conclusions, and then the study design. If the study is not designed to prove the conclusion, I reject it, and never bother to see if it was written by a man or a woman. If this becomes policy, I'm dropping out of the editorial review game.

^ v · Reply · Share >

**Elizabeth Pollitzer:** The EMBO study on quotas suggests “cascade quotas”:

[http://www.embo.org/documents/science\\_policy/exploring\\_quotas.pdf](http://www.embo.org/documents/science_policy/exploring_quotas.pdf). Most people would agree that making underrepresented groups more visible attracts others to the field by creating role models, so the cascade quota systems should be beneficial to more groups apart of women.

## Cascade quotas

“The cascade model can be an effective type of quota setting,” commented Gerlind Wallon, EMBO Deputy Director. The cascade model envisages flexible quotas for female participation at various levels: **The quota is calculated on the percentage of women at the level immediately below.** “This seems a reasonable method that takes into account the number of available, qualified candidates. I would call this a smart quota.”

<http://www.embo.org/news/press-releases/2015/gender-quotas-an-analysis-of-options-for-their-use>

## Are women and men “hard-wired” differently?

**Elizabeth Pollitzer:** The second argument has been demonstrated as false by many neuroscientists, cognitive scientists and psychologists... **Nobody is born hard-wired; the brain is “plastic” and the neural connections develop continuously (otherwise we would not learn).** The only possible difference may be spatial reasoning, but female students engineers who have been given training improved **their performance on this.** If women were biologically predestined for psychology, then how does he explain Freud, Jung, Skinner, Bandura, Piaget, Rogers, James, Maslow, Erikson, Pawlow, Vygotsky. Of course, there are also very influential women psychologists.

Sara M. Lindberg et al: "New Trends in Gender and Mathematics Performance: A Meta-Analysis," Psychological Bulletin (November 2010)  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3057475/>

## Are women and men “hard-wired” differently?

**Elizabeth Pollitzer:** The second argument has been demonstrated as false by many neuroscientists, cognitive scientists and psychologists... **Nobody is born hard-wired; the brain is “plastic” and the neural connections develop continuously (otherwise we would not learn).** The only possible difference may be spatial reasoning, but female students engineers who have been given training improved **their performance on this.** If women were biologically predestined for psychology, then how does he explain Freud, Jung, Skinner, Bandura, Piaget, Rogers, James, Maslow, Erikson, Pawlow, Vygotsky. Of course, there are also very influential women psychologists.

Sara M. Lindberg et al: "New Trends in Gender and Mathematics Performance: A Meta-Analysis," Psychological Bulletin (November 2010)  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3057475/>