Female faculty: Why so few and why care?

Chemistry, Tulane University, New Orleans, USA, 2000

Since I left 2003, no new woman recruited (until 2018)

Gender issues in academia but also related to diversity more broadly

JML SEMINAR School of Architecture and the Built Environment, KTH
September 23, 2021 @ZOOM

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Chalmers University of Technology, Sweden
We build our views from our experiences...

My scientific background

**Postdoctoral fellow**
Los Angeles 1997-98

**Professor**
Houston 2004-08

**Professor**
New Orleans 1999-2003

Rice University
Houston

Tulane University
New Orleans

**PhD Chalmers**
1996

**Professor Chalmers University, Sweden**
Proteins, cancer, neurodegeneration - basic science research

From Sept 1, 2015:
Professor Chalmers University, Sweden
Why do I talk about this?

• When in America, did not think much about gender inequality. Happy to do well in a male dominated world, feeling special
• I was foreigner (had to fight harder); but at Rice, started to ‘see’ more. My dean did not promote me because of kids; activities in ADVANCE program via NSF
• When back in Sweden 2008, surprised… Sweden thought to be ahead (problem solved) but inequality still existed
• Made me write my first debate article*

So, ’family friendly’ but not ’career friendly’…

The more senior I get, the more I realize the problem. I am in a position to speak up - I must do it, for younger colleagues and for my kids

Iceland (0) 1
Finland (+1) 2
Norway (-1) 3
New Zealand (+2) 4
Sweden (-1) 5
Namibia (+6) 6
Rwanda (+2) 7
Lithuania (+25) 8
Ireland (-2) 9
Switzerland (+8) 10

2021 Global Gender Gap Top 10**: USA position 30, Afghanistan last on list at position 156

*http://www.stemwomen.net/is-the-gender-gap-solved-in-liberal-sweden/
**http://www.weforum.org/
So, when you talk about...

Gender issues…
Inequality…
Promotion of women…
Sexual harassments…
Family planning, childcare etc.

There are several common responses (or, truly, resistances)!

My approach:
Identify these responses and address them with scientific evidence

We have many personal stories; important to know there are real facts too
The most common responses

- There is no problem
  *Denial of anything wrong*

- It is a women’s problem
  *Nothing I can do - it is biology*

- Not me, done training and follow policies
  *Today, everything equal (I am fair!)*

- It is not my problem
  *I do not care, does not affect me*

- Too much already
  *Complain about details*

**Today:**
- Show that these responses are wrong
- Some suggestions for actions
- What we started at Chalmers

See Kamerlin and Wittung-Stafshede, Chem. Eur. J. 2020, 26, 8319 for many references
There is no problem

Well, there is!
Few female faculty in Sweden

First Swedish professor: (state university) Nanna Svartz KI 1937; (private university) Sonja Kovalevsky Stockholm College 1889

- The higher the rank, the fewer the women;
- 17% of professors are females 32 persons (worst in Sweden)
- Average Sweden: 29% female professors

1% increase in women per year

When 25% females at top reached, progression often stops, universal trend in many professions
Not lack of female candidates

- University students have been fifty-fifty (or a bit more females) in Sweden since the 1970s
- Thus, men are somehow enriched in academia...

'Leaky pipeline’ and ’glass ceiling’
...same trend in all of Europe...

There is a problem!

- EU statistics: concentration of women/men at highest academic position (professor) vs. countries
- Sweden is average in EU
  Around 7% of women in academia are professors, whereas 19% of men in academia are professors

PS. Women often more responsibilities at home and also ‘academic household work’...

And there is pay gap against women...
In Sweden: 13% (10% at Chalmers)

European Commission’s “She” Figures in Gender and Innovation (2015)
It is a women’s problem
OK, let us be very clear

There are variations, but as much within as between the genders

ambition
intelligence quotient
analytical ability
cognitive performance
problem solving
verbal processing
social variables

NO GENDER DIFFERENCE

NO BIOLOGICAL DIFFERENCE IN ABILITY

CONTRARY, GIRLS DO BETTER IN SCHOOL

Gender similarities and differences, Annual Review of Psychology, 2014, 65, 3737
Dispelling the Myths of Gender ‘ambition gap’, Boston Consulting Group, 2017

So what is it?
Popular term nowadays, many universities started such training. Sounds good, but **does not work** (more than 30 minutes)

Illustrate concept with a cat and a cucumber:

**Society, norms, culture!**

‘Unconscious/Implicit Bias’
Jumping to conclusions...

- We have built-in expectations
- Historical and cultural norms rule in society

Harvard implicit association test:

It is not a women’s problem!

e.g. Blindspot: Hidden Biases of Good People M Banaji and A Greenwald, 2016, Bantam
Not me... done training and follow policies

I am fair!
Again, skewed norms rule

*Sex Roles. 2007; 57: 509–514)*

- **Male associated words**
  - skilled, brilliant, bright, able, remarkable, genius, intelligent

- **Female associated words**
  - hardworking, conscientious, dedicated, diligent

- **Female teachers** rated lower by students for same output in all fields
  - Female teachers often valued for looks, sexuality etc.

Important, this data often used in promotion cases...

![Graph showing gender gap in awards](http://thinkprogress.org/education/2015/02/07/3620571/rate-my-professor-sexist/)

- **Women among awardees**
  - 6\% in 2001–05
  - 9\% in 2006–10
  - 11\% in 2011–15
  - 19\% in 2016–20

- **Women among professors**
  - 17\% in 2001–05
  - 20\% in 2006–10
  - 24\% in 2011–15
  - 28\% in 2016–20

- **Women** less likely to win major awards
  - Some awards *never* given to a woman
  - 141 awards studied

Bias against women all over

- Women needed double *nb.* of publications to get same competence score for Swedish research council grants
  Wennerås & Wold, Nature 1997
- Many (prestigious) granting agencies have lower success rates for women

Often funding agencies make it 'too easy'
They aim for % female applicants = % females granted

**ERC AdG success rates**
25% of applicants, 20% of grantees

**Better today?**
Still positive bias for men
Holst and Hägg, F1000 Research 2018
Johnson and Kirk PASP, 2020

**NIH success rates**
Bias against women all over

- Harder to get published if senior author is woman; such papers get less citations…
  - The gender gap in science: How long until women are equally represented? Plos Biology, April 19, 2018

- John/Jennifer despite same CV
  John more likely to get job and offered higher salary
  (Moss-Racusin et al. Handelsman, PNAS 2012)

Both men and women show bias...

Negative spiral Women disfavored in every step, they get less merits and, eventually, leave academia

No, we are not fare (yet)
It is not my problem
Homophily is not most successful

- Homophily means ‘men choose men’. Because women are in minority, they are tough against other women to survive.

- Complicit masculinity flourish, meaning men quietly support the culture.

- But we need women’s different perspectives to solve the world’s problems. The population IS diverse.

Diverse teams publish higher impact papers and do better science! (that’s what we want)

More diversity, better science

- Diversity and gender balance give higher scientific success and improve work environment/climate for all

Critical mass of 15-30% females needed to get effects

Gender equality is not about ‘being kind’ it is about success!

Goshi. *By whom and when is women’s expertise recognized? Adm Sci Q* 2014 25(2):202–239
People say we nowadays have to be too politically correct, one cannot give critique anymore to women as everything will be taken as a gender issue...

Too much already...

I expected no gender problems in Swedish academic when I returned to a full professor position in Sweden after 10 years as faculty in the United States. I was mistaken.

- Professor Fermina Witting-Stahlschmidt

...this is picking on details, miss the big picture...
Everyday micro-aggressions...

- Tiny, thoughtless, offensive things that people say to women on daily basis

They build up and eventually we believe in them...

Maybe not OK anymore, but still happens...
Quotes from Chalmers today...

“A male professor came up to me when he found out that I was very interested in equality issues, he told me that this ‘equality nonsense’ is a waste of time and will never have an impact in academia.”

“I was told by a male professor that there are so few women on Chalmers because women and men have different brains and that women don´t want to come here because of biological differences.”

“From a professor to another professor at my department (I am a PhD student): Burn out is not a real thing. Females are weaker and that is why they get burned out”

“Question aimed at me from the head of the division at a division meeting: Since you are the only woman here, what do you think about gender equality at our department?”

’Chilly climate’

This affects women’s confidence... (and work environment)
Gender ‘confidence gap’

- Studies show women under-estimate their confidence men over-estimate confidence
- Women attribute success to others men attribute success to self
- Easier to see confidence than competence...
- Over-confidence in men give higher status and more benefits

Fuels deleterious cycle of gender imbalance

No, not ‘too much’ yet

e.g., Psychological Bull. 1999, 125, 470; Sheryl Sandberg's Lean In, 2013

Men apply more (women less) compared to representation in their fields to e.g., ERC Stadmark et al, Adv Geosci. 2020
Possible solutions

Does everyone really want change? Many men will loose power, things will not be 'as is' – scary to some?!

Me? Sexist? But I LOVE women!
The gender harassment ‘iceberg’

Over the waterline:
Sexual harassment
Illegal... Got attention after #metoo!

Below the surface:
Micro-aggressions, comments, biases, stereotypes...
Legal...

‘Melt all the ice’

Policies, laws, vice-chancellors cannot melt the ice...
we all together must change the academic culture (i.e., heat the water)
No magic bullet but many things

- Gender equality at top of strategic agenda
- Strong and active leadership in each department
- Tailored work, every department differs
- Collect data, act on it, be open with facts
- Educate everyone, become aware of bias

Combination of female recruitment/support and long-term actions for cultural/structural changes

Key to success is to get majority (i.e., also men) onboard, both formal and informal leaders
In practice, what to consider?

- Recruitment and hiring ★
- Processes of promotion and tenure ★
- Accountability structures ★
- Development of institutional leaders ★
- Departmental climate/culture ★
- Visibility for women and gender issues ★
- Support for dual career couples ★
- Flexible, family-friendly work arrangements ★
- Faculty professional development ★
- Special grants to individuals ★
- Targeted recruitments ★
- Mentoring and network activities ★

Essential to address regardless of starting point:

- Focus directed towards individuals, the culture, and/or the organisation
- Both targeted and general strategies

There are efforts out there:
- ADVANCE (NSF USA), Athena Swan (UK), SAGE (EU Horizon 2020), SAGE (Australian academies)
- ...but issue is far from resolved...

Great book: Building gender equity in the academy Laursen and Austin, John Hopkins Press, 2020
Excellent resource with research-based advice and strategic interventions (StratEGIC)
https://www.colorado.edu/eer/research-areas/women-science стратегический-тюльки
Real efforts on the way at Chalmers?

• Late 2017, the Chalmers Foundation called for proposals to take Chalmers ‘into the future’...
• This was just after Metoo started; I had brought up ideas for some time but without success...
• A seminar by Paul Walton together with local Metoo stories opened the eyes of the President...
• So, perfect timing: I proposed Genie, it got support by many others, and was selected for funding!

Chalmers, a technical university:
13 departments
650 base-funded faculty
9000 undergraduate students
850 PhD students
Over 3000 employees
Gender Initiative for Excellence, Genie
...to increase success and excellence at Chalmers!

What makes Genie stand out:

1. Money - 300 MSEK (30 million Euros) 
   largest gender initiative ever in academia
2. Long term (10 years, 2019-2028)
3. Spans the whole university
4. Lead by faculty (me and Mary Sheeran)

• Goals
  Gender equal culture and systems; increased female faculty (40% female professors 2028; same opportunities for success, inclusiveness)

• How? (KEY)
  Many concrete efforts on many different levels, not ‘one solution fits all’

Combine top-down and bottom-up ideas

Genie aims to catalyze action - help (but not force) the departments
**Big picture of Genie concept 2019-2021**

**Measure and analyze**
Gender-divided data from CTH databases, employee survey data, follow PhD student, key measures etc.

**So far:** Published 2018, 2019 2020 data (positions, sick leave, salary vs gender)
New questions in employee survey 2019, 2020, 2021 to try to measure culture
Plan to assess workload, academic household work, flow of money, promotion time vs gender etc.
Collect good examples around campus and spread

**Locally in departments**
Help with tailored actions (around recruitment, culture, leadership, processes etc.), money, feedback, guidance

**So far:** Met every dept head and talked to faculty in depts
Each dept makes plan for Genie work in annual VP since 2019
2 Mkr to each dept over 5 yrs
Genie group with one Genie rep from each dept
Toolbox list with concrete action points
Cultural change course started for Genie reps (5 modules)

**Central actions**
Various funding initiatives; support to departments for female recruitments; education, awareness etc.

**So far:** Guidelines for recruitment of top female faculty (2), female visitors (11); internal transfer to base-funded faculty positions (4); assistant professors (6); postdocs (15) and PhD students (3)
Open call for internal projects (gender + research/teaching; 30 funded)
Funding to attend gender conferences
Seminars, informal meetings, mentoring, networks
Support to bottom-up ideas
National and international outreach and activities

**Where are we now?**
Honest reflection
Challenges and successes? 3 years in

Challenges
• Hard to get leaders onboard, get faculty to prioritize
• Difficult with communication
• Hindered by bigger university problems
• Want action but often hampered by bureaucracy
• Numbers not changed (except Assist Prof)
• Management vs. academic structure

Successes
• Built trust for Genie
• Improved awareness
• Increased engagement
• Hired great women to faculty
• Academic agenda in focus
• Gained visibility and reputation

Reading suggestion:
What we all can do – now!

- **Push on your leaders to act** (in department, university, national agencies and scientific societies)

- **Speak up when things are wrong** (be the awkward one)

- **Get engaged in gender topics** (collect data, organize seminars/education etc.)

- **Highlight, support** (like men are supported) **and encourage** women (nominate for prizes, start networks, mentorships etc.)

Real change will take time
All small actions are important
The more onboard, the easier it gets

Thank You!
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