



TM2019 - WINGS

Women IN Gravities

Introduction, M.Crosta (INAF-OATo)

why WINGs?

- emphasize the role of women in the conference topics
- overcome the *cliché* of a cultural gender bias based on female disinterest in research areas that appear male-oriented
- serve as positive example to the community/students
- inspire a whole series of initiatives aimed at including minorities or diversity, with a particular care for the intersectionality issue
- envisage/plan possible actions/strategies for inclusion

our cultural schemas and related biases can change with experience or exposure to new information

which biases?

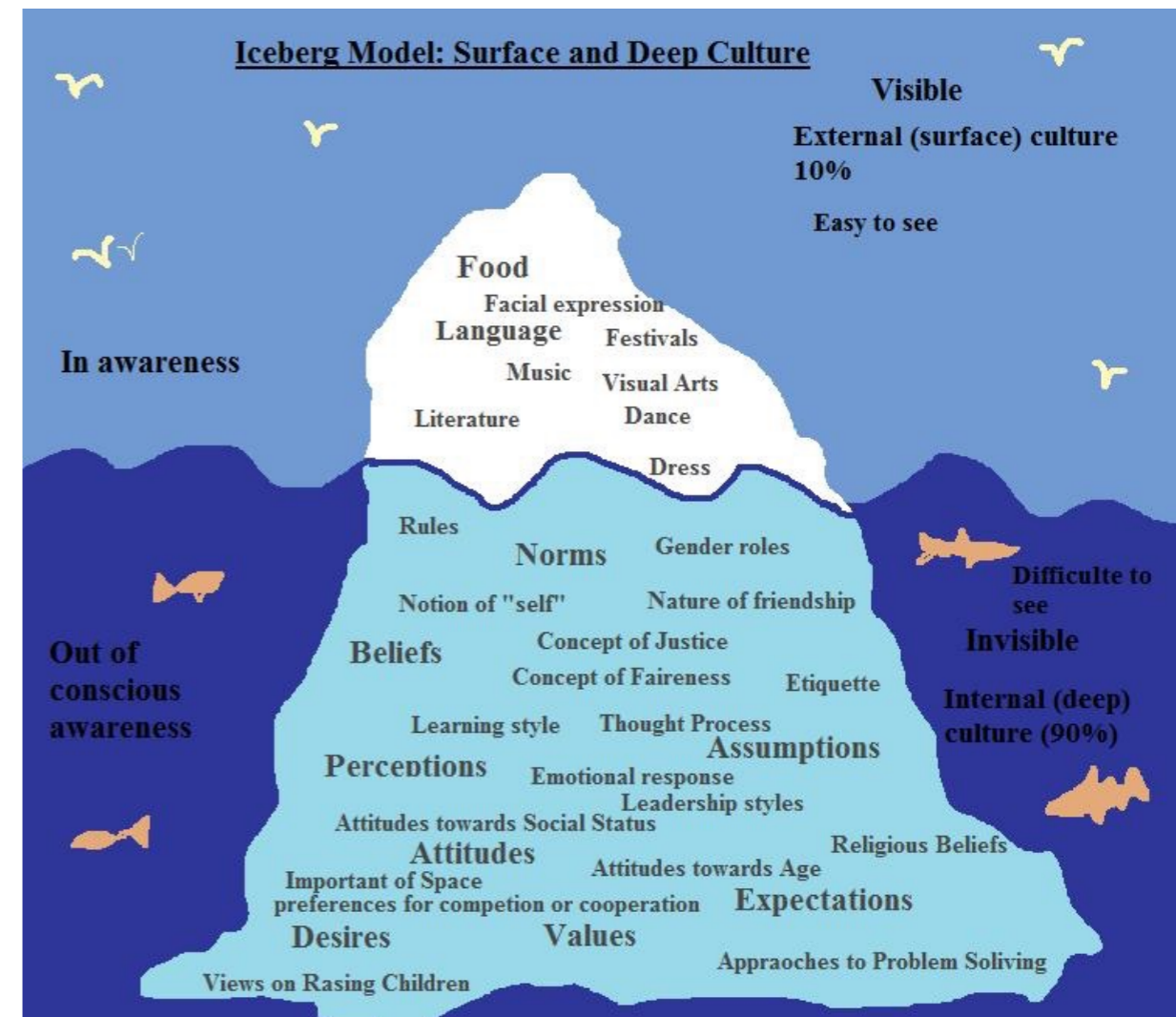
<https://diversity.ucsf.edu/resources/unconscious-bias>

- **Conscious/explicit bias**
- **Unconscious/implicit bias** stem from one's tendency to organize social worlds by categorizing -> far more prevalent than conscious prejudice, not limited to ethnicity, sex and race, may exist toward any social group

When we are evaluating others, we think that we will handle that responsibility objectively or professionally, judging people based solely on their credentials and achievements.

Each of us brings a lifetime of experiences/cultural histories that create in us certain schemas or non-conscious hypotheses (expectations or stereotypes) that affect our judgments of others.

Certain scenarios can activate unconscious attitudes and beliefs. For example, biases may be more prevalent when multi-tasking or working under time pressure, etc..



examples

gender bias in the Symphony Orchestra

“Women have smaller technique than men”

“Women are more temperamental than men and more likely to demand special attention”

“The more women, the poorer the sound” **Zubin Mehta, 1970**

with blind audition

Percentage of women in America's symphony orchestras increases to > 40% !

gender bias in academy

“only two mathematical women are in history, Sofja Kovalevskaja and Emmy Noether: the first was not a mathematician, the second was not a woman “ **Hermann Weyl, unfortunately..**

“women do not have the same skill as men in many disciplines, for example in mathematics and science, and do not reach the top because they are not willing to apply 80 hours a week.”

Lawrens Summers, rector of Harvard University, unfortunately in 2005...

by nurturing self confidence

When **Arthur Walker** was a professor at Stanford more than 40 African American got a PhD in physics. Walker was also the PhD advisor of Sally Ride, the first and youngest American astronaut

<https://www.geteverwise.com/mentoring/the-mentor-who-launched-sally-ride-into-orbit/>

responding to resistance

Culture and representations play an important role in perpetuating gender bias within and beyond academia. We need conscious efforts to counteract unconscious and unintentional biases based on gender, race, ethnicity, class, sexuality, and (dis)ability.

- “the most important thing is not diversity or the number of women, the most important thing is having a high-quality program. We only select the best”
 - **Addressing gender balance is not inconsistent with high-quality research**
- “The most important thing is diversity of thought, not speaker diversity.”
 - **Diversity in life experience equals diversity of thought. Again, having a gender-balance is not inconsistent with diversity of thought.** On the flip side, promoting the same people over and over again does not address diversity of thought.
- “A policy isn’t needed because gender balance is achieved already.”
 - Check the data. Maybe gender balance is OK, but **it’s important to ensure that invisible inequities do not prevail**
- Diversity of expertise confers benefits (you would not think of building a new car without engineers, designers and quality-control experts)
 - But **social diversity in both genders and minorities will also contribute to greater scientific quality and innovation in research groups through diversity of ideas and cognitive strategies**

[Jennifer L. Martin](#) PLOS 2014 Nov 20. doi: [10.1371/journal.pcbi.1003903](https://doi.org/10.1371/journal.pcbi.1003903)

do we really need WINGs-like initiatives?

From the European Commission's *She Figure 2018* report:

“Gender balance in research is improving, but pace is too slow”

There is no evidence of spontaneous reduction of gender inequality over time

“And we still have a long way to go to achieve full gender equality. For example, our data shows that women innovators are few and far in between. We cannot sit back and assume that having planted the seeds of gender equality, the positive trends will continue. As the past has shown us, gender inequality does not fix itself. What we need is a complete cultural change, which requires systematic and coordinated actions, education and strong political commitment by all actors involved. ..

Gender equality is not only a matter of concern for women; it must matter to all of us. If we want to take scientific excellence to the next level; if we want to deliver science-based solutions to the many urgent and pressing global challenges, we need all talents in play “

Carlos Moedas, European Commissioner for *Research, Science and Innovation*

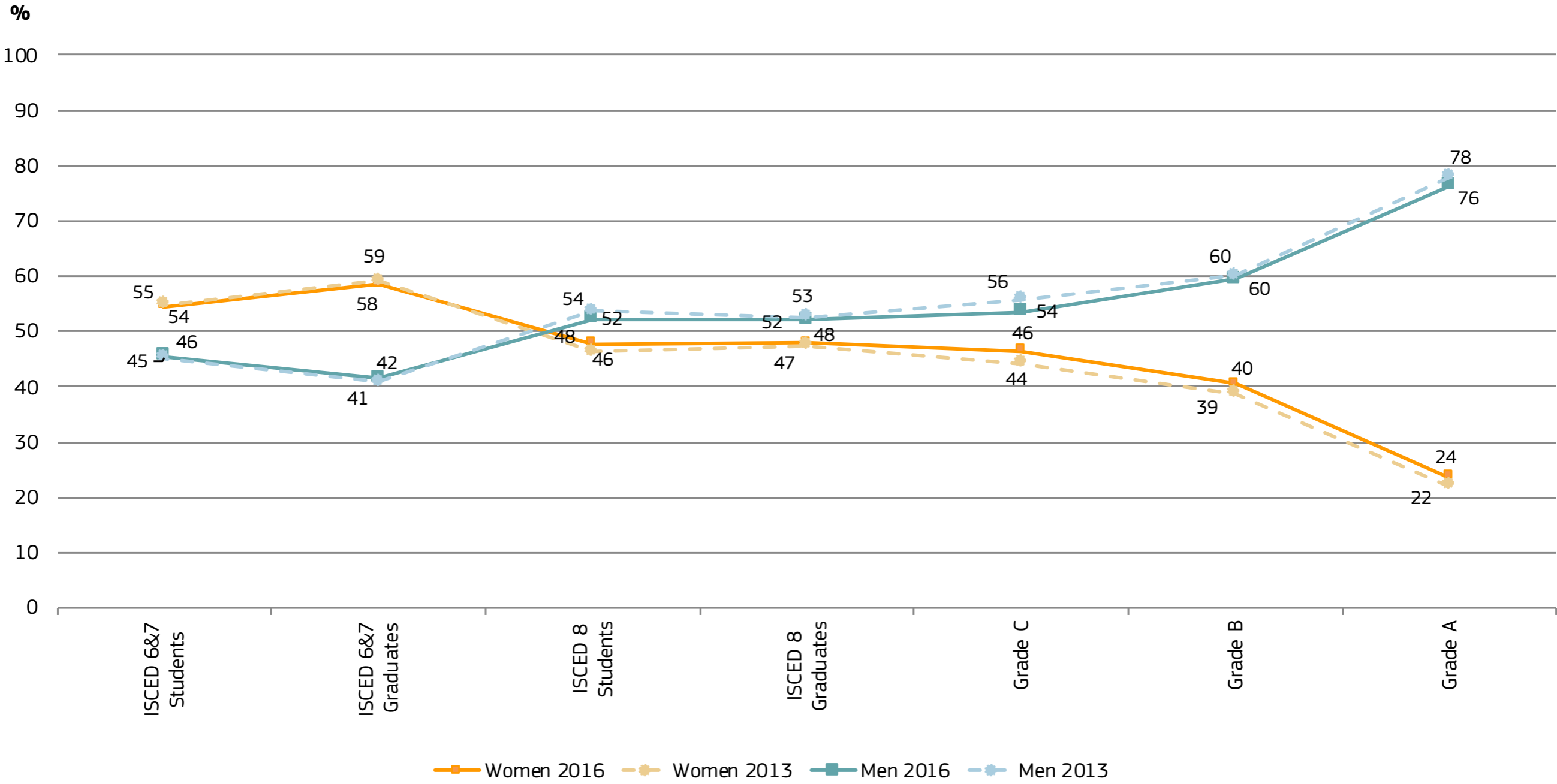
https://ec.europa.eu/info/news/gender-balance-research-improving-pace-too-slow-eu-she-figures-2019-mar-08_en

some facts checking

The EU is approaching gender balance among doctoral students. However:

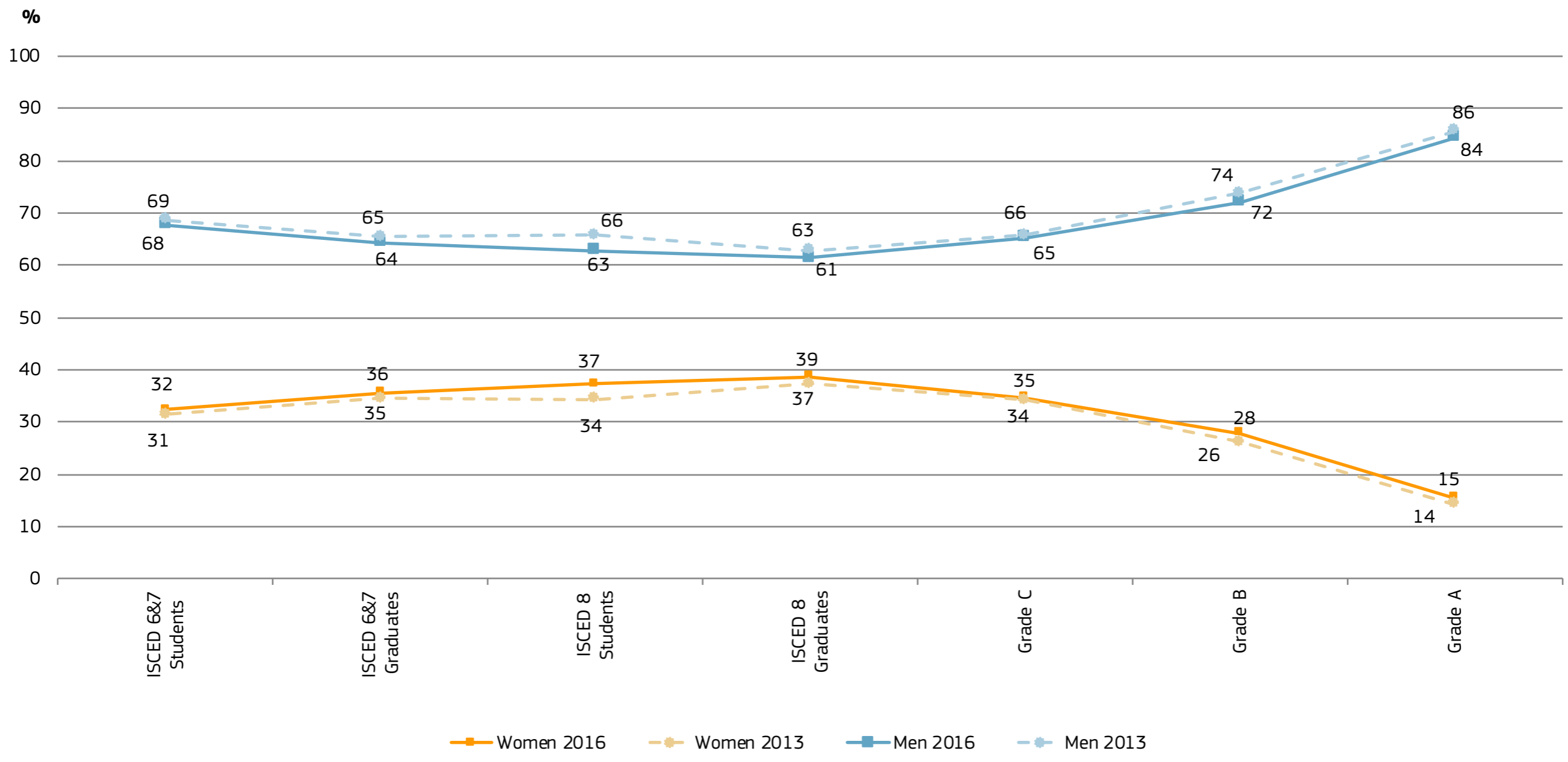
- **Gender imbalance** amongst researchers still remains as in 2015 **only one third of the EU's researchers were women**
- Differences in working conditions as researchers. **As they moving up the academic ladder, women are less represented**
- In the EU-28 in 2016, women represented 48 % of doctoral students and graduates, 46 % of grade C academic positions, 40 % of grade B and 24 % of grade A academic positions. The **gap was wider in STEM** (science, technology, engineering and mathematics); while **women made up 37 % of doctoral students and 39 % of doctoral graduates, they held only 15 % of grade A academic positions.**
- In the EU-28, the proportion of women among heads of institutions in the higher education sector increased from 20 % in 2014 to 22 % in 2017. Furthermore, in 2017, **women made up 27 % of the members of boards of research organizations**
- In the EU-28, **women were still under-represented in the writing of scientific papers.** Between 2013 and 2017, the ratio of women to men among authors of scientific publications in the EU was on average one to two.
- Women are still **strongly under-represented among patent inventors**; between 2013 and 2017 in the EU, the women to men ratio of patent inventors was on average just over one to three.
- A strong gender gap in the composition of the **inventors' teams** was also observed in the EU-28, where **the most frequent composition of the teams was all men (47 %), followed by those with just one male inventor (33%).**
- A slight **gender gap in receiving research grants.** The funding success rate was higher for men team leaders than women team leaders by 3.0 percentage points.

Figure 6.1 Proportion (%) of men and women in a typical academic career, students and academic staff, EU-28, 2013-2016



https://ec.europa.eu/info/news/gender-balance-research-improving-pace-too-slow-eu-she-figures-2019-mar-08_en

Figure 6.2 Proportion (%) of men and women in a typical academic career in science and engineering, students and academic staff, EU-28, 2013-2016



https://ec.europa.eu/info/news/gender-balance-research-improving-pace-too-slow-eu-she-figures-2019-mar-08_en

metaphors linked to university

Ivory Tower brought to new metaphor ***Storming The Tower***

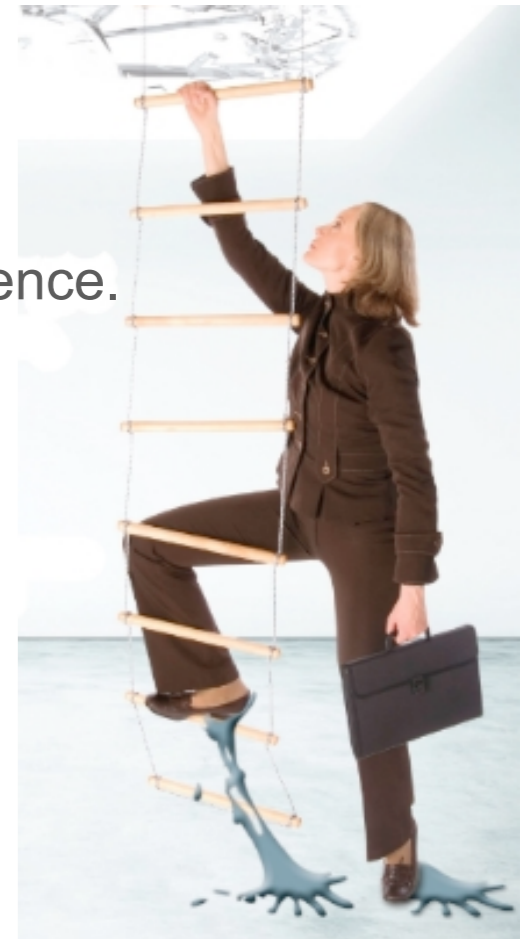
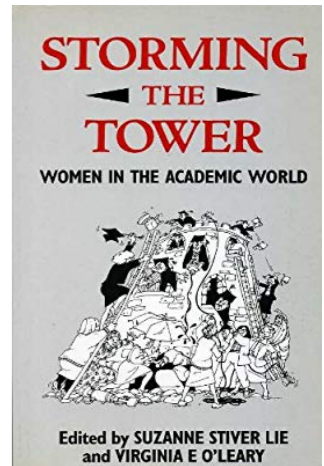
Glass Ceiling which defines the limitations on academic promotion for women

Chilly Climate which depicts the fuzzy academic processes for women, reflects inconveniences in the academic environment

Leaking Pipeline which defines the decreasing women's representation throughout academic life

Matilda effect which names the systematic denial of contributions by women in science.
Coined in 1993 by Margaret W. Rossier in memory of Matilda Joslyn Gage

Sticky Floor which defines social dynamics that block women's career, promotion, and other middle-management bottlenecks that keep women stuck near the bottom half of the ladder. The phenomenon of the sticky floor is more palpable than that of the glass ceiling, as its effects are more silent and less obvious (discrimination, social-psychological factors)



We are part of the problem if we are not making an explicit and continual effort to encourage, mentor, and support all young scientists, to create a welcoming climate in your department, and to promote the hiring of diverse faculty members

What we ignore we permit. What we permit we condone

The effect lectures produce on a hearer depends on its habits

Aristotele, Metafisica libro II parte III

Thank you for your participation!

