

CSWA Town Hall

Unconscious Bias,
Stereotype Threat &
Impostor Syndrome



Joan Schmelz, Chair, CSWA
Presented at Harvard-Smithsonian CfA 13 August 2013

CSWA

- **Joan Schmelz**

Chair (2009 - 2015)

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- Edmund Bertschinger (2010 - 16)
- David Charbonneau (2011 - 2014)
- Neil Gehrels (2012 - 2015)
- Meredith Hughes (2012 - 2015)
- John Johnson (2013 - 2016)
- Jessica Kirkpatrick (2012 - 2015)
- Michele Montgomery (2008 - 14)
- Nancy Morrison (2010 - 2016)
- Nick Murphy (2012 - 2015)
- Joan Schmelz (2004 - 2015)
- Laura Trouille (2010 - 2016)
- Nicolle Zellner (2012 - 2015)

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- **Stereotype threat**: the anxiety women face in a situation where they have the potential to confirm a negative stereotype about women as a group. This anxiety alone can result in documented cases of lower scores on standardized math tests.
- Highly competent women may also face **impostor syndrome** where they find it impossible to believe in their own competence. They live with a fear of being *discovered*.

Why So Few? presents evidence that social and environmental factors contribute to the underrepresentation of women and girls in STEM.



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- The climate of college and university science and engineering departments



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Eight research findings in three areas:

- How social and environmental factors shape girls' achievements and interests in math and science
- The climate of college and university science and engineering departments
- Continuing influence of bias

To download the report: www.aauw.org





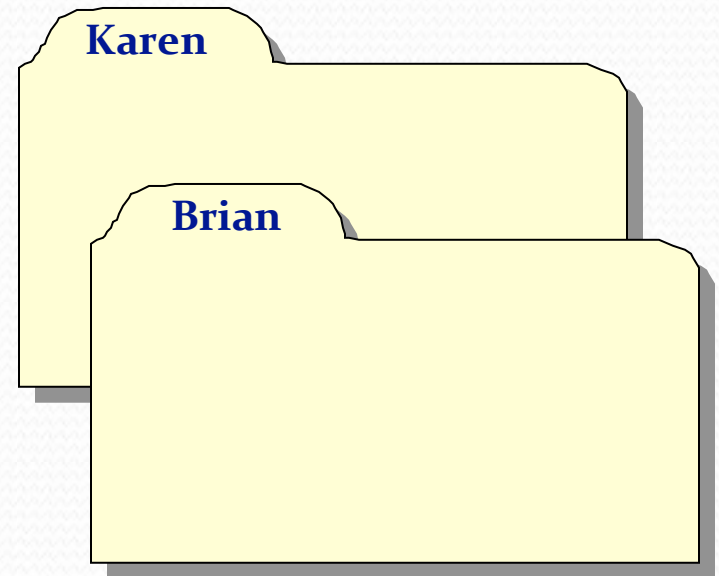
BATTLING THE BIAS

A DIVERSE WORKFORCE OFFERS
A COMPETITIVE ADVANTAGE

PHOTO BY EMILY BOYD

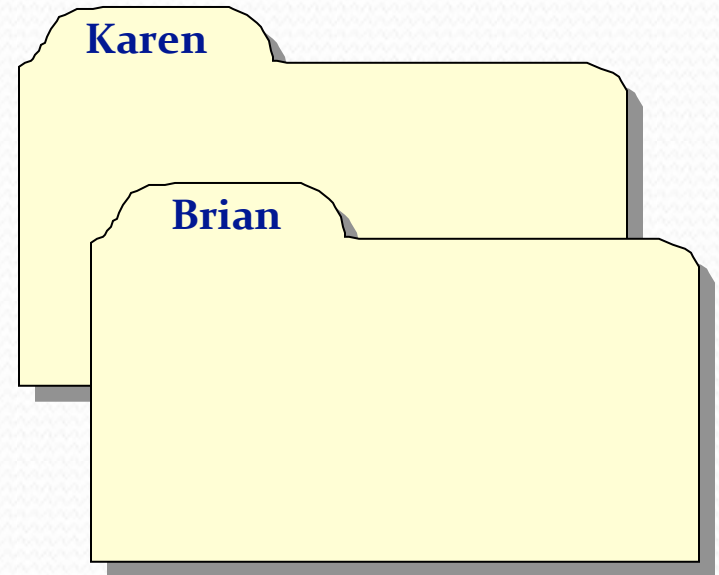
Unconscious Bias: Gender

- Teams of male and female university psych profs (search committees)
- Evaluate candidates for an open position (assist prof of psych)
- Application packages for Karen and Brian are identical except for name



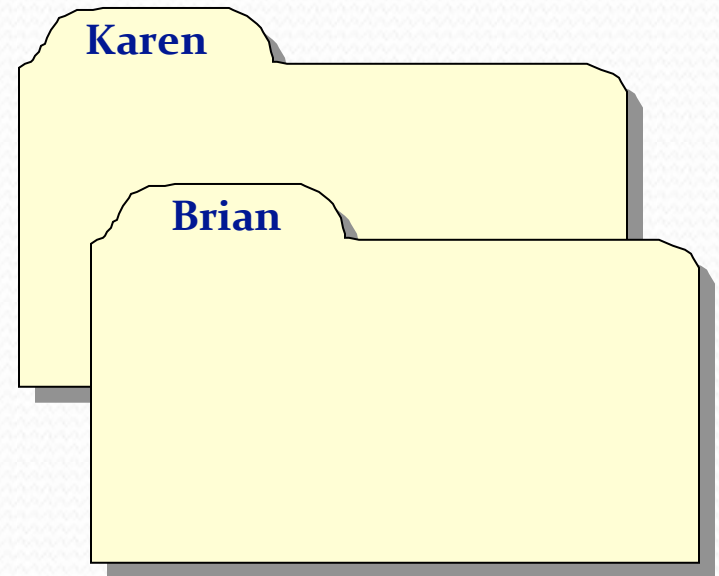
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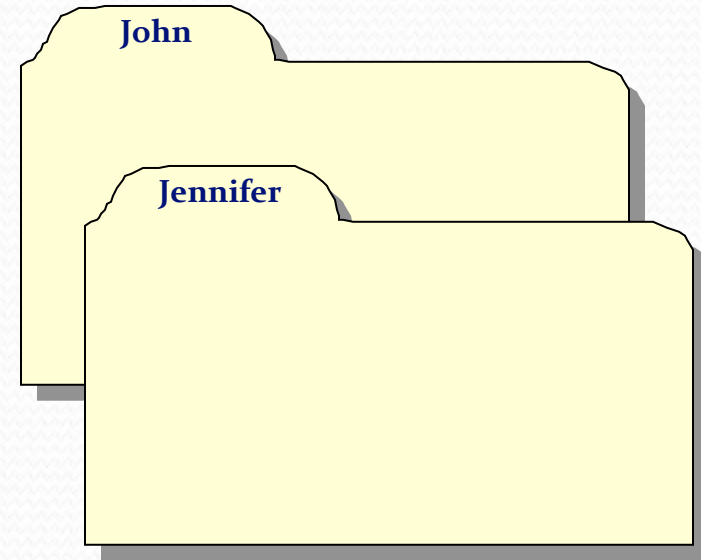
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- Application packages for Karen and Brian are identical except for name
- Search committees preferred 2:1 to hire Brian over Karen
- When evaluating a more experienced record (tenure), reservations expressed 4x more often for Karen.



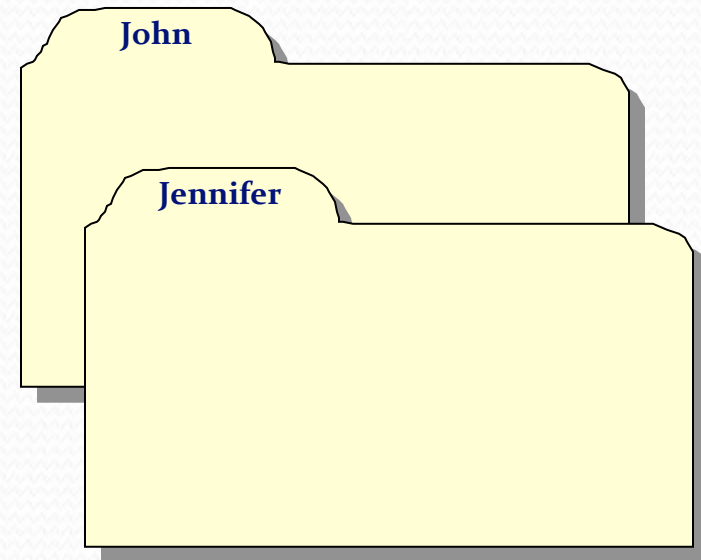
Unconscious Bias: Science

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- On a scale of 1 to 7 (7 highest) professors gave John a score of 4.0 for competence and Jennifer 3.3.



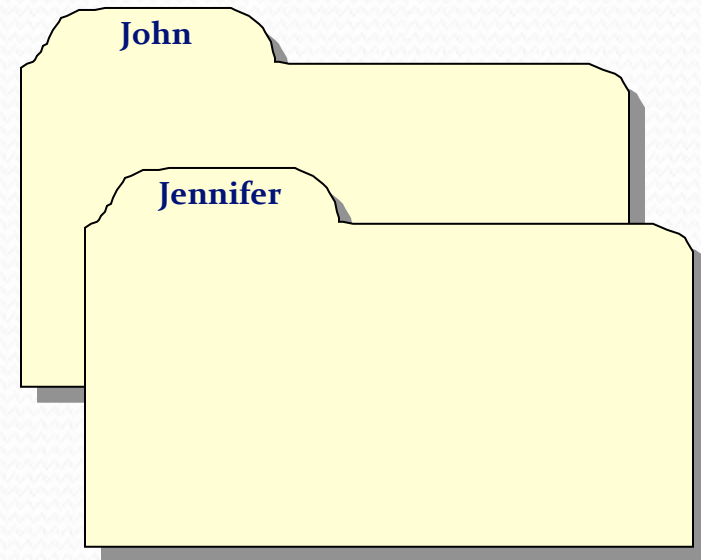
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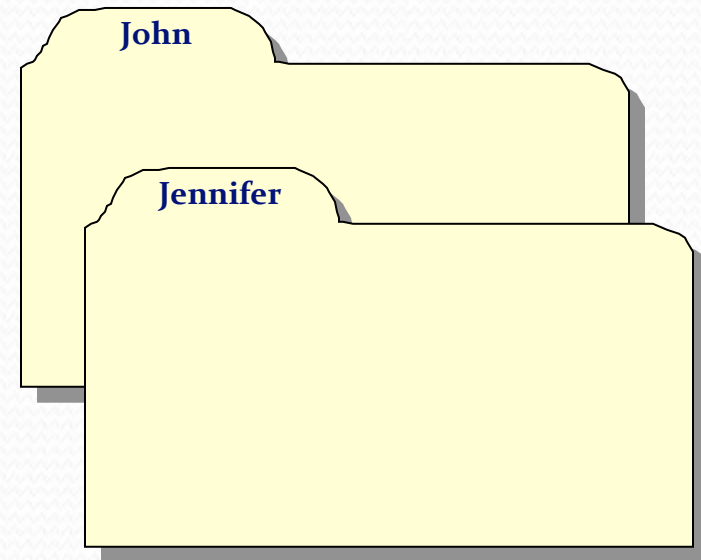
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Unconscious Bias: Science

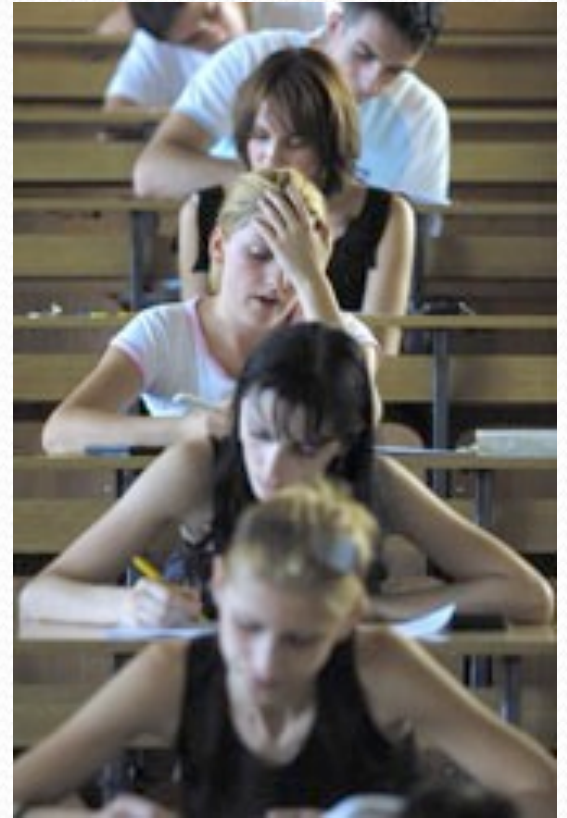
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- John was viewed more favorably as someone they would hire or mentor.
- Average starting salary: Jennifer \$26,508; John \$30,328.
- The bias had no relation to the professors' age, sex, teaching field, or



Implicit Association Test

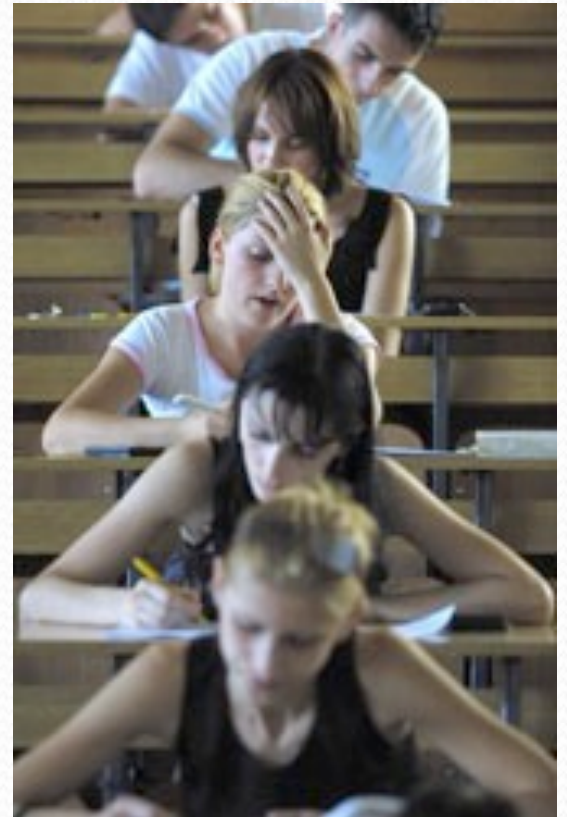
- Think unconscious bias = conscious prejudice?
- Think you don't have unconscious biases?
- Try taking the Harvard Implicit Association Test:
<https://implicit.harvard.edu/implicit/>
- And be prepared to think again!

Stereotype Threat: Example



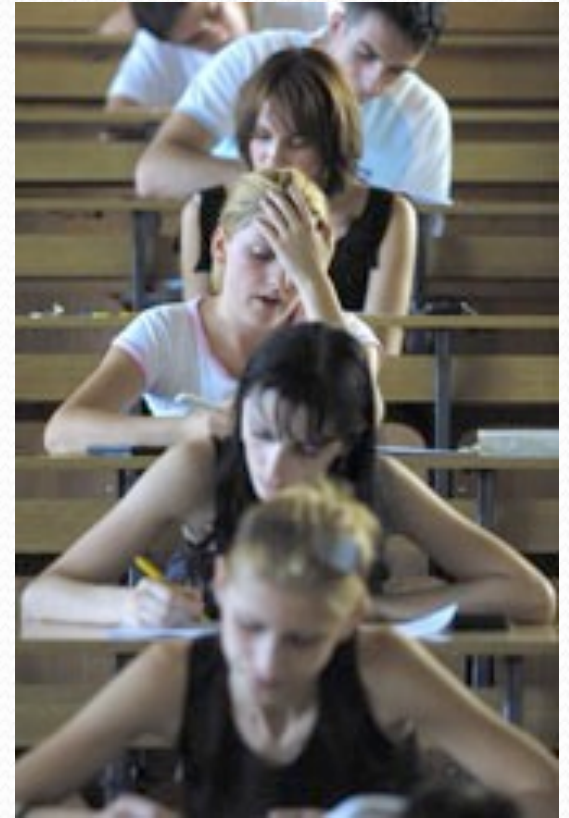
Stereotype Threat: Example

- Students are selected based on their excellent math SAT scores and divided randomly into two groups



Stereotype Threat: Example

- Students are selected based on their excellent math SAT scores and divided randomly into two groups
- Both groups are given a math test of GRE level problems
 - Group 1: test given under normal “GRE-type” conditions
 - Group 2: told specifically that this test was designed to be gender neutral





Stereotype Threat: Results

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- Results for Group 1: men and women got the same average score

Stereotype Threat: Results

- Results for Group 1: men and women got the same average score
- Results for Group 2: women did significantly better than men. Why?
 - On the SAT test, they got scores equal to the men, but with stereotype threat
 - On the GRE test, there was no stereotype threat, so they performed at their “real” level

Impostor Syndrome: the Article

Status Magazine (Jan '11)

*By Rachel Ivie and Arnell
Ephraim (AIP)*

Women and the Impostor
Syndrome in Astronomy



http://www.aas.org/cswa/status/STATUS_jan11_FINAL_s.pdf

Impostor Syndrome: the Post

Women in Astronomy Blogspot

John Johnson

I remember waking up in a cold sweat one night in early 2010, about six months after I joined the faculty at Caltech.



<http://womeninastronomy.blogspot.com/2012/10/guest-post-by-john-johnson-impostor.html>

CSWA Resources Page

Information on:

- 2-body problem
- Work-life balance
- Sexual harassment
- Unconscious bias

<http://www.aas.org/cswa/resources.html>

Thanks to Nancy Morrison, CSWA Web Manager



Science

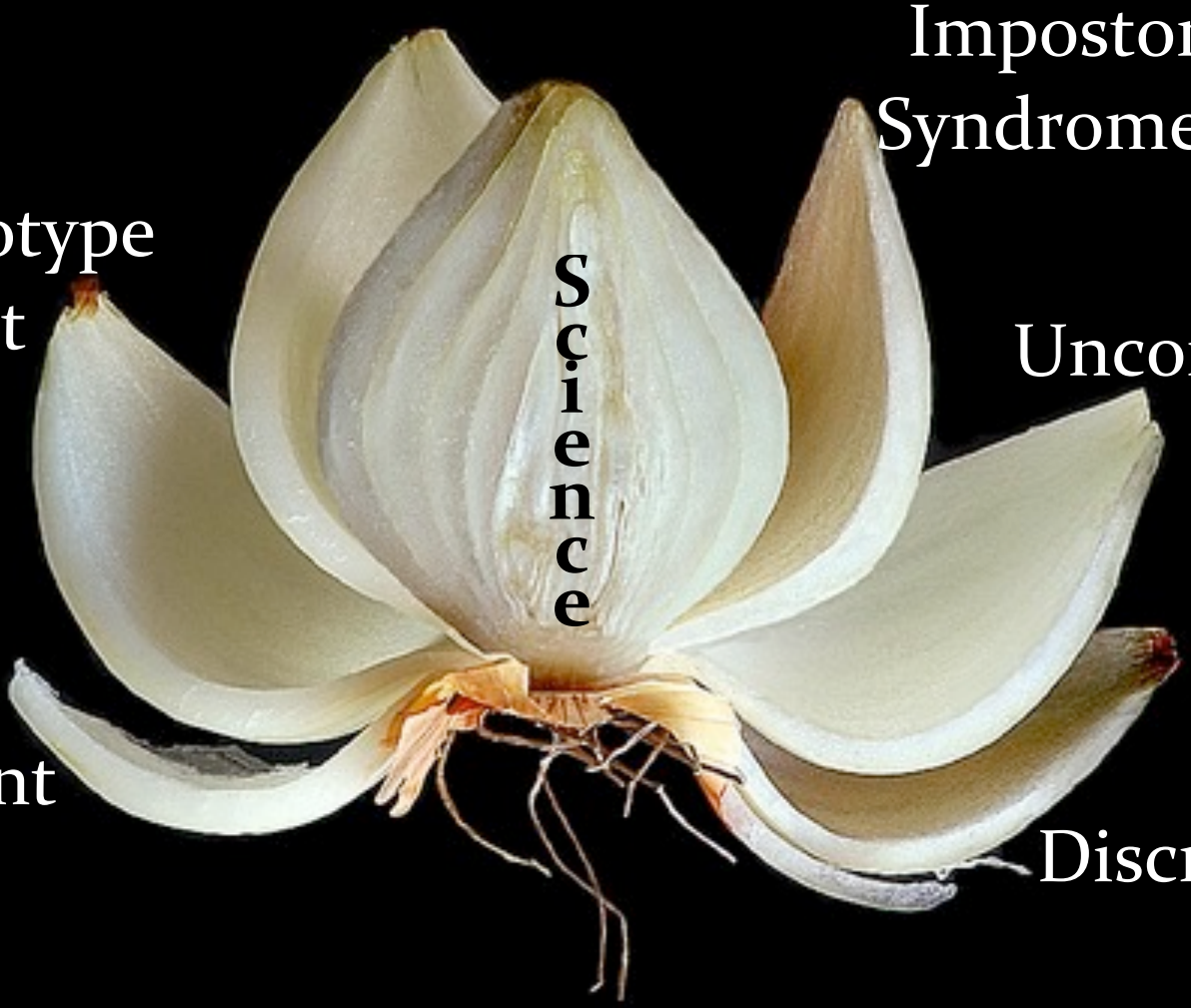


Discrimination



Sexual
Harassment

Discrimination



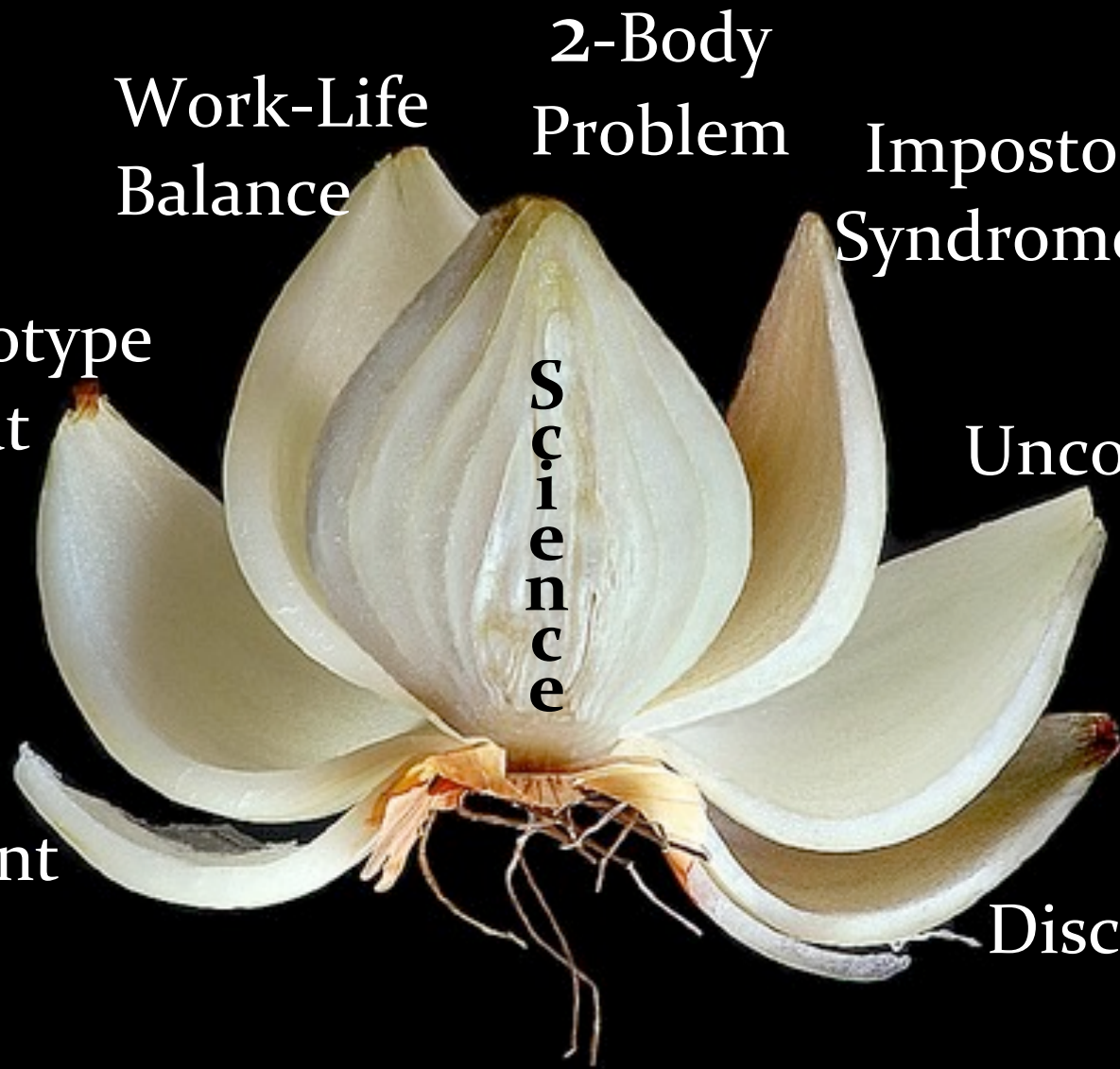
Impostor
Syndrome

Stereotype
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Discrimination



Work-Life
Balance

2-Body
Problem

Impostor
Syndrome

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