



UNIVERSITY *of* DELAWARE

Promoting Gender Equity in Science and Technology

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sites.udel.edu/advance



National Science Foundation ADVANCE-IT HRD 1409472



What is NSF ADVANCE?

- National Science Foundation program to increase the number of women faculty in the sciences and engineering.
- UD recently received an Institutional Transformation grant from the NSF ADVANCE program.



Why all the talk about women in science and tech?

- Women make up over 50% of the U.S. population, but are in STEM careers at much lower percentages.
 - Google: 17% of technical workforce is female
 - Facebook: 15% of technical workforce is female
 - Apple: 20% of technical workforce is female

(<http://fortune.com/2014/08/29/how-tech-companies-compare-in-employee-diversity/>)
- Women are underrepresented in leadership positions: 5.2% of Fortune 500 CEO's are women (<http://www.catalyst.org/knowledge/women-ceos-fortune-1000>)



Why all the talk about women in science and tech?





2014 Grace Hopper Celebration of Women in Computing



Microsoft CEO Satya Nadella: women shouldn't ask for raises – if they work hard enough “karma” will reward them.

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"Surely he didn't just sit around and wait to be promoted to CEO of Microsoft."

- Rose Simmons, UT Austin CS student



Almost a decade earlier...





Almost a decade earlier...



2005: Harvard president Larry Summers tells attendees at a science diversity conference that innate differences between men's and women's math abilities contributes to women's underrepresentation as professional sciences and engineers.



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They are both known supporters of women and diversity!

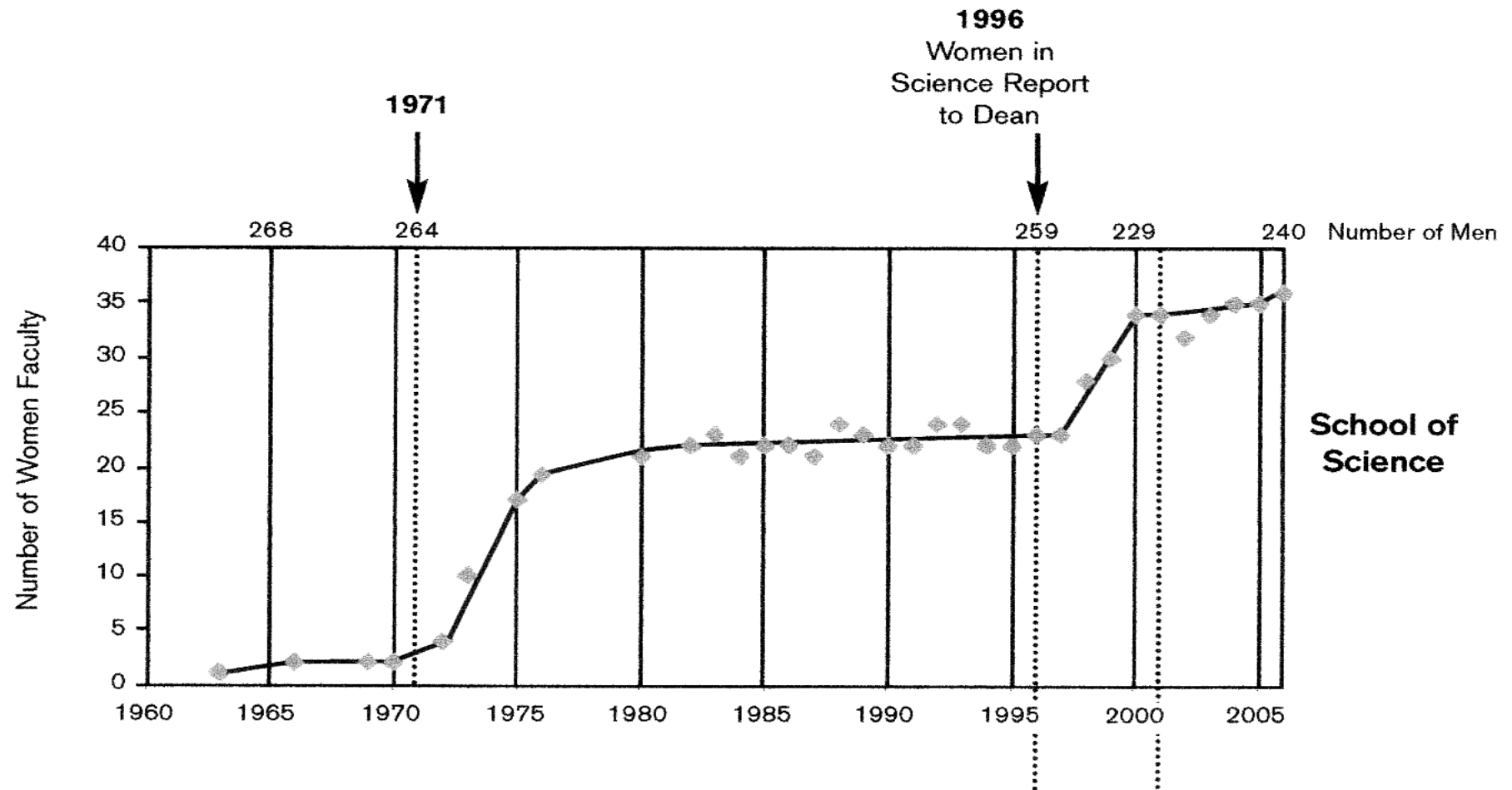


What happened?



MIT Study

Number of Women Faculty in the Schools of Science (1963-2006)



Hopkins--Diversification of a University Faculty: Observations on Hiring Women Faculty in the Schools of Science and Engineering at MIT, MIT Faculty Newsletter XVIII No. 4 March/April 2006

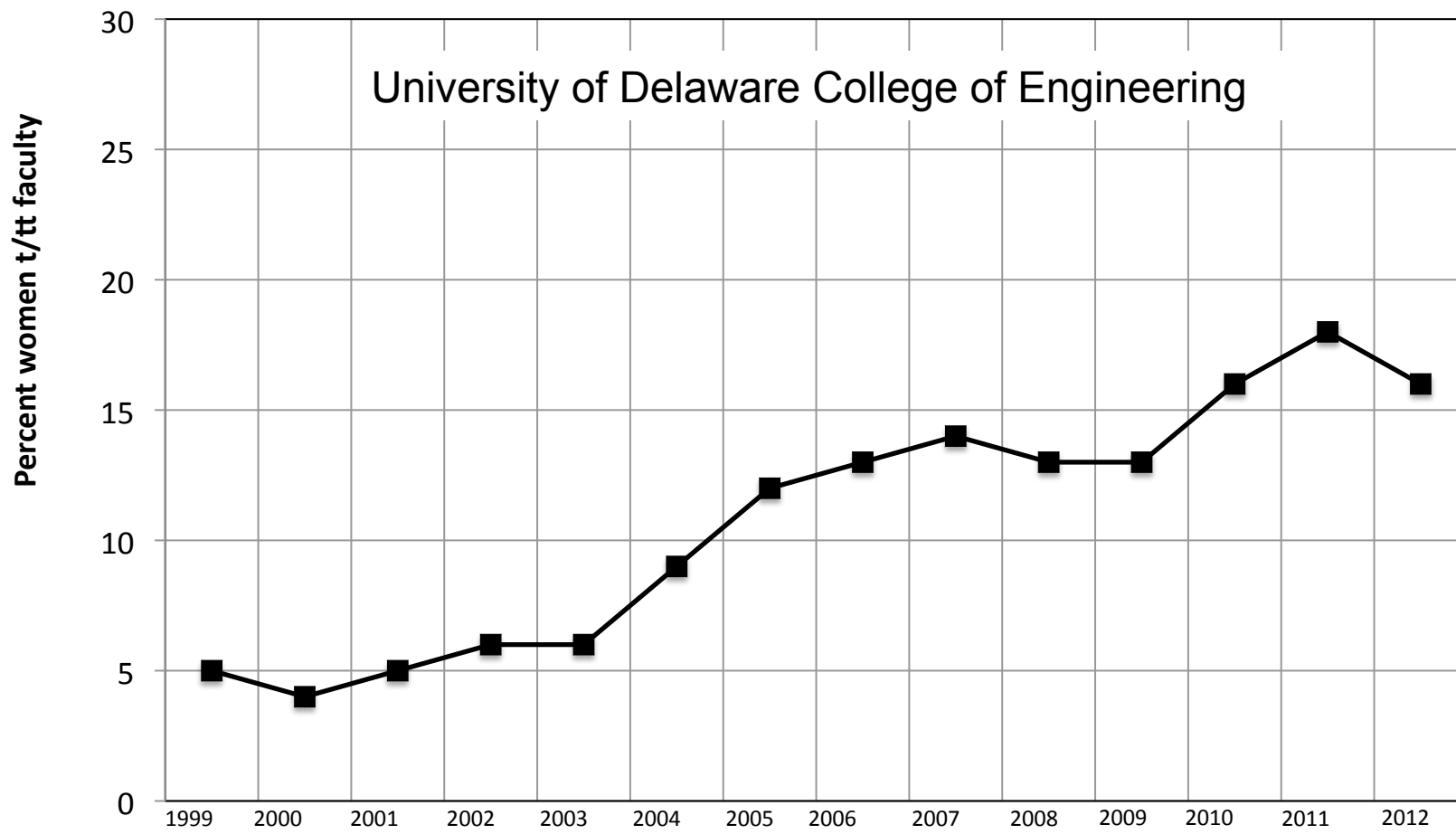


Lessons learned from MIT

- Percent of women faculty in School of Science
 - rose from 7% to 13% between 1996 and 2001,
 - then remained constant between 2001 and 2006
(when Dean removed emphasis).
- Women were as accomplished as the men—no sacrifice of quality for diversity.
- Leadership is critical



How does UD compare?





What are “implicit” assumptions?

- ***Cognitive shortcuts*** that we use to evaluate people and groups
- Stereotypes or expectations that we resort to in unfamiliar situations
- Ways of judging others



The Upside of Cognitive Shortcuts

Our brains manage their resources by using what we already know to contextualize new information. We use cues to focus our attention on what is salient:

- Facilitates learning new tasks
- Reduces decision-making time
- Enables multi-tasking
- Simplifies life



The Downside of Cognitive Shortcuts

Can lead us astray and can have inconvenient consequences (*especially in our complex, fast-paced modern society*).



Research shows that we all apply implicit assumptions

- **Both** women and men hold them about gender.
- **All people** make them about race and ethnicity (even their own).



What's the evidence?



Did you know your chance of getting an award increases
2.5 times if you know someone on the selection
committee?



Swedish Medical Research Council Postdoc:

Authors noticed:

46% of applicants were women (114 total).

20% of awardees were female.

Took the case to court, acquired access to applications. Assigned applicants “Impact Score” based upon publication record.

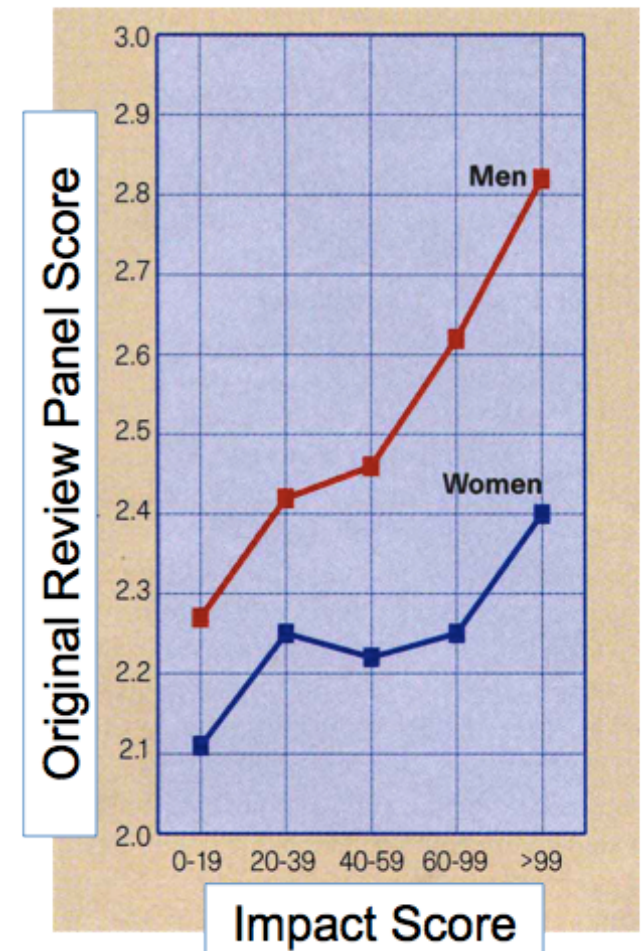
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Males: linear relationship (suggests original review panel used objective criteria).

Females: nonlinear relationship, and lower original score.

Summary

Women had to be **2.5 times** as productive as men to be ranked the same.





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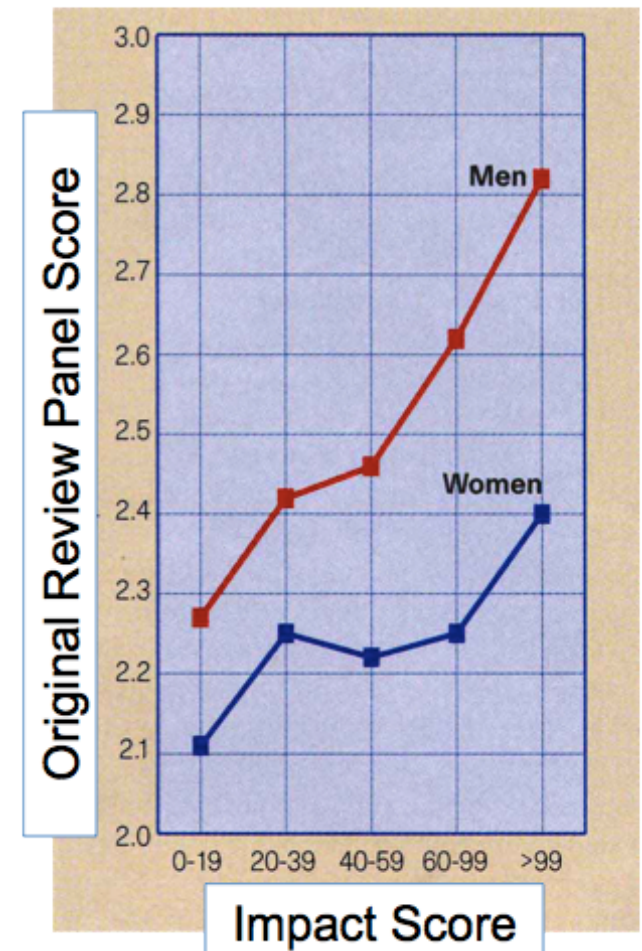
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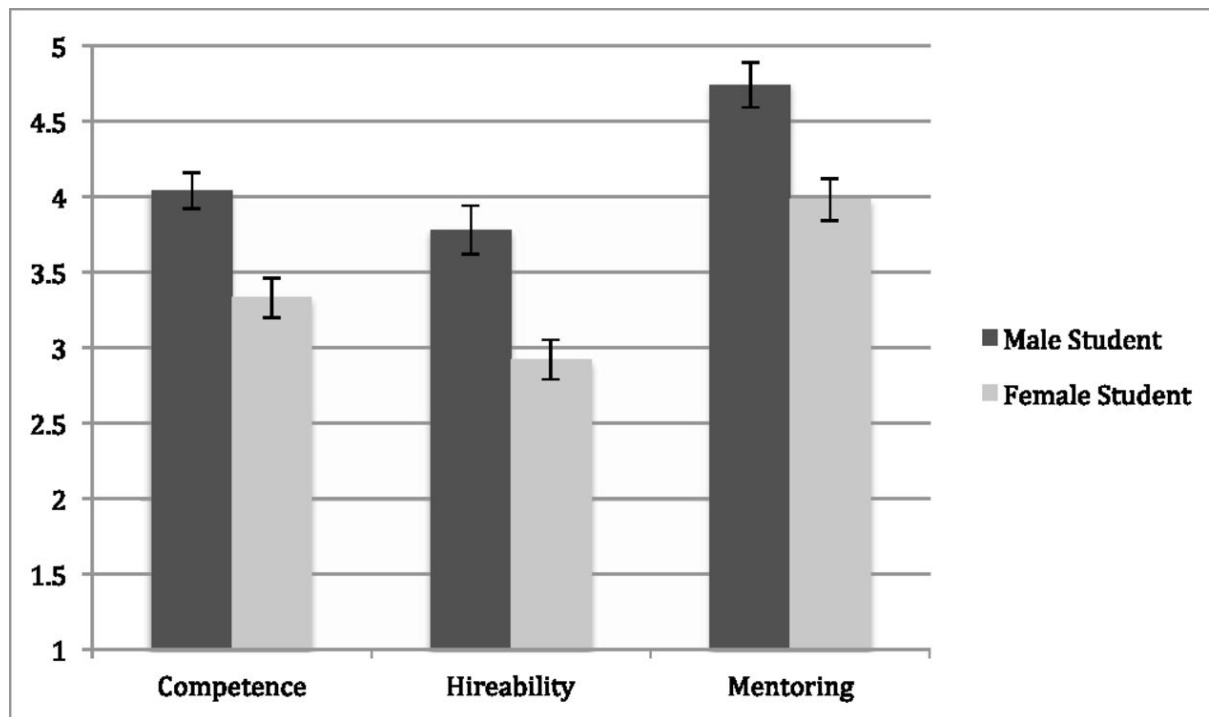
AND, for men or women,

Affiliation with a member of the review panel gave a comparable advantage.





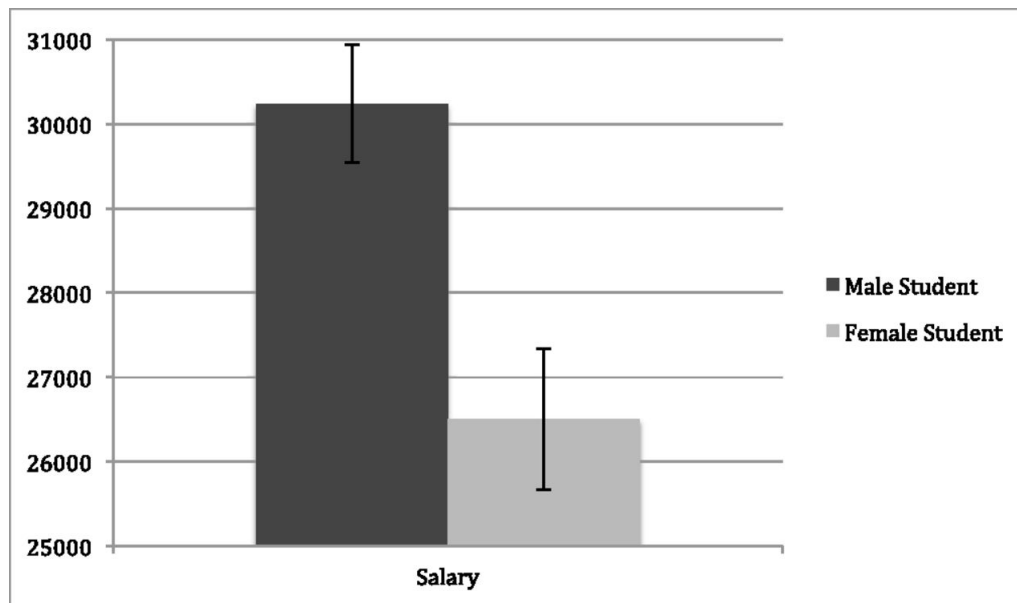
127 science professors evaluate applications for an undergrad lab manager.



Identical
resumes,
different
names



Wage Gap



Faculty gender did not affect the outcomes. Female faculty showed the same biases as male faculty.



What can we do?

- Make people aware of implicit bias and that we all have it
- Train leaders to understand how bias enters evaluation processes
- Make the case with data: facts and figures on diversity
- Encourage thoughtful evaluation of applications, promotions, appraisals, etc.
- Make people aware of their privilege and how other people are different
- What else?