WISELI
Women in Science & Engineering Leadership Institute
University of Wisconsin-Madison
Bias and Assumptions

Implications for Evaluating Women and Minorities at Critical Career Junctures
Evaluation in the academic career

- Hiring
- Tenure
- Awards & Honors
- Leadership
- Grant, paper reviews

Important consequences: career persistence, resource allocation, achievement/productivity
Evaluation in the academic career

- We want to be fair and unbiased….but are we?

“The fact that women are capable of contributing to the nation’s scientific and engineering enterprise but are impeded in doing so because of gender and racial/ethnic bias and outmoded “rules” governing academic success is deeply troubling and embarrassing. It is also a call to action.”
Reviewed 114 applications for prestigious research postdocs to Swedish MRC (52 women)

Compared reviewers’ “competency rating” scores to a standardized metric derived from publication record (impact points)

MRC reviewers consistently gave women lower competency ratings than men, and competency ratings lower than would be predicted by impact points.

Males competency ratings increased with their publication record – women’s competency ratings did not

To even the score, women needed the equivalent of 3 extra papers in a prestigious journal like Science or Nature

Graph showing the competence score for men and women across different total impact points categories.
Unconscious biases and assumptions

- What is “unconscious bias”?
- How might unconscious biases affect the evaluation of individuals?
- How can those doing the evaluation overcome these tendencies?
What is “unconscious bias”

- Unconscious bias and assumptions
- Schemas
- Stereotyping
- Cognitive shortcuts
- Statistical discrimination
- Implicit associations

The tendency of our minds to judge *individuals* based on characteristics (real or imagined) of *groups*
Unconscious bias

- When shown photographs of people who are the same height, evaluators overestimated the heights of male subjects and underestimated the heights of female subjects.

- When shown photographs of men of similar athletic ability, evaluators rated the athletic ability of African American men higher than that of white men.

- When asked to rate the quality of verbal skills indicated by a short text, evaluators rated the skills as lower if they were told an African American wrote the text than if they were told a white person wrote it, and gave higher ratings when told a woman wrote it than when told a man wrote it.

Biernat et al. 1991; Biernat and Manis 1994
Unconscious bias at critical career junctures

- Applications/CVs/Résumés
- Reference Letters
- Evaluation of Leadership Ability/Skill
Applications/CVs/Résumés

- 238 academic psychologists sent a curricula vitae with either male or female name
  - Entry level: more likely to vote to hire man, more likely to indicate man had adequate teaching, research, and service experience
  - High level: no gender differences
  - No differences between male and female evaluators
  - More write-in comments for women

Steinpreis, Anders, and Ritzke 1999
Resumes of differing quality are randomly assigned white-sounding or African American-sounding names

- Mailed in response to actual job ads in Chicago, Boston. Callbacks are measured.
  - White names are 50% more likely to be called back.
  - White names with high quality resume are 27% more likely to be called back (compared to whites with low quality), but Black names with high quality resume are only 8% more likely to be called back. (Less return to labor market experience for blacks.)
- Neighborhood, job/employer characteristics not significant

Bertrand & Mullainathan 2004
Letters of reference

- 312 letters of recommendation for medical faculty hired at a large U.S. medical school
- Women’s letters compared to men’s more often:
  - Were shorter
  - Offered *minimal assurance*
  - Used *gender terms*
  - Contained *doubt raisers*
  - Used *stereotypic adjectives*
  - Used *grindstone adjectives*
  - Used fewer *standout adjectives*
  - Contained less *scientific terminology*

Trix and Psenka 2003
Top 3 semantic realms following the possessive for men and for women
Distinctive semantic realms following the possessive
Evaluation of leadership

- Students seated around the table—when is the head of the table identified as the "leader?"

Porter & Geis 1981
MALE

M2  M3  M4
M1  M4  M5
M3  M5  M1

SAME-SEX STIMULUS GROUPS

X^2 = 21.25, p < 0.001

X^2 = 43.75, p < 0.001
FEMALE

$X^2 = 35.36, \ p < 0.001$
Evaluation of Leadership

- Finding not affected by conscious beliefs
- For female leaders, “warmth” negatively correlated with leadership
Evaluation of Leadership

Prescriptive Gender Norms

- Men
  - Strong
  - Decisive
  - Assertive
  - Tough
  - Authoritative
  - Independent

- Women
  - Nurturing
  - Communal
  - Nice
  - Supportive
  - Helpful
  - Sympathetic

“Leader”
Unconscious bias in the search process: Evaluation of Leadership/Competence

- Evaluate fictional Assistant Vice Presidents
  - Male-assumed job—company makes engine products and other AVPs are men
  - Rated under two conditions: performance clear and performance ambiguous
  - Characteristics rated:
    - Competence, personality, likeability, interpersonal hostility

Heilman, Wallen, Fuchs, and Tamkins 2004
Evaluation of Leadership

- Competence
  - Performance clear—no gender difference
  - Performance ambiguous—women less competent

- Likeability
  - Performance clear—women less likeable
  - Performance ambiguous—no gender difference
What to do?
Overcoming unconscious bias—best practices

- Learn about research on biases and assumptions—consciously strive to minimize influence of unconscious tendencies on your evaluations (Kruglanski & Freund 1983)
- Instruct committee members to avoid bias (Blair & Banaji 1996)
- Spend sufficient time evaluating each applicant and avoid distractions (Martell 1991)
- Reach out to applicants from under-represented groups individually (Wennerås & Wold 1997)
Overcoming unconscious bias—best practices

- Increase the proportion of women and minorities in the applicant pool (Heilman 1980)
- Do not depend too heavily on any one element of a portfolio (Trix & Psenka 2003)
- Develop evaluation criteria *prior* to evaluating candidates and stick to the criteria. Periodically review evaluation decisions and ensure that criteria continue to guide the selection of candidates. (Ulhmann & Cohen 2005; Biernat & Fuegen 2001)
Overcoming unconscious bias—best practices

- Ensure that evaluation committees are as diverse as possible (Lowery, Hardin & Sinclair 2001)
- Switch the gender/race “thought experiment” (Valian 1998)
- Use counterstereotype imaging (Blair, Ma & Lenton 2001; Dasgupta & Greenwald 2001)
- Use an “inclusion” rather than “exclusion” strategy to evaluate candidates (Hugenberg, Bodenhausen & McLain 2006)
- “Blind” the evaluation process (Goldin & Rouse 2000)
So....how's that working for you?
Five Essential Elements of a Successful Search

- Run an effective and efficient search committee
- Actively recruit an excellent and diverse pool of candidates
- Raise awareness of unconscious assumptions and their influence on evaluation of candidates
- Ensure a fair and thorough review of candidates
- Develop and implement an effective interview process
Percent Female, New Tenure-Track Faculty
Biological & Physical Sciences

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<th>Participating Departments 2005</th>
<th>Non-Participating Departments 2005</th>
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<td>2003-2005</td>
<td>21/84</td>
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<td>2006</td>
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Percent Female, New Tenured and Tenure-Track Faculty
Biological & Physical Sciences

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<td>3 Wkshp</td>
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New Hires' Satisfaction* With the Hiring Process
Biological & Physical Sciences

* Agree Strongly to the item "I was satisfied with the hiring process overall."

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* Percent Agree Strongly
The Climate for Faculty of Color is Good
Biological & Physical Sciences

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<th>Participating Departments 2004-05</th>
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<td>2003 Survey</td>
<td>2006 Survey</td>
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Breaking the Prejudice Habit Through Bias Literacy©

- Help make faculty aware of own biases (via Implicit Association Test)
- Introduce faculty to “mind-blindness” concept
- Teach a lexicon of “bias literacy” terms
- Practice identifying bias concepts in case studies
- Write a “commitment to change”