WISELI

Women in Science & Engineering Leadership Institute
University of Wisconsin-Madison

Reviewing Applicants:
Understanding and minimizing the potential influence of bias and assumptions.

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Overview

- What is "unconscious bias"?

- How might unconscious biases influence the search process?

- How can a search committee overcome such influences?

What is unconscious bias?

- A substantial body of evidence demonstrates that most people – men and women – hold unconscious biases about groups of people.

- Depending on the discipline unconscious biases can also be referred to as:

  o Schemas
  o Stereotypes
  o Mental models
  o Cognitive shortcuts

  o Statistical discrimination
  o Implicit associations
  o Spontaneous trait inference

The tendency of our minds to apply characteristics of groups (real or imagined) to our judgments about individual group members.

What is unconscious bias?

- Most of us intend to be fair and believe that we are fair.

- Still, most of us routinely rely on unconscious assumptions.

- Human brain works by categorizing people, objects and events around us -- this allows us to quickly and efficiently organize and retrieve information.

  To avoid relying on assumptions about groups (right or wrong) when evaluating individuals – we must become aware of our tendency to do so.

How is the research on bias and prejudice conducted?

- Blind, randomized trials
  - o Give each group of evaluators pictures, words, or applications with a racial or gender indicator
  - o Isolate gender, race, or ethnicity as sole variable
  - o Compare evaluations

- Real life studies
  - o Evaluate actual resumés/curriculum vitae, job performance, letters of recommendations, etc.

Examples of Blind, Randomized Trials

- When shown photographs of people who are the same height, evaluators overestimated the heights of male subjects and underestimated the heights of female subjects. *Biernat et al., 1991*

- When asked to rate the quality of verbal skills indicated by a short text, evaluators rated the skills lower if they were told an African American wrote the text than if a they were told a white person wrote it, and rated verbal skills higher when told that a woman wrote it than when told a man wrote it. *Biernat and Manis, 1995*

Lessons to be Learned

- We often apply generalizations about groups to our evaluation of individuals
- The generalizations we apply may be accurate – eg. men, on average, are taller than women – but we can and do apply them inaccurately to individual members of a group
- We can apply generalizations that may not be accurate

Examples of Real Life Studies

Swedish Postdoc Fellowship Study
Wenneras and Wold, Nature, 1997

- 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 lower than 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

Wenneras and Wold, Nature, 1997
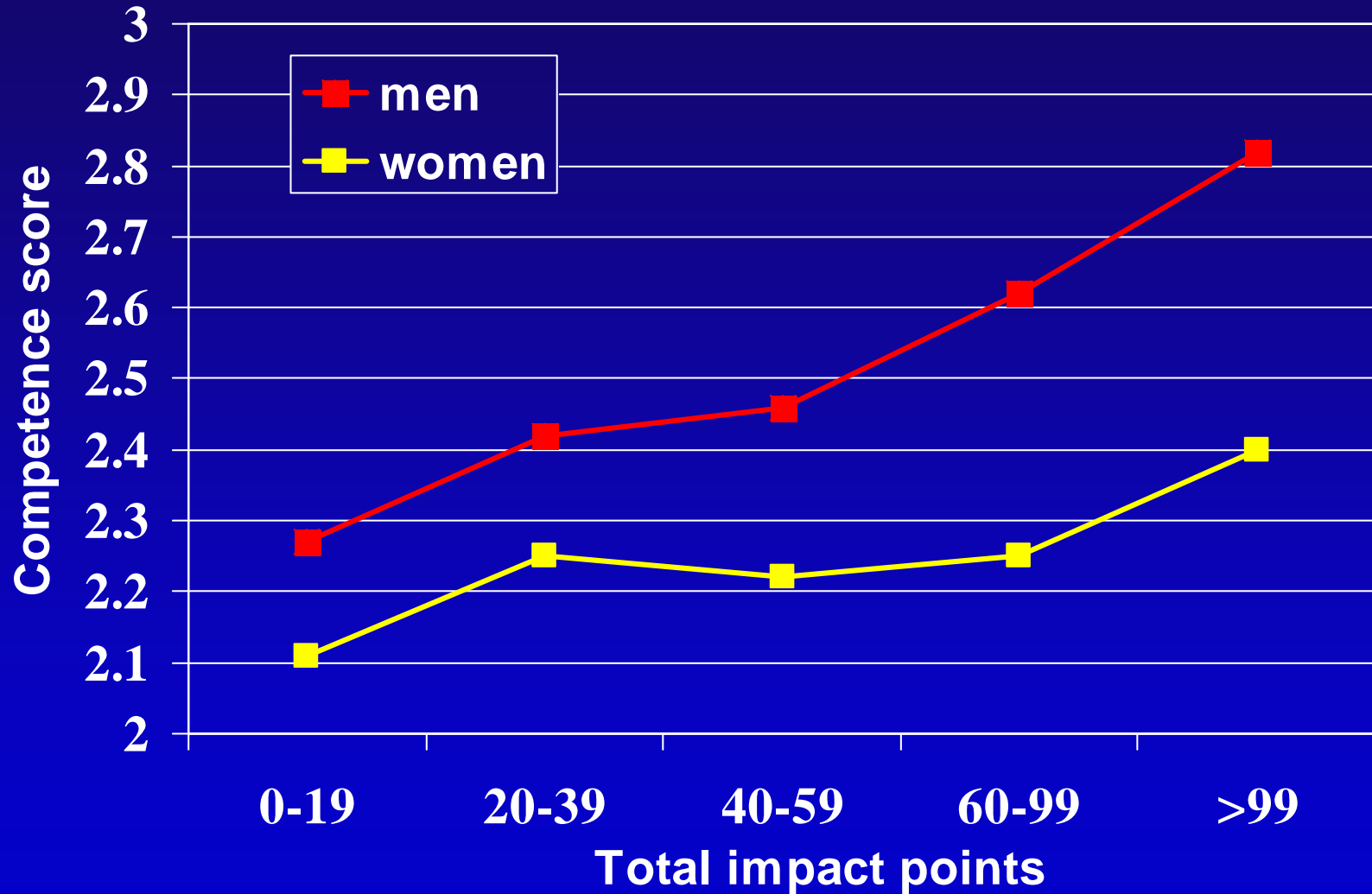
Examples of Real Life Studies

Evaluation of Curriculum Vitae
Steinpreis et al., Sex Roles 41: 509 1999

- Curriculum vitae of an actual applicant sent to 238 academic psychologists (118 male, 120 female)
    - One cv – at time of job application (jr-level)
    - One cv – at time of early tenure (sr-level)

- Randomly assigned a male or female name to each cv

Examples of Real Life Studies

Evaluation of Curriculum Vitae (Cont._
Steinpreis et al., Sex Roles 41: 509 1999

- For entry-level cv -- Academic psychologists were more likely to hire male applicants and gave men higher ratings for
  - o Teaching
  - o Research
  - o Service Experience

- For tenure-level cv – Academic psychologists were equally likely to tenure men and women candidates --- but were four-times more likely to include cautionary comments on cv's with a female name.

Examples of Real Life Studies

Analysis of Letters of Recommendation
Trix and Psenka, Discourse & Soc 14:191 2003

- 312 letters of recommendation for medical faculty **successfully hired** at large U.S. medical school
- Letters for women vs men:
  o Shorter
  o More letters for women with "*minimal assurance*"
  o More gendered terms in letters for women
  o More letters for women included "*doubt raisers*"
  o Men more frequently referred to as "researchers" and "colleagues". Women more frequently referred to as "teachers" and "students"
  o Women – 4X more references to personal lives
  o Women - Fewer *standout adjectives* ("outstanding" "excellent") and more *grindstone adjectives.*

Examples of Real Life Studies

Evaluation of Resumés
Bertrand and Sendhill, 2004

- Resumes sent to a variety of employers advertising openings in local newspapers in Chicago and Boston
- Randomly assigned "white-sounding" or "African American-sounding" names to resumes
- Applicants with "white-sounding" names were more likely to be called back to interview for positions.
- For "white-sounding" names, applicants with better qualifications were more likely to be called back. For "African American-sounding" names, applicants with better qualifications were **not** more likely to be called back.

Examples of Real Life Studies

- Students wearing baseball caps apply for retail positions in a local shopping mall.

- Unknown to students – caps randomly labeled "Texan – and proud" or "Gay – and proud."

- Students "identified" as "gay" reported being less confident about getting a position and being treated in less friendly manners.

Hebl, et al. 2002

Overcoming Bias and Assumptions

- "Blinding" the evaluation process Golden,
- Instructing evaluators to try to avoid prejudice/bias *Blair and Banajieilman, 1996*
- Critical Mass *Heilman, 1980*
- Developing and prioritizing criteria prior to evaluation *Uhlmann and Cohen, 2005*
- Time and Attention given to evaluation *Martell, 1991*
- Type of Decision-making used *Hugenberg et al., 2006*

Minimizing Bias and Assumptions:
Interventions in at least one randomized, controlled study that mitigate bias in evaluation

Intervention	Example of study
"Blinding" the evaluation process	Goldin, C. *Am Econ Rev* 90: 715-741, 2000
Instructing evaluators to avoid prejudice/bias in evaluation	Blair IV, Banaji MR. J Pers Soc Psychol 70:1142-1163, 1996
Presence on evaluation team of a member of the social category being evaluated	Lowery et al. J Pers Soc Psych 81:842, 2001; Glass & Minnotte, Am Soc Assn Ann Mtg, 2008.
Counter-stereotype imaging	Blair IV, Ma JE, Lenton AP. J Pers Soc Psychol 81: 828-841, 2001
At least 25% women in the pool being evaluated	Heilman ME. Organ Behav Hum Perf 1980; 26: 386-395, 1980

Minimizing Bias and Assumptions (Cont):
Interventions in at least one randomized, controlled study that mitigate bias in evaluation

Intervention	Example of study
Establishing the value of credentials before any applicant is seen to avoid "redefining" merit	Uhlmann and Cohen, Amer Psychol Assoc 16:474-480, 2005
Reduced time pressure and cognitive distraction during evaluation	Martell RF. J Applied Soc Psychol 21:1939-60, 1991
Type of Decision-Making Used (Inclusive vs. Exclusionary)	Hugenberg et al. J Pers & Soc Psychol 91: 1020-1031, 2006

References

All references listed on the brochure:

"*Reviewing Applicants: Research on Bias and Assumptions*"

and on
http://wiseli.engr.wisc.edu/initiatives/hiring/BrochureReferences.pdf

Except for:

Blair, Irene and Mahzarin Banaji. "Automatic and Controlled Processes in Stereotype Priming." *J. Pers. & Soc. Psych.* 70 (1996): 1142-1163.

Hebl, Michelle et al. "Formal and Interperson Discrimination: A Field Study of Bias toward Homosexual Applicants." *Pers. & Soc. Psych. Bull.* 28(2002):815-825.

Hugenberg, Kurt et al. "Framing Discrimination Effects of Inclusion Versus Exclusion Mind-Sets on Stereotypic Judgments." *J. Pers. & Soc. Psych.* 91(2006)1020-1031.