



**W I S E L I**

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

## Evaluating Faculty Candidates:

Understanding and minimizing the  
influence of unconscious bias

Eve Fine, Ph.D.



## About WISELI

- **WISELI – Women in Science and Engineering Leadership Institute**
  - Research institute at the University of Wisconsin-Madison
  - Mission: Advancing and promoting women in academic Science, Technology, Mathematics, Engineering and Medicine (STEMM) – focus on faculty
  - Broader goals – fostering a diverse faculty body
  - Funding: NSF ADVANCE, NIH, Campus support

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## Introduction

### Searching for Excellence & Diversity®: Workshops for Search Committee

#### Guiding Principles

- Research Based
- Peer Training
- Active Learning
- Practical Information
- Accountability

#### Content

1. Run an effective and efficient search committee
2. Actively recruit an excellent and diverse applicant pool
3. Raise awareness of unconscious bias and assumptions and their influence on evaluation of candidates
4. Ensure a fair and thorough review of candidates
5. Develop and implement an effective interview process
6. Close the deal – successfully hire selected candidate.



## Group Discussion

Why do you think it is important  
to develop a diverse faculty,  
or a diverse workforce?



## Introduction: Benefits of Diversity

- Diverse working groups are more productive, creative and innovative than homogeneous groups
  - Herring, Cedric. "Does Diversity Pay?: Race, Gender, and the Business Case for Diversity." *American Sociological Review* 74 (2009): 208-224.
  - Page, Scott E. *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies*. Princeton, NJ: Princeton University Press, 2007.
  - van Knippenberg, Daan and Michaéla C. Schippers. "Work Group Diversity." *Annual Review of Psychology* 58 (2007): 515-541.
  - Chang, Mitchell J., Daria Witt, James Jones and Kenji Hakuta. *Compelling Interest: Examining the Evidence on Racial Dynamics in Colleges and Universities*. Stanford, CA: Stanford University Press, 2003.

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## Introduction: Benefits of Diversity

- Diverse groups engage in a higher level of critical analysis than do homogenous groups
  - Nemeth, Charlan Jeanne. "Dissent as Driving Cognition, Attitudes, and Judgments." *Social Cognition* 13 (1995): 273-291.
  - Nemeth, Charlan Jeanne. "Differential Contributions of Majority and Minority Influence." *Psychological Review* 93 (1986): 23-32.
  - Sommers, Samuel R. "On Racial Diversity and Group Decision Making: Identifying Multiple Effects of Racial Composition on Jury Deliberations." *Journal of Personality and Social Psychology* 90 (2006): 597-612.
  - Antonio, Anthony Lising et al. "Effects of Racial Diversity on Complex Thinking in College Students." *Psychological Science* 15 (2004): 507-510.

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## Introduction: Benefits of Diversity

- Diverse scholars and professionals can invigorate and expand disciplines and fields
  - New approaches to teaching
  - New research questions
  - New perspectives and interpretations
  - New concerns

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## Introduction: Commitment vs. Results

- Despite broad commitment to the goal of diversity, why are results are less than satisfactory
  - Lack of training/education on the hiring process
  - Influence of unconscious bias and assumptions

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## Introduction

### Why provide education for search committees?

- Provides an opportunity to achieve campus goals of diversifying the faculty
- Faculty members receive little education about the search process
- A faculty search is costly (time and money)

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#### Content

1. Run an effective and efficient search committee
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## Overview

1. What is “unconscious bias”?
2. How might unconscious biases influence evaluation of faculty candidates?
3. How can a search committee minimize the influence of bias?
4. Does educating search committees work?

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## What is unconscious bias?

- A substantial body of evidence demonstrates that most people hold unconscious biases about groups of people.
- Depending on the discipline unconscious biases can also be referred to as:
  - Schemas
  - Stereotypes
  - Mental models
  - Cognitive shortcuts
  - Statistical discrimination
  - Implicit associations
  - Spontaneous trait inference

The tendency of our minds to judge *individuals*  
by the characteristics (real or imagined)  
of the *groups* to which they belong.

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## What is unconscious bias?

- Most of us routinely rely on unconscious assumptions even though we intend to be fair and believe that we are fair.
- Human brain works by categorizing people, objects and events around us -- this allows us to quickly and efficiently organize and retrieve information.
- But – when evaluating people we can be led astray by our tendency to categorize people – and we tend to do so on the following dimensions:
  - Race/Ethnicity, Sex, and Age.

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## How is the research on bias conducted?

- **Blind, randomized trials**
  - Give each group of evaluators pictures, words, or applications with a racial or gender indicator
  - Compare evaluations
- **Real life studies**
  - Evaluate actual resumés/curriculum vitae, job performance, letters of recommendations, call backs for interviews, etc.

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## Examples of Research on Unconscious Bias

- Estimating height

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). "Stereotypes and Standards of Judgment." *J Pers & Soc Psychol* 60:485-499.

- Judging Athleticism

When shown photographs of black and white men with similar body types, evaluators rated the athletic ability of black men as higher than that of white men. Biernat and Manis (1994). "Shifting Standards and Stereotype-Based Judgements." *J. Pers & Soc Psychol* 66: 5-20.

- Evaluating Verbal skills

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 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. (1994).

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## Unconscious bias in the search process

- Applications/CVs/Résumés
- Reference Letters
- Interviews/Evaluation of Leadership

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## Evaluation of Curriculum Vitae and Résumés

### Curriculum vitae for positions in academic psychology

Steinpreis et al. (1999) "The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and Tenure Candidates: A National Empirical Study." *Sex Roles* 41: 509-528.

- 238 academic psychologists (118 male, 120 female) evaluated an actual cv randomly assigned a male or female name (Karen or Brian Miller)
  - One cv – at time of job application (jr-level)
  - One cv – at time of early tenure (sr-level)
- Entry level – academic psychologists more likely to hire male applicants and gave men higher ratings for:
  - Research
  - Teaching
  - Service
- Senior-level - 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

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## Evaluation of Curriculum Vitae and Résumés

### Evaluating résumés with African American- or white-sounding names

Bertrand and Mullainathan. (2004) "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination." *American Economic Review* 94: 991-1013.

- 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 50% more likely to be called back to interview for positions.
- For "white-sounding" names, applicants with better qualifications were 27% more likely to be called back. For "African American-sounding" names, applicants with better qualifications were only 8%\* more likely to be called back.

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## Evaluation of Curriculum Vitae and Résumés

### Additional examples

- **Motherhood Bias**

Correll, S. J., Benard, S., & Paik, I. (2007). "Getting a job: Is there a motherhood penalty?" *The American Journal of Sociology*, 112: 1297-1338

- **Sexual Orientation**

Tilcsik, A. (2011). Pride and prejudice: Employment discrimination against openly gay men in the United States. *American Journal of Sociology*, 117: 586-626.

- **Arabic sounding-names**

Derous, Hanh Nguyen, and Ryan. (2009). "Hiring Discrimination Against Arab Minorities: Interactions between Prejudice and Job Characteristics." *Human Performance* 22: 297-320.

Compared call back for job interviews for applicants with Arabic- or Dutch-sounding names

Rooth. (2010). "Automatic Associations and Discrimination in Hiring: Real World Evidence." *Labour Economics* 17: 523-534.

Compared call backs for job interviews for applicants with Arabic- or Swedish-sounding names

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## Unconscious Bias in the Search Process

### Analysis of Letters of Recommendation

Trix and Psenka. (2003). "Exploring the Color of Glass: Letters of Recommendation for Female and Male Medical Faculty." *Discourse & Soc* 14: 191-220.

- 312 letters of recommendation for medical faculty **successfully hired** at large U.S. medical school

- Letters for women vs men:

- Shorter
- More letters for women with "*minimal assurance*"
- More gendered terms in letters for women
- More letters for women included "*doubt raisers*"
- Men more frequently referred to as "researchers" and "colleagues". Women more frequently referred to as "teachers" and "students"
- Women – 4X more references to personal lives
- Women - Fewer *standout adjectives* ("outstanding" "excellent") and more *grindstone adjectives*.

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## Letters of Recommendation

Schmader, Whitehead, Wysocki. (2007). "A Linguistic Comparison of Letters of Recommendation for Male and Female Chemistry and Biochemistry Job Applicants." *Sex Roles* 5: 509-514.

Found fewer differences between letters for men and women in comparison to the Trix and Psenka study, but reaffirmed the comparative absence of outstanding adjectives in letters for women.

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## Evaluation of Job Interviews

### Interviews for a leadership position

Phelan, Moss-Racusin, and Rudman. (2008) "Competent Yet Out in the Cold: Shifting Criteria for Hiring Reflect Backlash Toward Agentic Women." *Psychology of Women Quarterly* 32: 406-413.

- Taped male and female candidates interviewing for a leadership position in a male dominated field.
- Candidates were actors trained to perform an agentic or communal script.
- 428 evaluators (approx. 50% women) viewed the taped interviews and rated the "candidates" on competence, likeability, and hireability.

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## Assumptions about Gender and Behavior

Multiple authors over 30 years: e.g., Bem, Broverman, Eagly, Heilman Rudman

DESCRIPTIVE: How men and women actually behave

### Men (agentic)

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



### Women(communal)

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

PRESCRIPTIVE: How men and women “ought” to behave

Note: Social Penalties for Violating Gender Norms

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## Job Interviews

Phelan, Moss-Racusin, and Rudman (Continued)

- Competence: Agentic interviewees rated as more competent than communal interviewees
- Likeability: Agentic men rated more likeable than women; Communal men rated less likeable than women.
- Hireability
  - Agentic interviewees more hireable than communal;
  - No difference in hireability of communal men and women;
  - **Agentic men more hireable than agentic women**

WHY? – SHIFTING CRITERIA

- For agentic men, communal men, communal women – competence weighted most heavily in hiring decisions.
- Agentic women likeability/social skills – a perceived weakness – weighted most heavily in hiring decisions.

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## Job Interviews - Other Examples

- **Sexual Orientation**

Hebl, M. R., et al. (2002). "Formal and interpersonal discrimination: A field study of bias toward homosexual applicants." *Personality & Social Psychology Bulletin*, 28: 815-825.

- **Accented English**

Segrest Purkiss et al. (2006) "Implicit sources of bias in employment interview judgments and decisions." *Organizational Behavior and Human Decision Processes* 101: 152-167.

- **Weight**

Kutcher and Bragger. (2004) "Selection Interviews of Overweight Job Applicants: Can Structure Reduce the Bias?" *Journal of Applied Social Psychology* 34: 1993-2022.

- **Pregnancy**

Bragger et al. (2002). "The Effects of the Structured Interview on Reducing Biases Against Pregnant Job Applicants." *Sex Roles* 46: 215-226.

- **Disability?**

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## Unconscious Bias in the Search Process

### Case Study Discussion



## Minimizing Bias and Assumptions

### What Not to Do:

- Suppress bias and assumptions from one's mind (or try to)
  - Studies demonstrating Stereotype Rebound effect
    - Nira Liberman and Jens Förster, "Expression After Suppression: A Motivational Explanation of Postsuppression Rebound," *Journal of Personality & Social Psychology* 79 (2000): 190-203
    - C. N. Macrae, Galen V. Bodenhausen, Alan B. Milne, and Jolanda Jetten, "Out of Mind but Back in Sight: Stereotypes on the Rebound." *Journal of Personality & Social Psychology* 67 (1994): 808-817
- Relying solely on a presumably "objective" ranking or rating system to reduce bias

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## Minimizing Bias and Assumptions

### What to do before conducting evaluations:

- Replace your self-image as an objective person with recognition and acceptance that you are subject to the influence of bias and assumptions
  - Uhlmann and Cohen, *Organizational Behavior and Human Decision Processes*, 2007
- Diversify your search committee
  - Social tuning/increased motivation to respond w/o bias
    - Lowery, Hardin, and Sinclair, *J. Personality and Social Psychology*, 2001
  - Counterstereotype imaging
    - Blair, Ma, and Lenton, *J. Personality and Social Psychology*, 2001
  - Dasgupta and Greenwald, "*Journal of Personality and Social Psychology*, 2001
- Hold each member of the search committee responsible for recruiting and equitably evaluating an excellent and diverse applicant pool.
  - Foschi, *Social Psychology Quarterly*, 1996
  - Dobbs and Crano, *Social Psychology Quarterly*, 2001.

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## Minimizing Bias and Assumptions

### What to do before conducting evaluations (cont.):

- Critical Mass – increase proportion of women and minorities in the applicant pool

Heilman, *Organizational Behavior and Human Performance*, 1980; van Ommeren et al., *Psychological Reports*, 2005

- Develop and prioritize criteria prior to evaluating applicants.

Uhlmann and Cohen, *Psychological Science*, 2005

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## Minimizing Bias and Assumptions

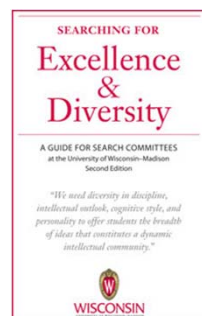
### What to do while conducting evaluations:

- Spend sufficient time and attention on evaluating each application  
Martell, J. *Applied Social Psychology*, 1991
- Focus on each applicant as an individual and evaluate their entire application package – information minimizes bias  
Heilman, *Organizational Behavior & Human Performance*, 1984; Tosi and Einbender, *Academy of Management Journal*, 1985; Brauer and Er-rafiy, *Journal of Experimental Social Psychology*, 2013.
- Use inclusion rather than exclusion decision-making processes  
Hugenberg et al., *J. Personality and Social Psychology*, 2006
- Stop periodically to evaluate your criteria and their application
- Accountability - Be able to defend every decision
  - **Competence:** Biernat and Fuegen., *Journal of Social Issues*, 2001
  - **Equity:** Dobbs and Crano, *Personality and Social Psychology Bulletin*, 2001  
Foschi, *Social Psychology Quarterly*, 1996.

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## Relevant Publications

- Sheridan, Jennifer; Eve Fine; Christine Maidl Pribbenow; Jo Handelsman; Molly Carnes. 2010. "[Searching for Excellence & Diversity: Increasing the Hiring of Women Faculty at One Academic Medical Center.](#)" *Academic Medicine*. 85(6):999-1007.
- Isaac, Carol; Barbara Lee; and Molly Carnes. 2009. "[Interventions that Affect Gender Bias in Hiring: A Systematic Review.](#)" *Academic Medicine*. 84(10):1440-1446.
- Sheridan, Jennifer; Eve Fine; Jessica Winchell; Christine Maidl Pribbenow; Molly Carnes; and Jo Handelsman. 2007. "[Searching for Excellence & Diversity: Does Training Faculty Search Committees Improve Hiring of Women?](#)" *American Society for Engineering Education (ASEE) 2007 Conference Proceedings*. June 2007.
- Sheridan, Jennifer; Christine Maidl Pribbenow; Eve Fine; Jo Handelsman; and Molly Carnes. 2007. "[Climate Change at the University of Wisconsin-Madison: What Changed, and Did ADVANCE Have an Impact?](#)" *Women in Engineering Programs & Advocates Network (WEPAN) 2007 Conference Proceedings*. June 2007.
- Eve Fine and Jo Handelsman. 2005. [Searching for Excellence and Diversity: A Guide for Search Committee Chairs](#). University of Wisconsin-Madison.

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