



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 and Medicine (STEMM) – focus on faculty
  - Broader goals – fostering a diverse faculty body
  - Funding: NSF ADVANCE, NIH, Campus support



# Introduction

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

### Guiding Principles

- Research Based
- Peer Training
- Active Learning
- 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



# 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.



# 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.



# 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



# Introduction: Commitment vs. Results

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



# 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)





# Introduction

## Searching for Excellence & Diversity®: Workshops for 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?



# 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:
  - 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.



# 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.



# 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.



# Examples of Research on 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. Biernat et al. (1991). *“Stereotypes and Standards of Judgment.” J Pers & Soc Psychol 60:485-499.*
- 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). *“Shifting Standards and Stereotype-based Judgments.” J Pers & Soc Psychol 66: 5-20.*



# Unconscious bias in the search process

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



# Unconscious Bias in the Search Process

## Evaluation of Curriculum Vitae

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.

- Curriculum vitae of an actual applicant evaluated by 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 (Karen Miller or Brian Miller)





# Unconscious Bias in the Search Process

## 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
  - Teaching
  - Research
  - 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.



# Unconscious Bias in the Search Process

## Evaluation of Resumés

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 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.



# 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*.



# Unconscious Bias in the Search Process

## Generalizations about Gender and Behavior

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

DESCRIPTIVE: How men and women 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



# Unconscious Bias in the Search Process

## Evaluation of Job Interviews

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 agentic and communal male and female candidates interviewing for a leadership position in a male dominated field.
- 428 evaluators (approx. 50% women) viewed the taped interviews and rated the "candidates" on competence, likeability, and hireability.



# Evaluation of Job Interviews

Phelan, et al. (2008).

## **RESULTS:**

- No differences by sex of evaluator

## **Competence:**

- Agentic interviewees rated more competent than communal interviewees

## **Likeability:**

- When interviewee was “agentic” – males rated as more socially skilled than females.
- When interviewee was “communal” – males rated as less socially skilled than females (new finding – prev. studies found no differences)



# Evaluation of Job Interviews

Phelan, et al. (2008).

## Hireability

- Agentic interviewees more hireable than communal – consistent with evaluation of agentic interviewees as more competent than communal interviewees.
- Agentic men more hireable than agentic women – despite equivalent ratings of competence
- Communal men and women – no difference in hireability
- Regression analysis showed that evaluators weighed competence more heavily than social skills for all applicants except agentic women.
- For agentic women, social skills were given more weight. Their strength (competence) was devalued and their perceived weakness emphasized. This is an example of **Shifting Criteria**.



# Other Examples

## ■ Gender Stereotypes & Leadership

- Heilman, et al. (2004). Penalties for success: Reactions to women who succeed at male gender-typed tasks. *Journal of Applied Psychology*, 89(3), 416-427.

## ■ Motherhood Bias

- Correll, S. J., Benard, S., & Paik, I. (2007). Getting a job: Is there a motherhood penalty? *The American Journal of Sociology*, 112(5), 1297-1338.

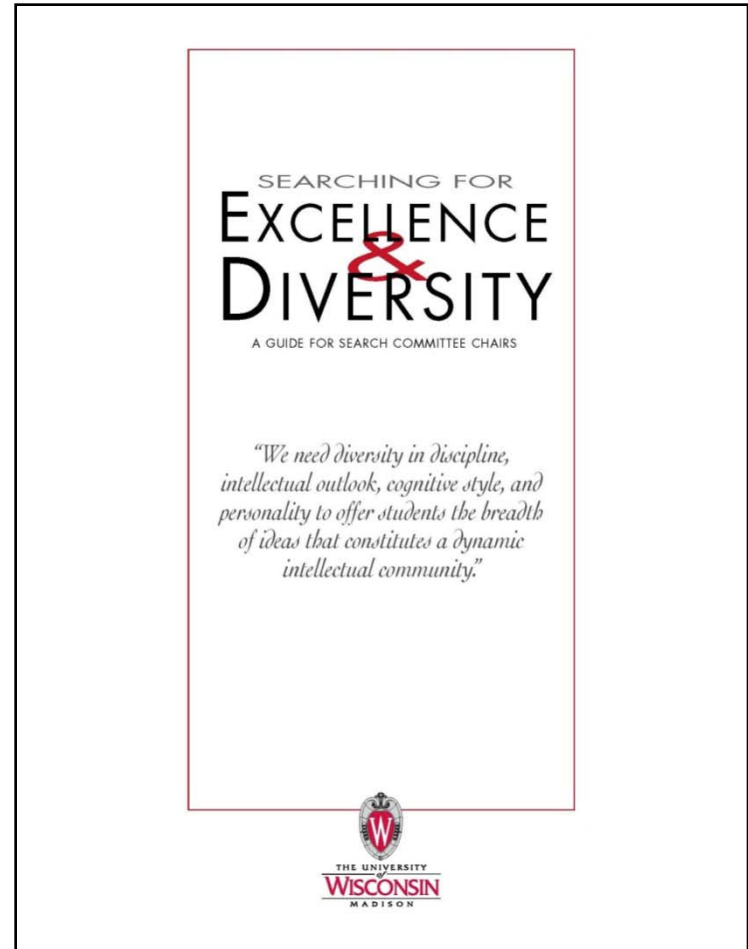
## ■ Sexual Orientation

- Hebl, M. R., et al. (2002). Formal and interpersonal discrimination: A field study of bias toward homosexual applicants. *Personality & Social Psychology Bulletin*, 28(6), 815-825.
- Tilcsik, A. (2011). Pride and prejudice: Employment discrimination against openly gay men in the united states. *American Journal of Sociology*, 117(2), 586-626.





[http://wiseli.engr.wisc.edu/docs/BiasBrochure\\_2ndEd.pdf](http://wiseli.engr.wisc.edu/docs/BiasBrochure_2ndEd.pdf)



<http://wiseli.engr.wisc.edu/docs/SearchBook.pdf>



# Unconscious Bias in the Search Process

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## 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



# 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
- 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*



# 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, 2012.*
- 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.*



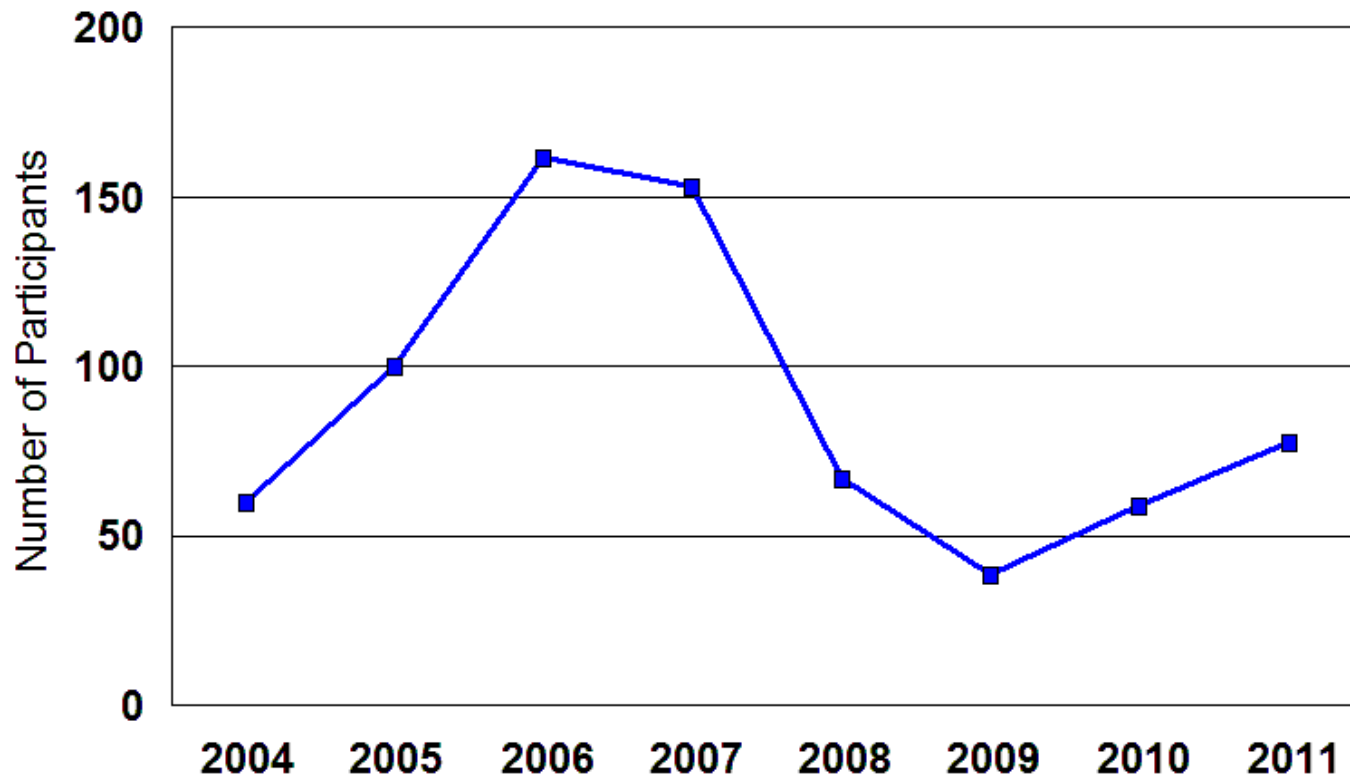
# Is it working?

- Faculty attendance/experience of workshop
- Changing outcomes
- Unexpected outcomes



# Attendance

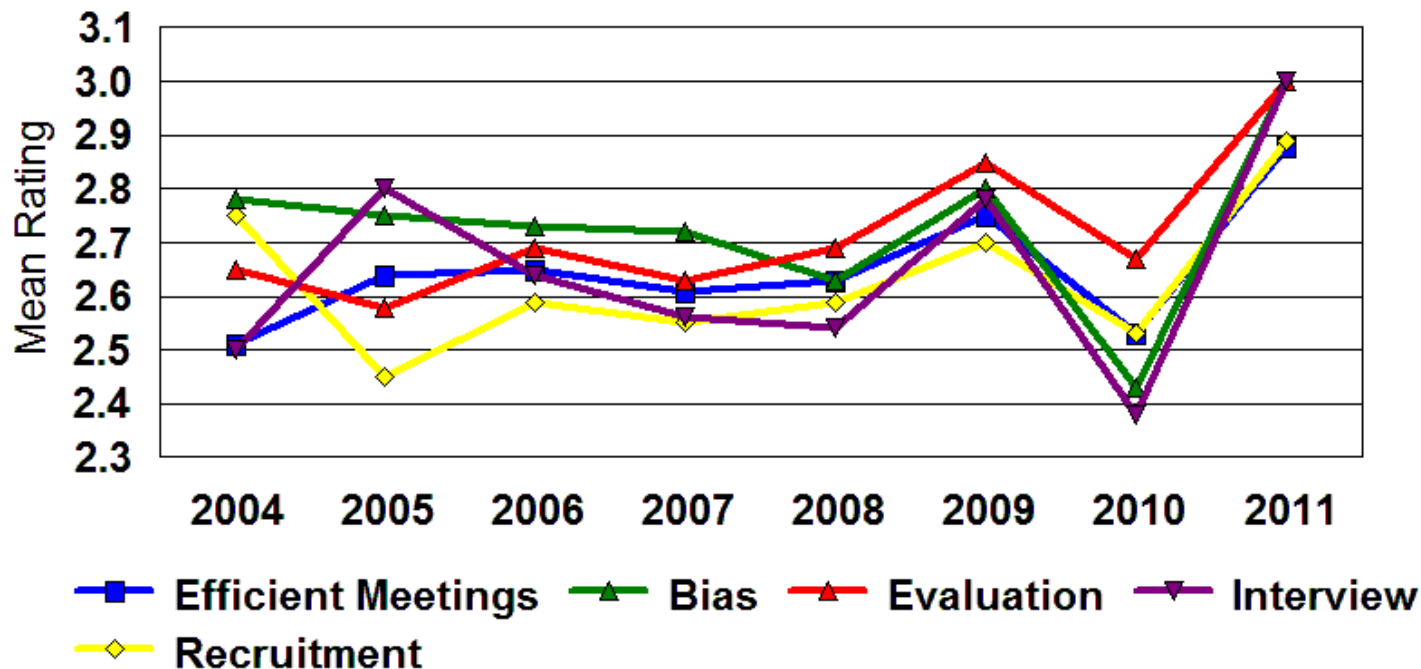
## Attendance at Hiring Workshops





# Experience of Workshop

## Usefulness Ratings\* of 5 Workshop Elements



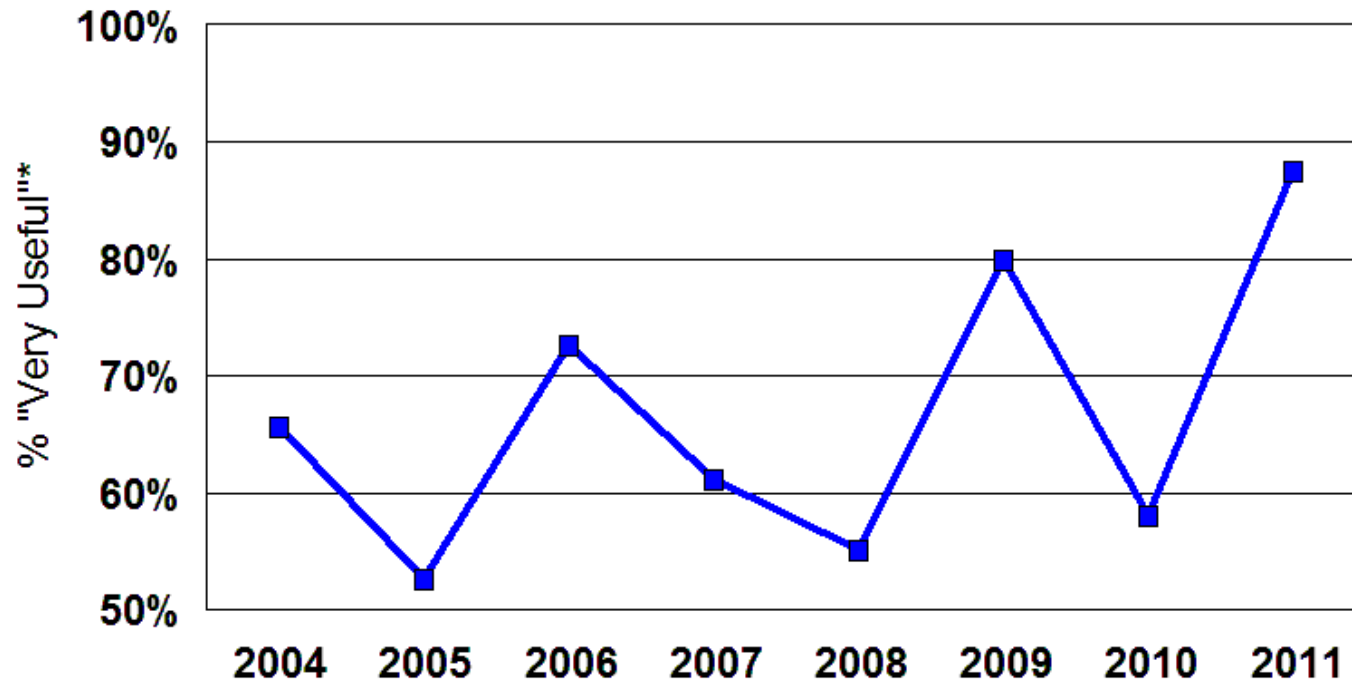
\* Not at all useful, Somewhat useful, Very useful





# Experience of workshop

## Workshop "Very Useful"\*



\* Vs. Somewhat useful or Not at all useful.



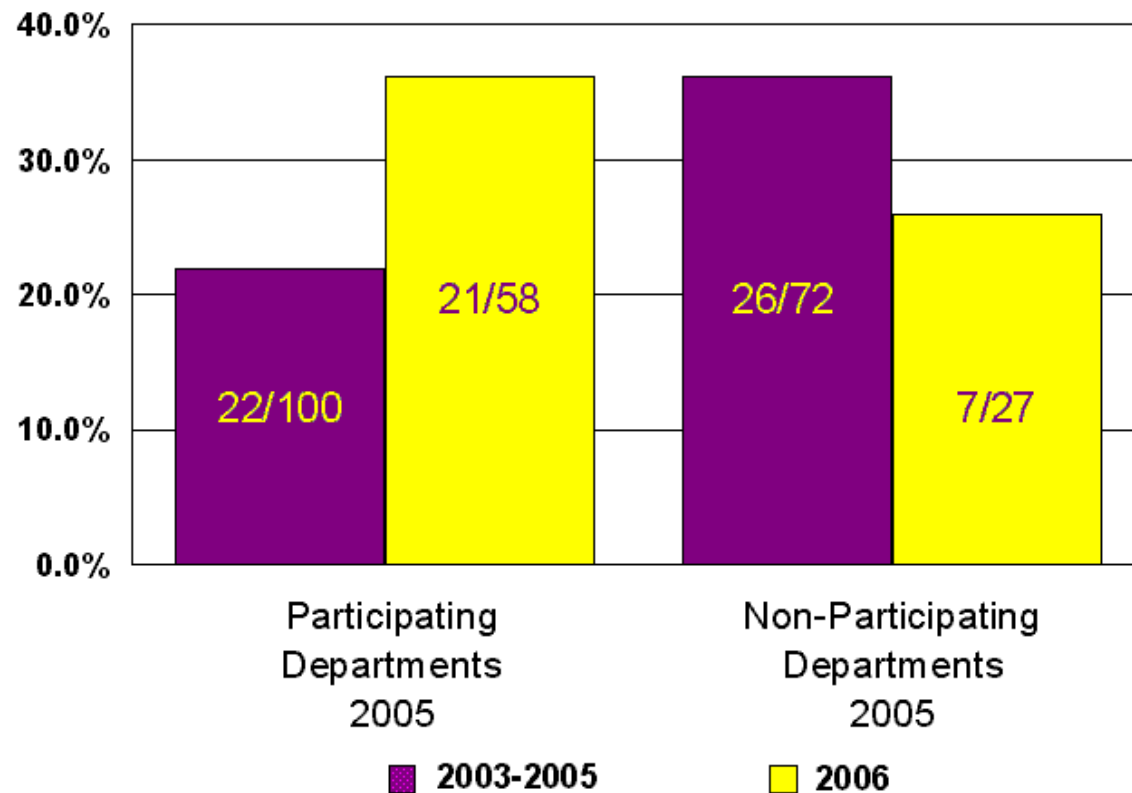
# Changing outcomes

- Hiring pools, interview lists
  - No data
- New hires
- Experience of candidates



# New Hires

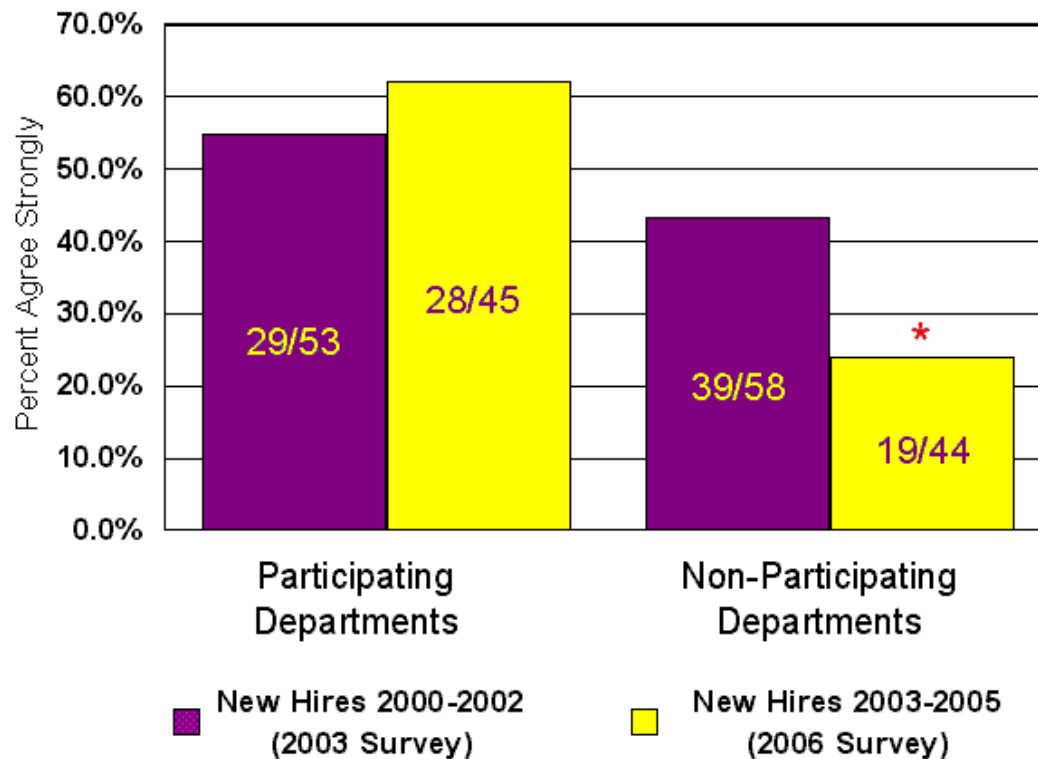
**Percent Female, Tenure-Track Faculty Offers  
Biological & Physical Sciences**





# Experience of Candidates

**New Hires' Satisfaction\* With the Hiring Process  
Biological & Physical Sciences**



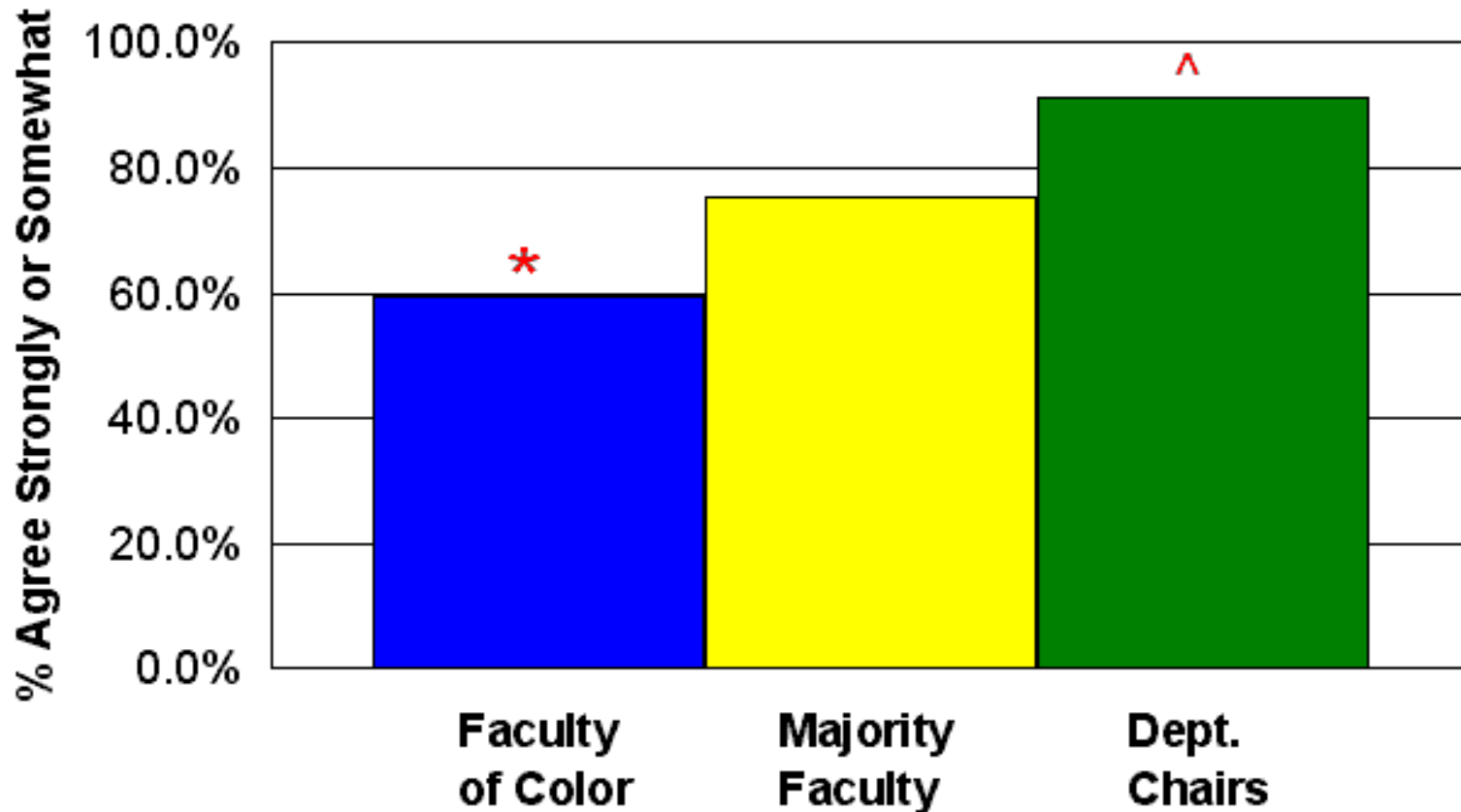
\* Agree Strongly to the item "I was satisfied with the hiring process overall."



# Unexpected outcomes

- Changing attitudes towards diversity

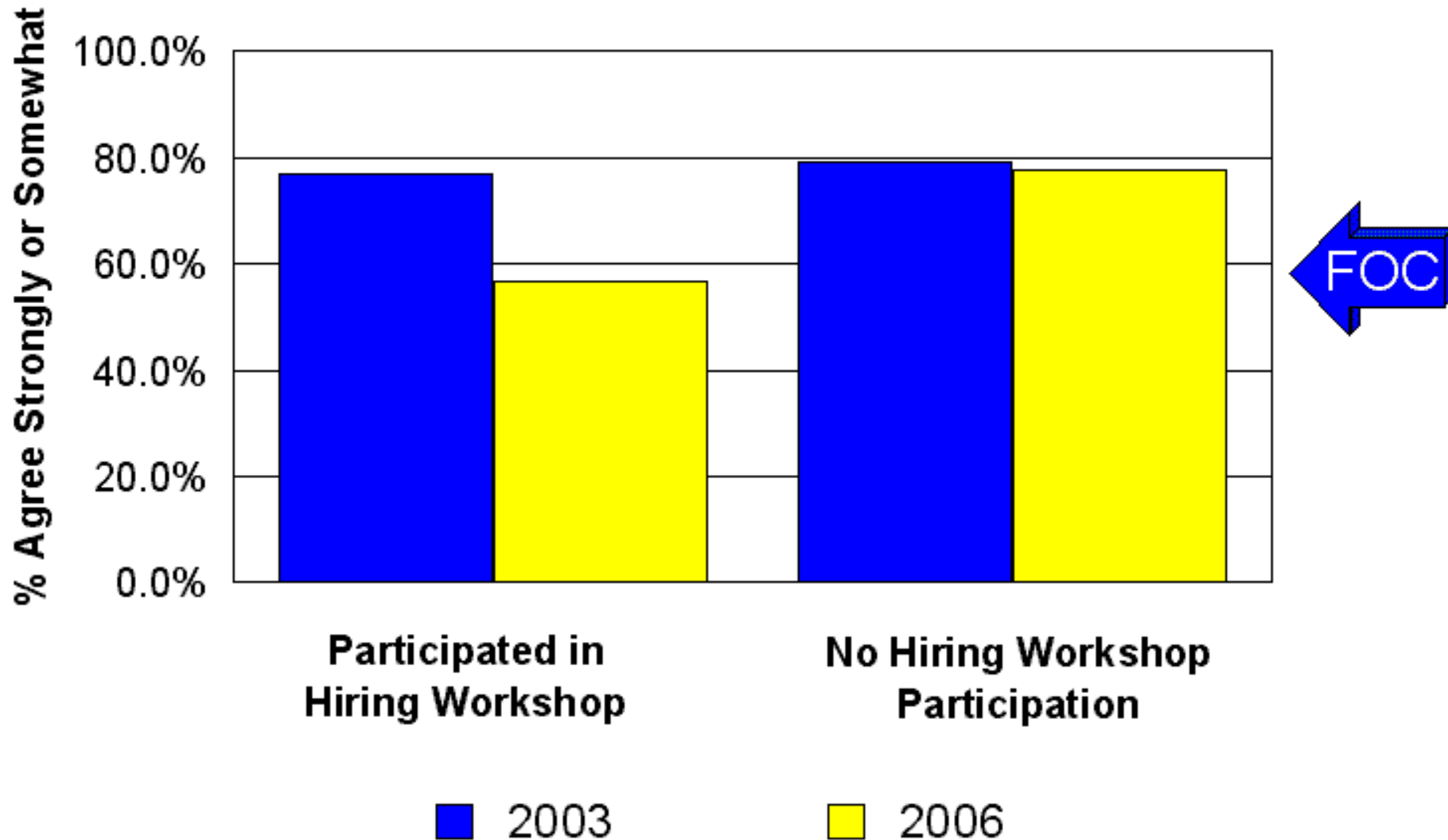
# The climate for faculty of color in my department is good



\* Significant t-test between minority and majority faculty at  $p < .05$ .

^ Significant t-test between dept. chairs and all other faculty at  $p < .05$ .

# The climate for faculty of color in my department is good





# 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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