

UIC WISEST

Women in Science and Engineering System Transformation

Panel Presentation

Joint Math Meetings

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NSF 0546843, ADVANCE Institutional Transformation Award

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UIC WISEST

Women in Science and Engineering System Transformation

GOAL: To increase the number, participation, and leadership status of women - majority and minority - in academic science and engineering through institutional transformation at UIC.

UIC WISEST

Exec Committee Convener: R Michael Tanner, Provost

PI: Mo-Yin Tam, Vice Provost for Faculty Affairs

Co-PI:

Dwight McBride, LAS Dean (Astrida Tantillo, Interim Dean)

Peter Nelson, ENGR Dean

Mitra Dutta, Head and Prof of Computer and Electrical Engineering

Brooke Shipley, Professor, MSCS, (Math., Stat., and Comp. Sci.)

Director Linda Siebert, AM

Evaluating Team

Mo-Yin Tam, Chair

Manorama Khare, Ph.D. Monitoring and Evaluation Coordinator

11 Facilitators and Heads

- Facilitators' Model

One per department, chosen by
department heads

Report between departments and
WISEST leadership

Recommend actions

Implement initiatives

- Current Main Subcommittees

SUCCEED: Search Committee (and
P&T) Trainers

WAPI: Assistant Professor Initiative

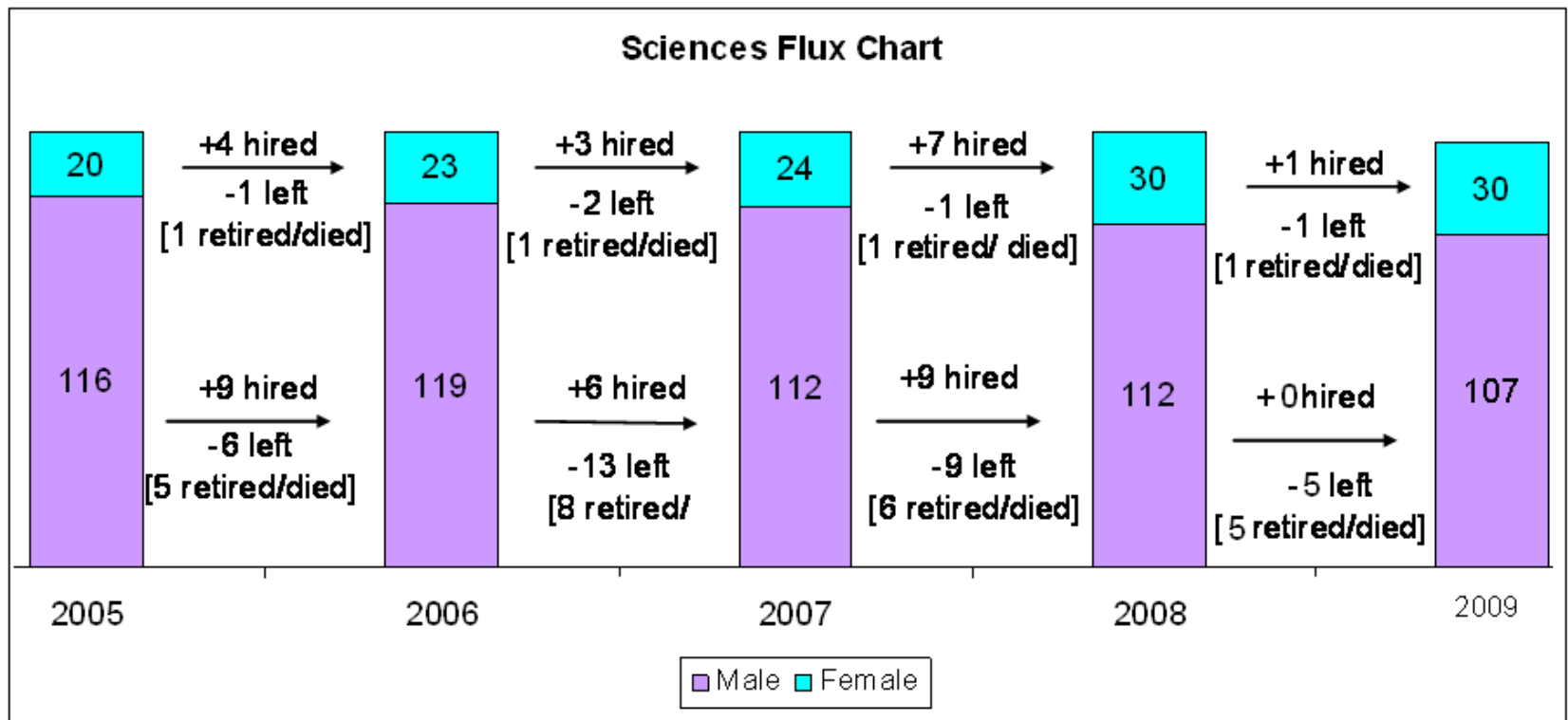
A: Recruitment

Transforming the Faculty

Startup Support for New STEM Women Faculty

- By Year 3 reached end-of-Year-5 goal: 12 new STEM women hires enabled (including 3 URMs)

LAS STEM Faculty AY 2005-06 to AY 2009-10



MSCS (Math) Success in Recruiting Women

- Since 2006:
 - 7 of 21 Tenure Track Faculty (2011 total: 8 of 46)
 - 5 of 14 Research Assistant Professors
- External Awards for MSCS Women since 2001
 - 3 NSF CAREER Awards (of 10 total)
 - 3 Alfred P. Sloan Research Fellowships (of 7 total)

Recruitment: SUCCEED Search Committee Training

- Search committee training based on research on unconscious bias
and procedures to ensure an inclusive and effective search
- Designed and delivered by senior, research-active STEM faculty (facilitators)
- 23 search committees trained between August 2005 and December 2008

Recruitment: Role of the Head

- Work to ensure an unbiased search
- Look for outstanding candidates from underrepresented groups
- Challenge: two body problems
 - Look for opportunities!
 - Look at a wide range of options

B: Retention

Transforming the Climate

Life-Friendly Policies

- Revision of Tenure Hold Policy (August 16, 2008) to include *automatic hold for a new child*
- Modified Service Duty (January 1, 2009): *one-semester modification of teaching duties* for new child
- Pilot Child/ Elder Care Resource & Referral Program
- Lactation Room Resolution passed Senate (April 2010)

Retention : Transforming the Climate

WISER Fund

- Used to support research, travel, work during life cycle event
- \$20,000 per year: originally for two to three grants
- Quick response to needs of junior faculty in Fall 2008; 10 awards

Taking on Gender Bias: in student evaluation and classroom interaction

- Two research seminars: “gendered expectations & student interactions with faculty in the classroom”
- Townhall on Gender Stereotyping & student faculty interactions (dramatic vignettes and facilitated discussions)
- “First Lecture” in the College of Engineering
- A working group of facilitators looking at the student evaluation form

Retention: Departmental Climate

- Reduce Isolation; Spatial isolation
- More Networking and Collaboration
- Family friendly policies
- Social gatherings to increase collegiality

Retention: Role of the Head

- Try to keep up morale.
- Deal with counteroffers aggressively and preemptively.
- Look for opportunities for internal and external recognition.
- Seek involvement in key decision making
 - Hiring
 - Curriculum

SUCCEED Committee

Supporting UIC's Commitment to a Community
of Excellence, Equity & Diversity

Constantine Megaridis,
Sharad Laxpati,
Cynthia J. Jameson
Ludwig Nitsche

Subject of presentations

- Climate and advancement of women in academia during the last three decades – “why so slow?”
- Procedures to ensure an inclusive and effective search

of women and underrepresented minorities

in recent PhDs vs Asst Profs

- Workplace Environment
- Unconscious Bias
- Family Responsibilities

are among the issues mentioned in
the AAUW 2010 report

**‘Why So Few? Women
in Science, Technology,
Engineering and Mathematics’**

Commonly Held Beliefs Debunked By Research

- *“We are not biased. Gender and ethnicity of the candidate does not matter. Women’s and men’s accomplishments are viewed and rewarded equally.”*

Counterpoint: [Wenneras and Wold, *Nature* (1997)]

- *“The lack of women in leadership positions will fix itself over time. If women behaved like men, they would succeed at the same rate.”*

Counterpoint: [Merton (1948) *Antioch Review*, 8, 193-210 and (1968) *Science*, 159, 56-63] Very small differences in treatment can, as they accumulate, have major consequences in salary, promotion, and prestige.

Counterpoint: [Martell et al. *American Psychologist* 51, 157-158 (1996)] The effect of **cumulative bias** has been quantitatively simulated.

Commonly Held Beliefs Debunked By Research

- *“Discrimination is only practiced (actively) by a small set of ignorant people.”*

Counterpoint: Unconscious gender-based assumptions and stereotypes (schemas) are deeply embedded in the patterns of thinking of **both men and women**.

Counterpoint: Women (and work performed by women) consistently receive lower evaluations than men (and work performed by men) by **both men and women** evaluators.

- *“Since many of the problems encountered by female faculty are minor, recent emphasis on remedies to improve the climate is an over-reaction.”*

Counterpoint: Cumulative disadvantages impede women’s progress toward full participation in academia.

Commonly Held Beliefs Debunked By Research

- *“Women want different things from their career than men.”*
Counterpoint: [Broaddus & Feigel (1994). Chest 105:1858] Women want what men want: (1) more protected research time, (2) more institutional support. (3) better clarification of expectations of employment, (4) improved feedback.
- *“Flexibility and family-friendly policies are just accommodations for women who don’t want to work as hard as men.”*
Counterpoint: [American Council on Education (2005). An Agenda for Excellence: Creating Flexibility in Tenure-Track Faculty Careers. ACE] **Both men and women** want increased flexibility in academic careers and greater work-life balance.

Concepts that Search Committees Must Understand

- Common misperceptions
- Gender schemas =>
- Lack of critical mass =>
- Evaluation bias =>
- Accumulation of disadvantage

Effects of these aspects on institutions and human resources are well studied in the sociological literature.

Lack of Critical Mass

- When women make up $\geq 30\%$ of an *applicant pool*, individual women are judged more positively by evaluators
Heilman & Stoeck (1985). *J. Applied Psychology*, 70, 379-388
Isaac, Lee & Carnes (2009). *Academic Medicine*, 84, 1440-1446
- When women make up $\geq 30\%$ of a *work group*, their work is judged more positively by evaluators
Heilman (1980). *Organizational Behavior and Human Performance*, 26, 386-395
- When there are fewer women (or minorities), stereotypes (schemas) have more influence in evaluation
Valian (1998). *Why so Slow? The Advancement of Women*

What are Gender Schemas?

- ❑ **Non-conscious hypotheses about sex differences that guide everyone's perceptions and behaviors**
- ❑ **Expectations or stereotypes that define “average” members of a group**
 - ❑ **Men are instrumental, task-oriented, competent**
 - ❑ **Women are nurturing, emotional, and care about relationships**
- ❑ **Schemas are necessary and efficient adaptive function**
- ❑ **Both men and women have the same schemas**
- ❑ **Problems arise when schemas that define the aggregate influence the evaluation of an individual's capability and their work: Evaluation Bias**

Valian, 1998, Why So Slow? The Advancement of Women

Schemas in Action: Evaluation Bias

- ❑ “Blind” auditions can explain 30 to 55% of the increase in women winning orchestral jobs
Golden, C & Rouse, C (2000). Orchestrating impartiality: The impact of “blind” auditions on female musicians. *American Economic Review* 90, 715-741
- ❑ Letters of recommendation for women hired at a large academic medical center differ systematically from those for men hired. They were shorter and used gender terms & stereotypic adjectives. They had more grindstone adjectives and fewer standout adjectives
Trix and Psenka (2003). *Discourse & Soc* 14:191 2003
- ❑ University psychology professors prefer 2:1 to hire “Brian” over “Karen” even though the application packages are identical
Steinpreis, Anders & Ritzke (1999). *Sex Roles*, 41, 509

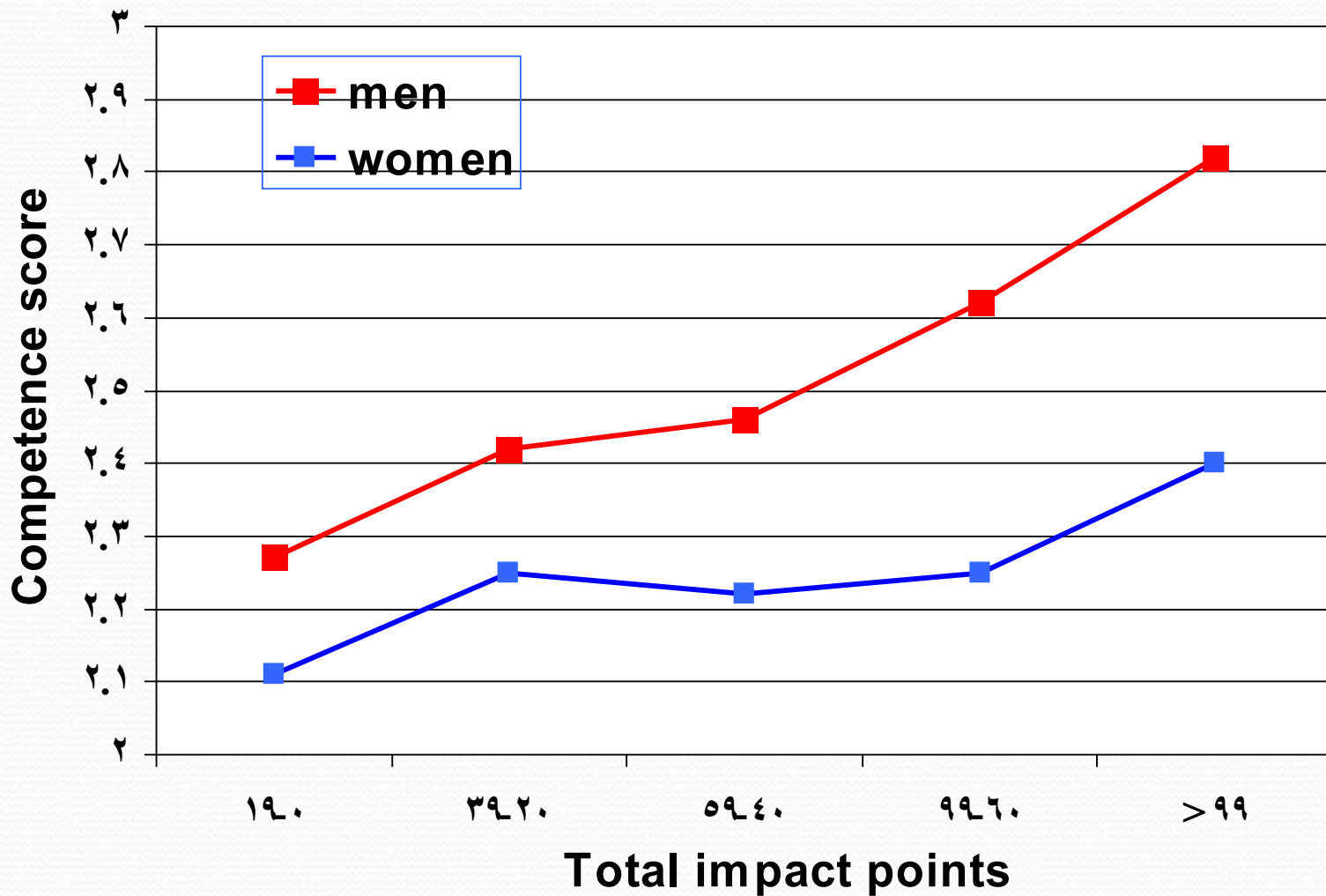
A closer look at Steinpreis et al. (1999)

Expectancy Bias = Academic work done by men better than work done by women

- Curriculum vitae sent to 238 academic psychologists (118 male, 120 female)
- Randomly assigned male or female name to cv
- Academic psychologists gave cv's with male names attached higher evaluations for
 - Teaching
 - Research
 - Service Experience
- More comments on cvs with female name
- Evaluators were more likely to hire the male than the female applicant

Wenneras & Wold (1997)

Nature 387, 341



What Can Search Committees Do?

During the Search:

- ❑ Word the position description so that it conveys the College's commitment to excellence, equity & diversity
- ❑ Engage in **active recruiting** for individuals who possess the aforementioned attributes. Function as a Search Committee, not a "Letter-Opening Committee"
- ❑ Good procedure can counteract critical mass effects & gender schemas [Isaac, Lee & Carnes (2009). *Academic Medicine*, 84, 1440-1446]

SUCCEED LESSONS

1. Post the ad in the **appropriate venues**
2. Actively look for possible candidates in the **appropriate places**, collect evidence of their achievements, invite them to apply.
3. **Pursue them assiduously**, using UIC and Chicago's natural diversity as hooks: they can be comfortable here
4. **Once they are in the application pool they will naturally rise to the short list of candidates** if you have done step #2 properly, & provided the search committee uses objective candidate attributes from the outset
5. Maintain communications with those who are invited to interview