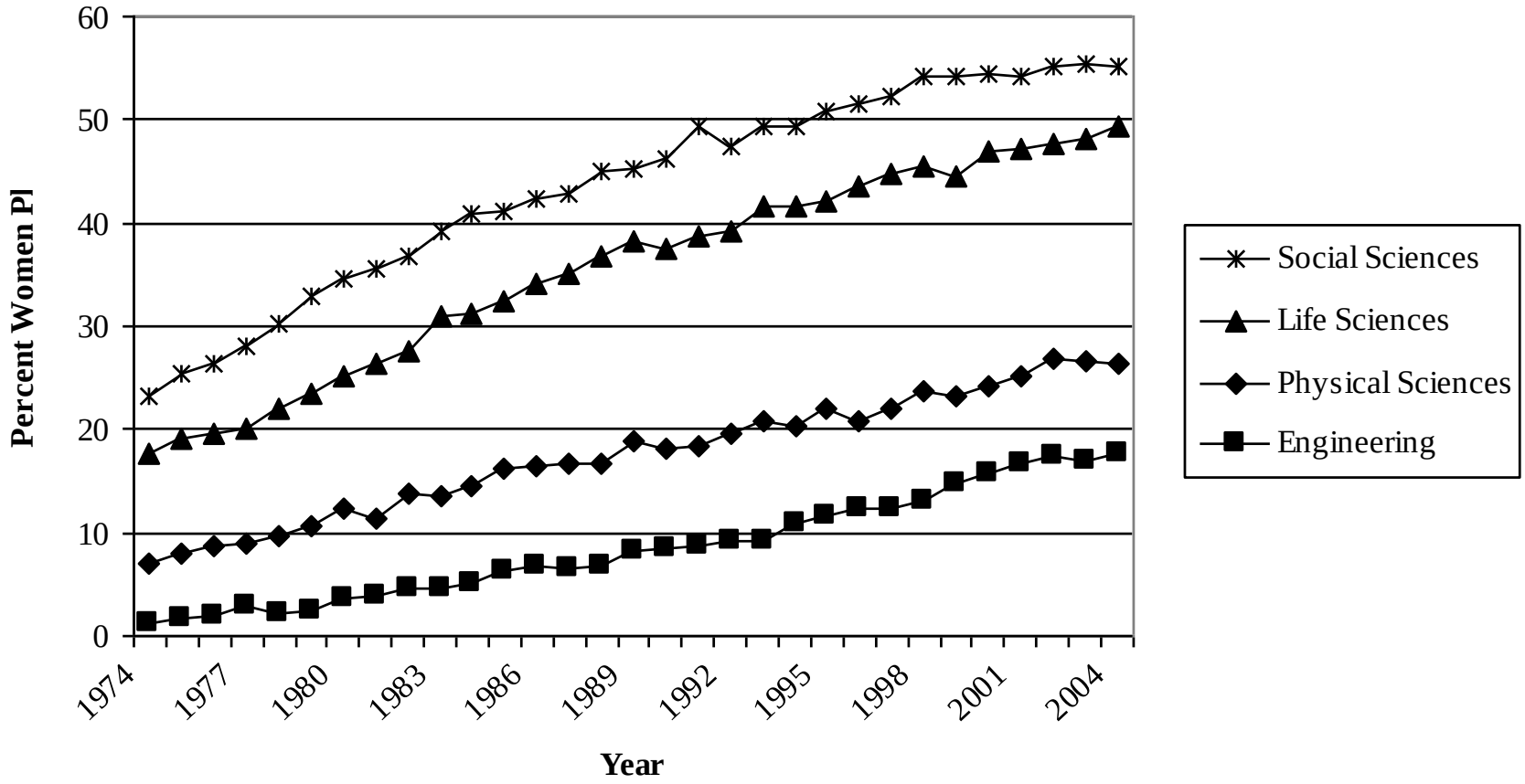
WISELI

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

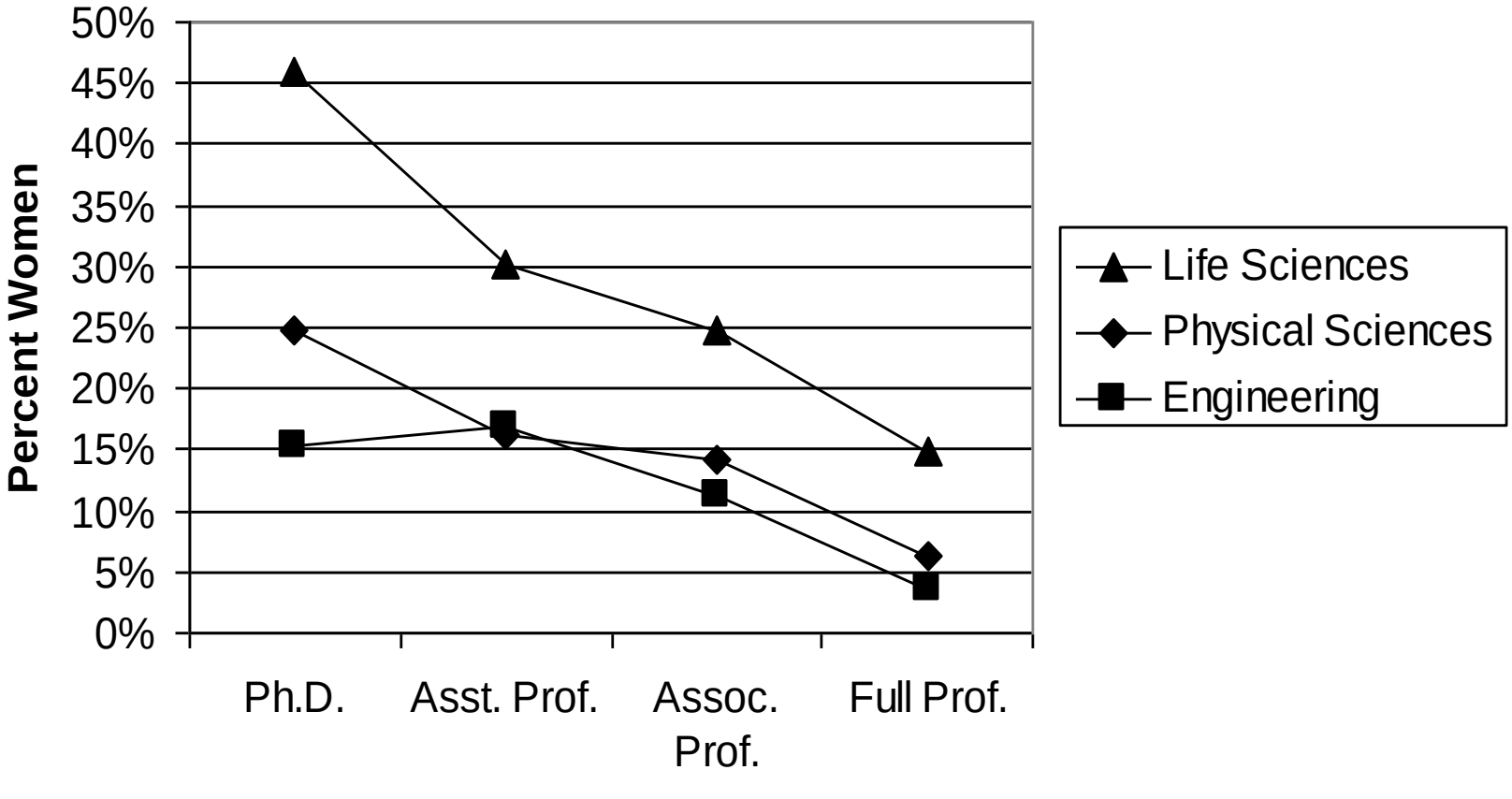
More Women In Science:

The Institutional Challenge

The Problem


60
50
40
30
20
10
0
Percent Women Pl
1974
1977
1980
1983
1986
1989
1992
1995
1998
2001
2004
Year
Social Sciences
Life Sciences
Physical Sciences
Engineering

The Problem


50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Percent Women
Ph.D.
Asst. Prof.
Assoc. Prof.
Full Prof.
Life Sciences
Physical Sciences
Engineering

The Problem

- Women from minority racial and ethnic backgrounds are virtually absent from the nation’s leading science and engineering departments

Past Solutions

- Increasing the pipeline
  - Biology? Chemistry?
- Increased funding for women
  - POWRE awards?
- Teach women how to succeed
  - Leadership training
  - Mentoring
- Policy changes
  - Extend tenure clock
  - Dual career hire

New Approach: Institutional Transformation

- Rules that appear neutral may function in a way that leads to differential treatment or produces differential outcomes for men and women
  - **Tenure process coincides with family formation years**
  - **Outside activities (e.g., family obligations) indicate a "lack of seriousness" about career**
  - **Use of programs designed to increase flexibility?**
  - **Deviation or delay from "normal" path**
  - **Salary increases/outside offers**
  - **Childcare needs (conferences, field study, time in laboratory)**

"Academic organizational structures and rules contribute significantly to the underuse of women in academic science and engineering."

New Approach: Institutional Transformation

- National Science Foundation ADVANCE program
  - 2001 first solicitation
  - Large, prestigious awards
  - Goal is to transform the *institution*, not the women!
  - Take a scientific approach: data, social science research
  - Provide models for other universities

WISELI Programs

- Vilas Life Cycle Professorships
- Searching for Excellence & Diversity
- Enhancing Department Climate: A Chair's Role
- Breaking the Bias Habit: Bias Literacy Workshops
- Research & Evaluation

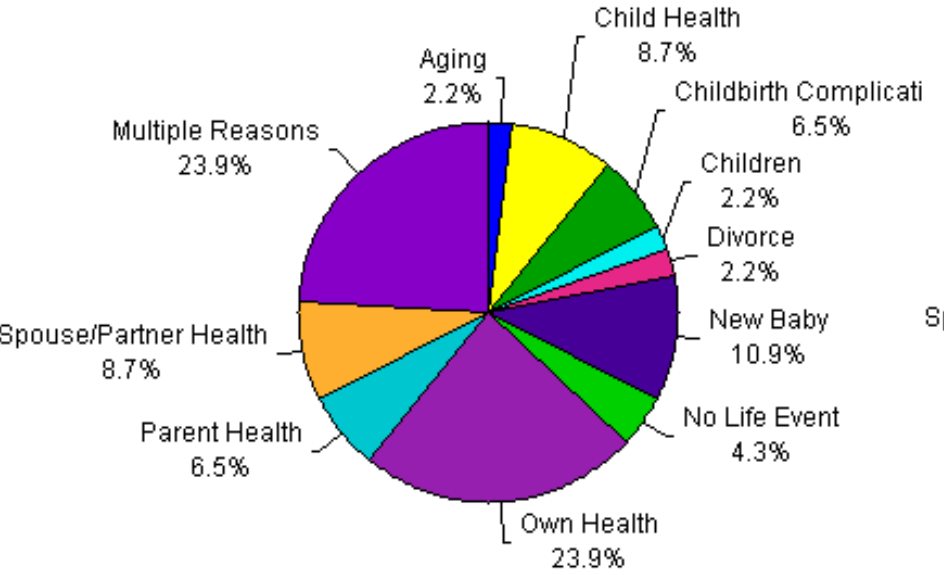
Vilas Life Cycle Professorship Program

- Recognize that life events outside of one's control *happen*
  - Both men and women experience such events, but women are more likely to experience them early in the career, when they are more vulnerable
- Reduce turnover by providing research support for faculty in crisis
- Understand what events are problematic and which career junctures are most critical
- Understand what faculty need when they are in crisis

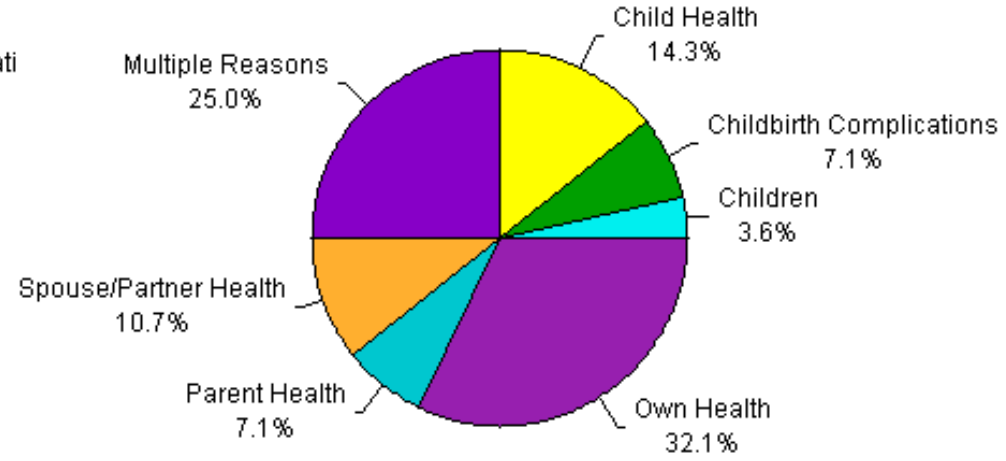
Vilas Life Cycle Professorship Program

- Funded by the Vilas Trust since 2005
- Two or three rounds per year
- Approximately 21 applications per year
  - Fund approximately 15 faculty per year
- From $100,000 to $372,000 per year distributed

Vilas Life Cycle Professorship Program



Applicants



Awardees

Life Cycle Grant evaluation

"This program generates a feeling of commitment to this institution, and a desire and willingness to give back, to help ensure that others benefit from similar institutional support in the future. . . I have mentioned it to job candidates as an illustration of how this institution takes seriously life cycle issues and is genuinely humane and supportive. "

Lessons for Graduate Students

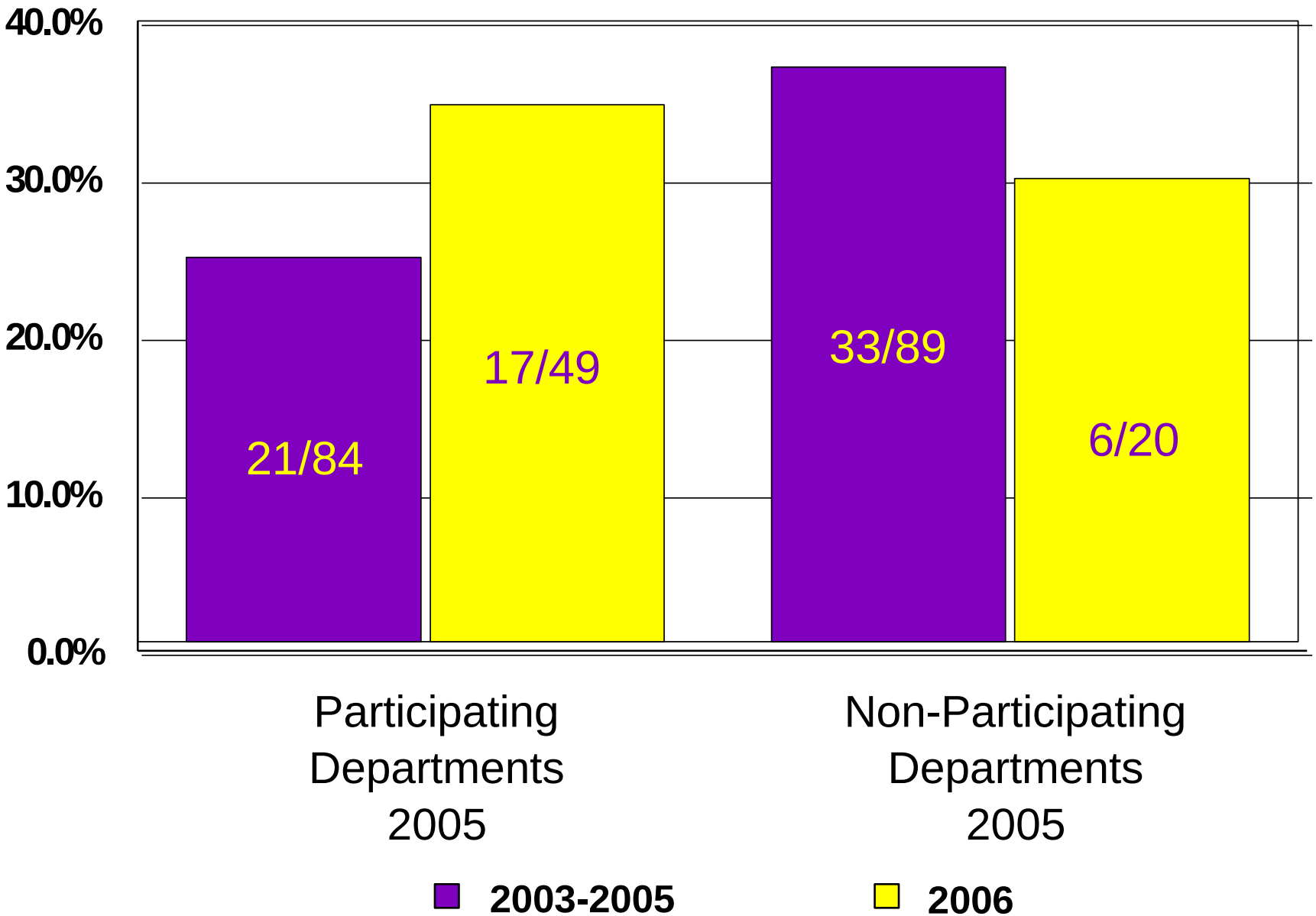
Searching for Excellence & Diversity

- Six 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
  - Closing the deal: hiring your preferred candidate

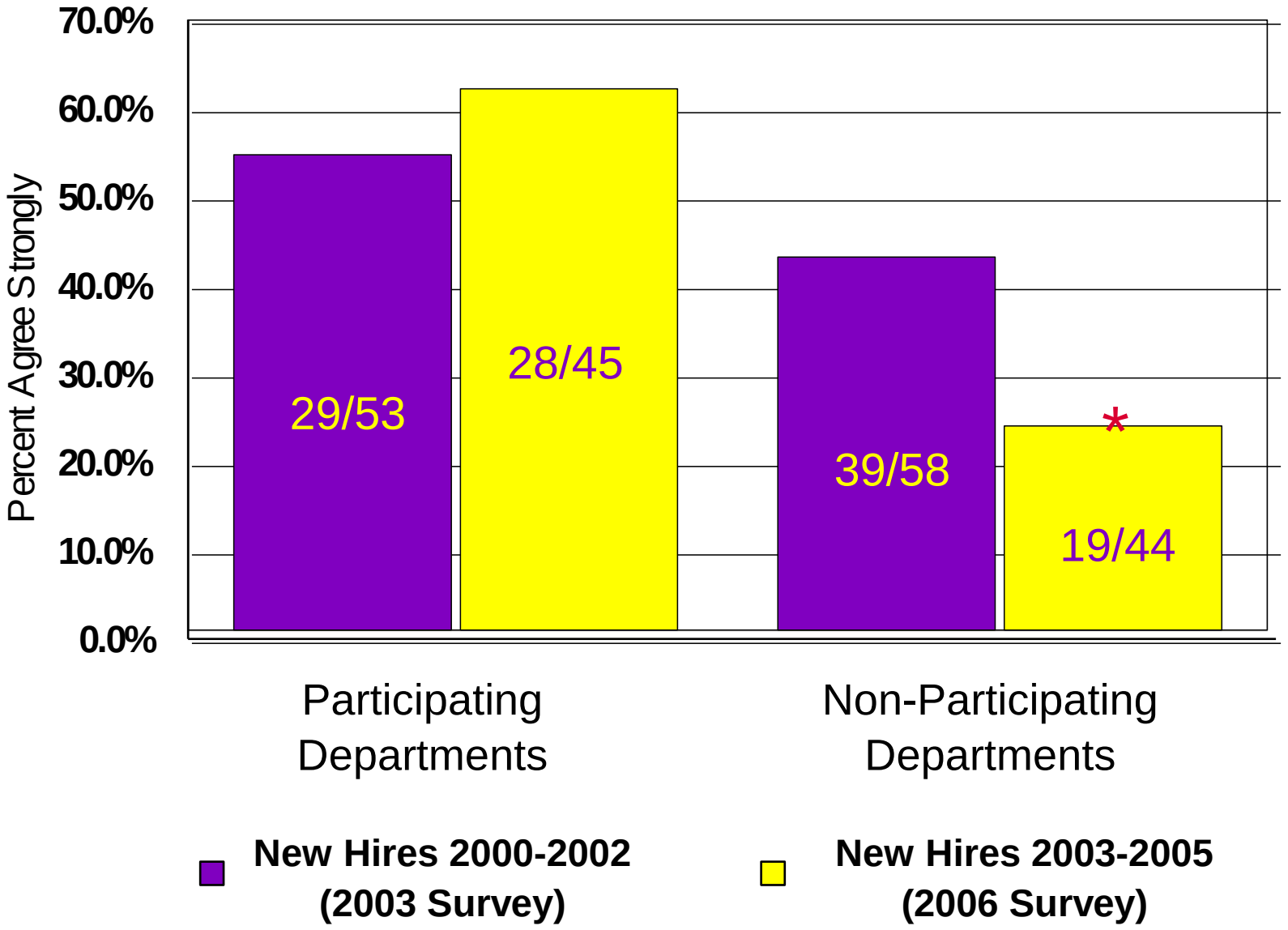
Searching for Excellence & Diversity

- Run approximately 10 workshops per year
  - Some workshops are 2 sessions
- Approximately 90 faculty per year participate
- Multiple formats used
- Materials available to other universities at cost

Percent Female, New Tenure-Track Faculty
Biological & Physical Sciences



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



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

Lessons for Graduate Students

Enhancing Department Climate: A Chair's Role

- Individuals experience climate in their immediate workplace – the department
- Chairs can significantly influence womens' experiences in their departments
- Chairs' perspectives of climate differ from those of other faculty, especially women faculty

Importance of department chair

"Before I got here, when [X] was chair, two other people had babies under his leadership and [it] was fine! 'Oh! Congratulations! Good. Take the semester off. You have a grad student to fill in. Okay, that's no problem.' Blah blah blah. And it was, you know, a handshake and a nod and, 'Of course . . . do what you need to do. Let me know when you can get back on your feet'-type thing. Versus [the new] chair has never had kids, does not think the idea of parental leave is meritorious."

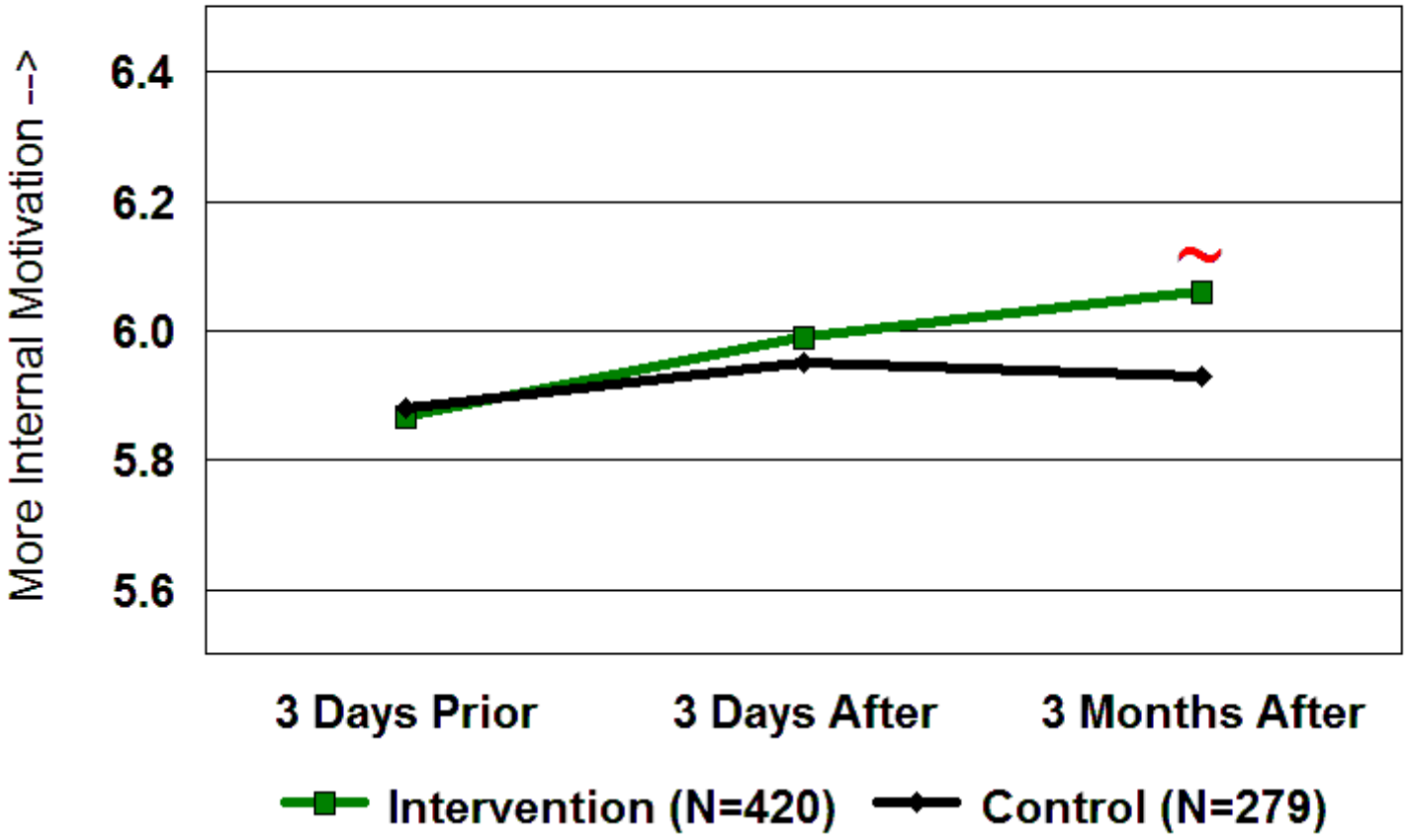
Departments Resurveyed	Mean 1st Survey	N	Mean 2nd Survey	N	Change
Department A	3.21	24	3.71	56	0.5
Department B	3.07	15	3.29	17	0.22
Department C	3.82	60	4.25	53	0.43
Department D	3.79	124	3.63	86	-0.16
Overall Mean Score	**3.47**		**3.72**		**0.25**

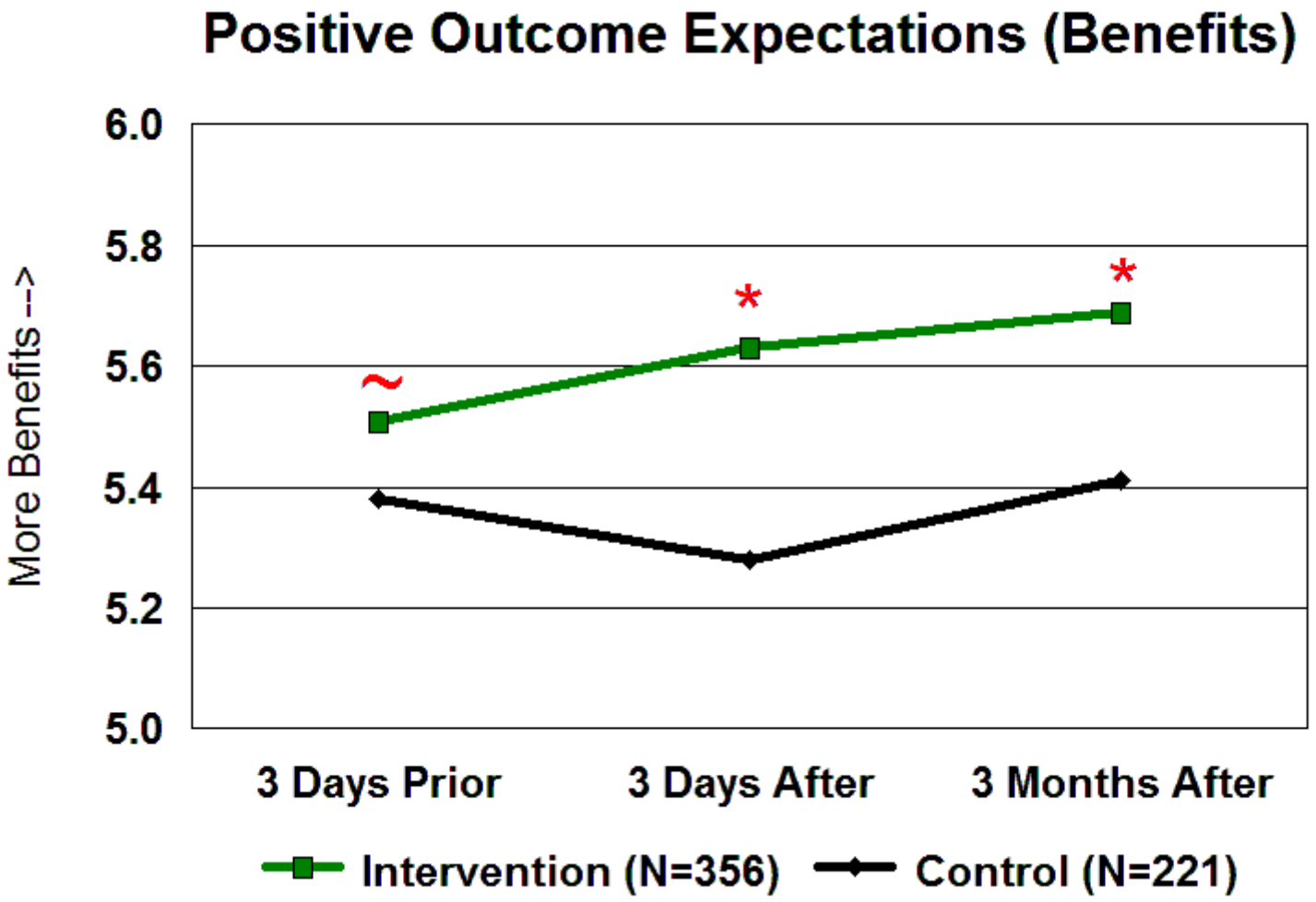
Lessons for Graduate Students

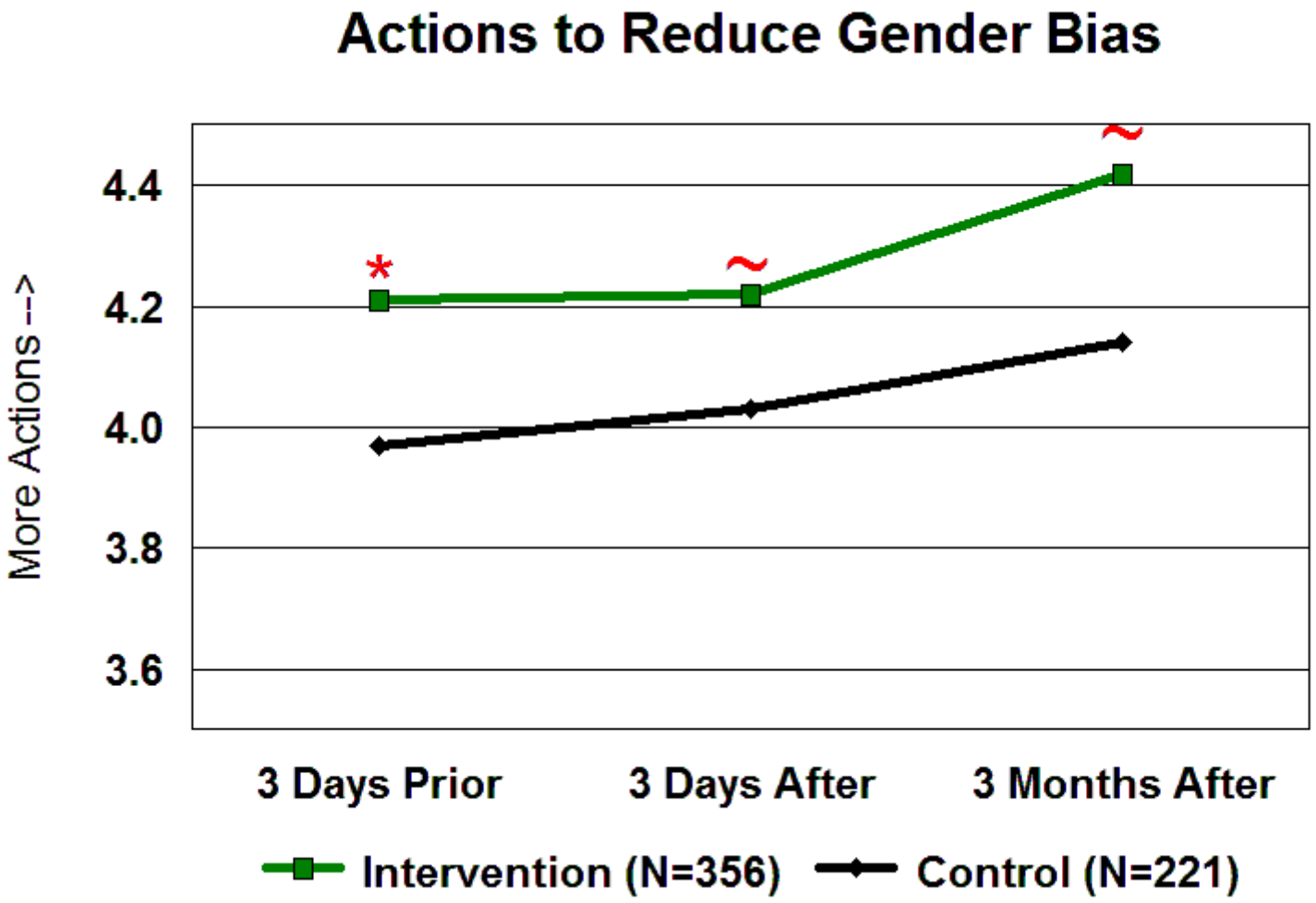
Bias Literacy

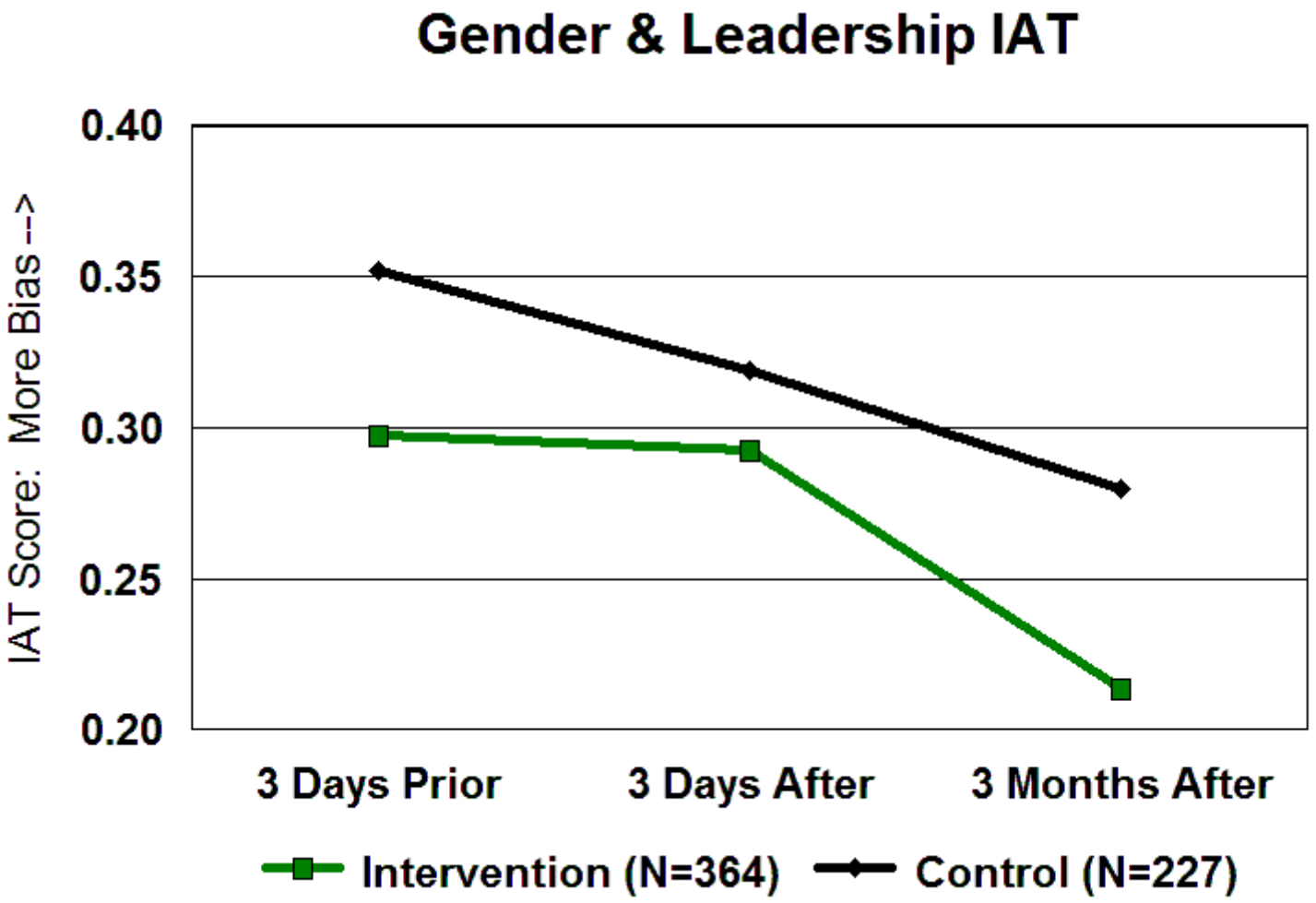
- 2.5 hour workshop on unconscious gender bias
- Delivered to departments
- 45+ workshops delivered so far!
- Provides concrete actions to take to reduce bias

Internal Motivation to Respond Without Prejudice




Positive Outcome Expectations (Benefits)
More Benefits -->
6.0
5.8
5.6
5.4
5.2
5.0
~
*
*
3 Days Prior
3 Days After
3 Months After
Intervention (N=356)
Control (N=221)

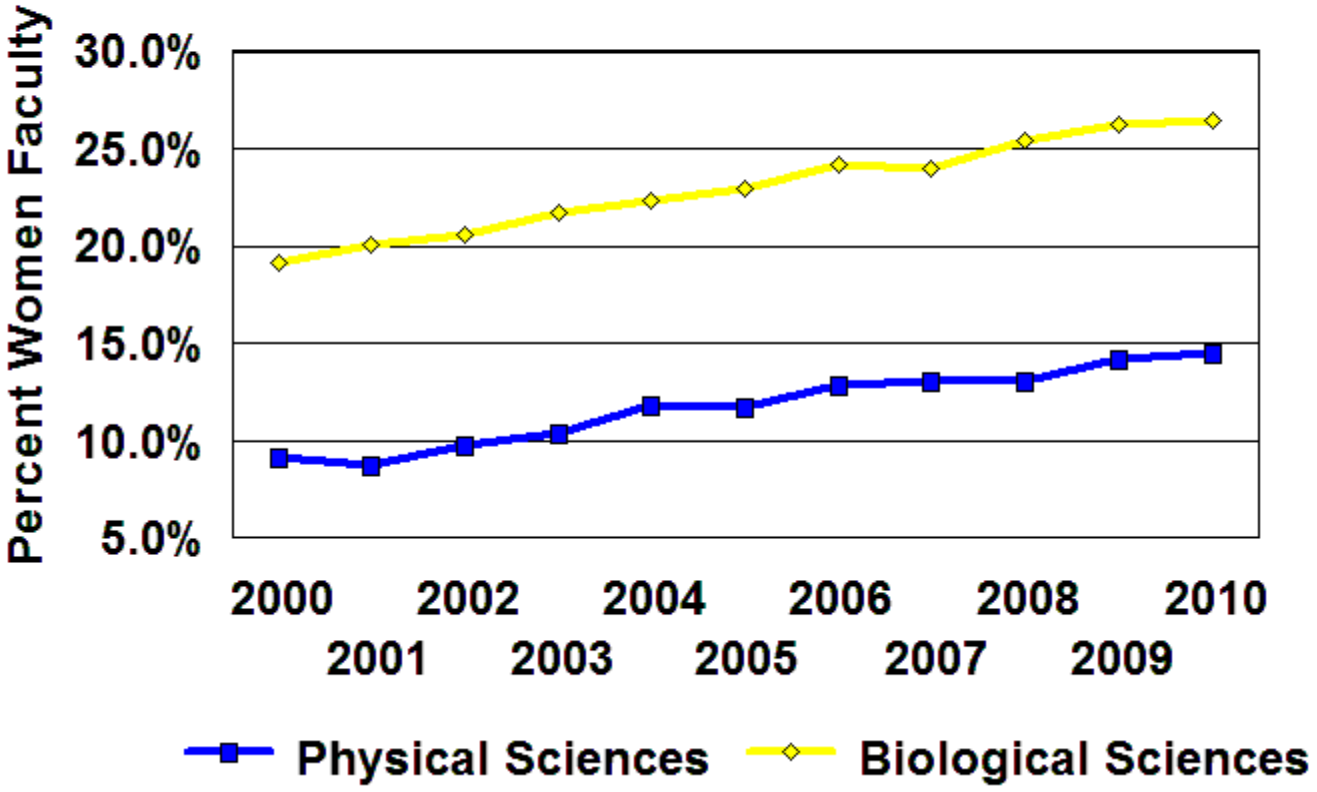

Actions to Reduce Gender Bias
More Actions -->
4.4
4.2
4.0
3.8
3.6
*
≈
≈
3 Days Prior
3 Days After
3 Months After
Intervention (N=356)
Control (N=221)


Gender & Leadership IAT
IAT Score: More Bias -->
0.40
0.35
0.30
0.25
0.20
3 Days Prior
3 Days After
3 Months After
Intervention (N=364)
Control (N=227)

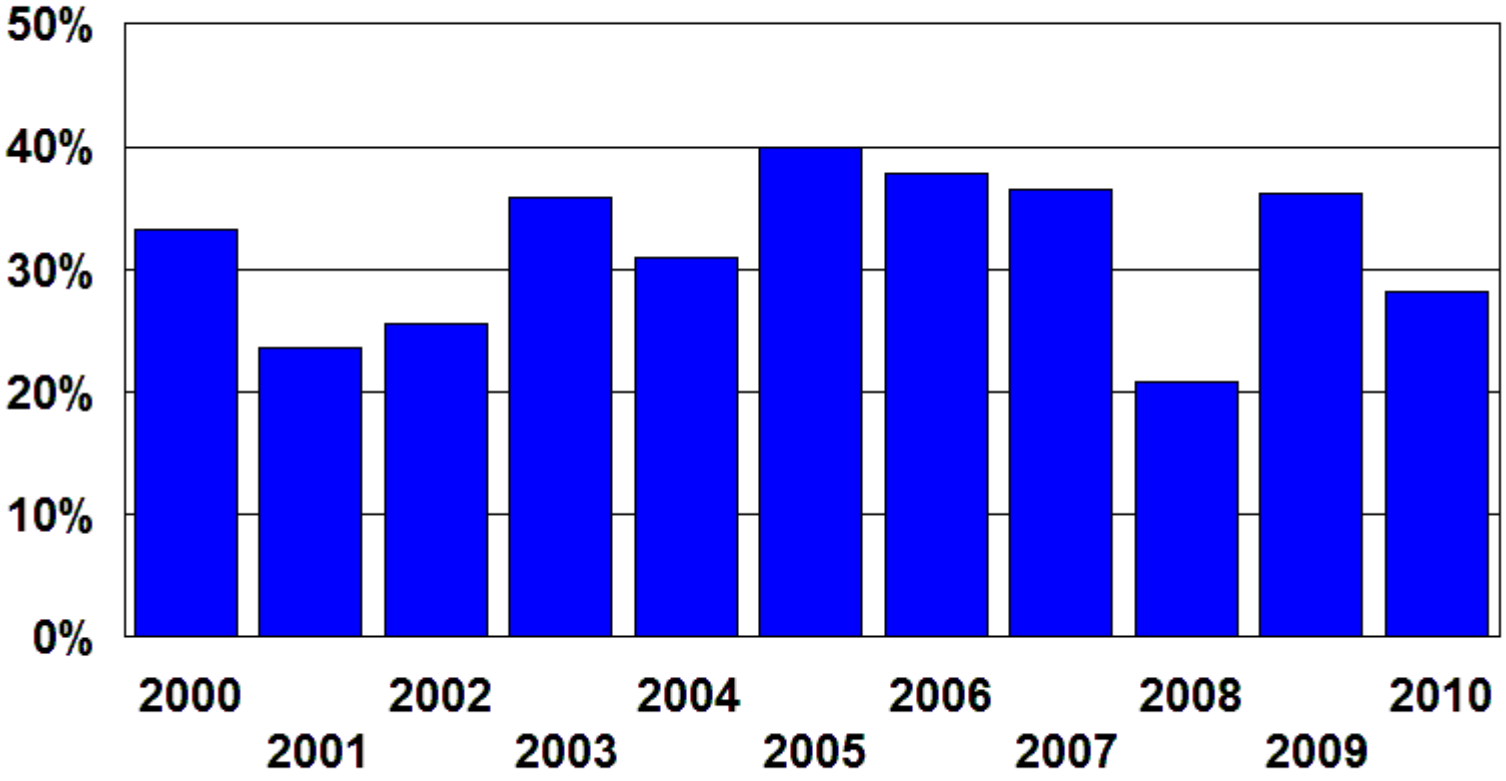
What else?

- Data!
  - NSF indicators
  - Climate surveys
  - Evaluation data
  - Interviews, focus groups

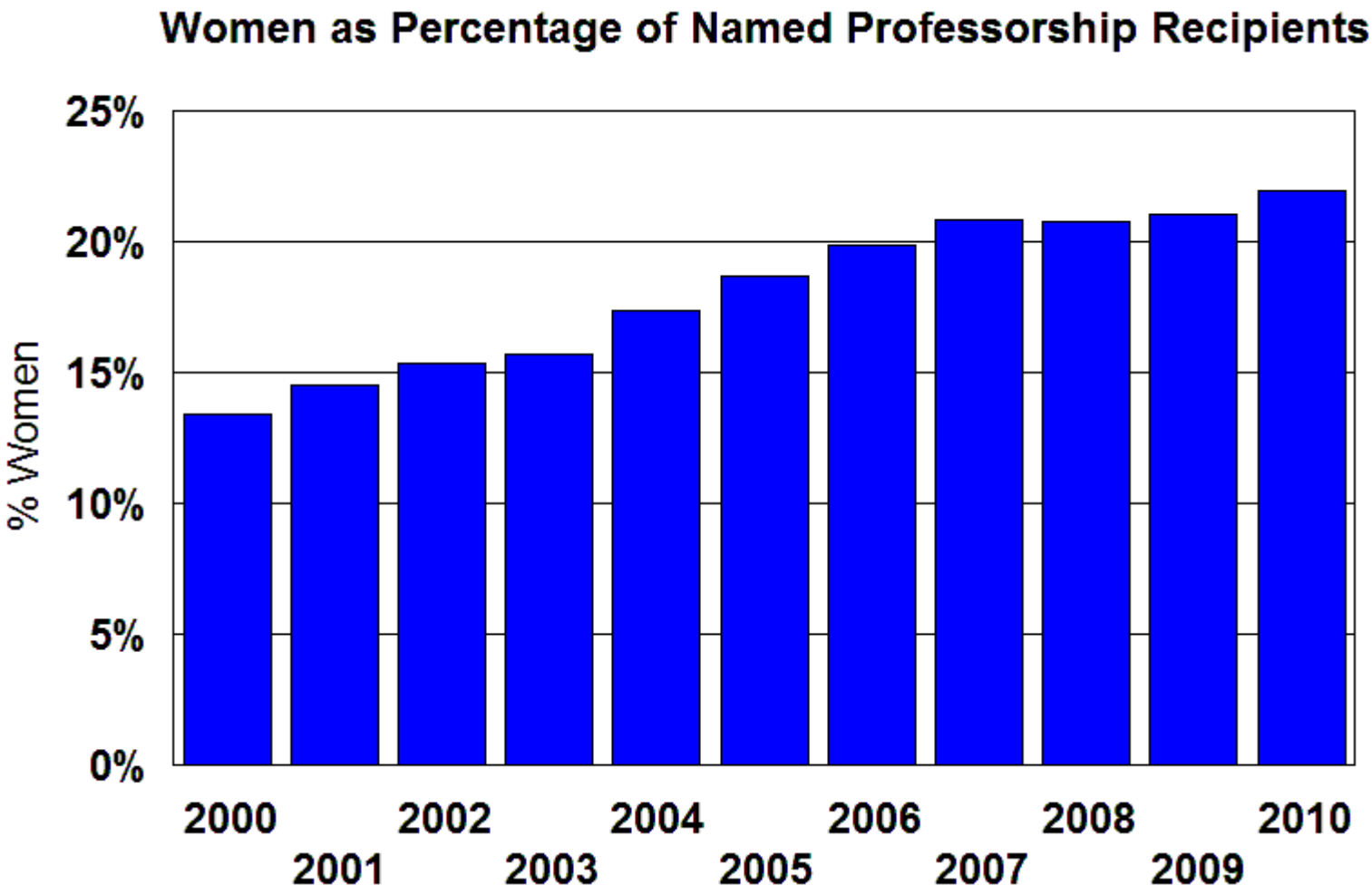
Percent Women Faculty, by Division
University of Wisconsin-Madison



% Female, Major UW-Madison Faculty Awards*

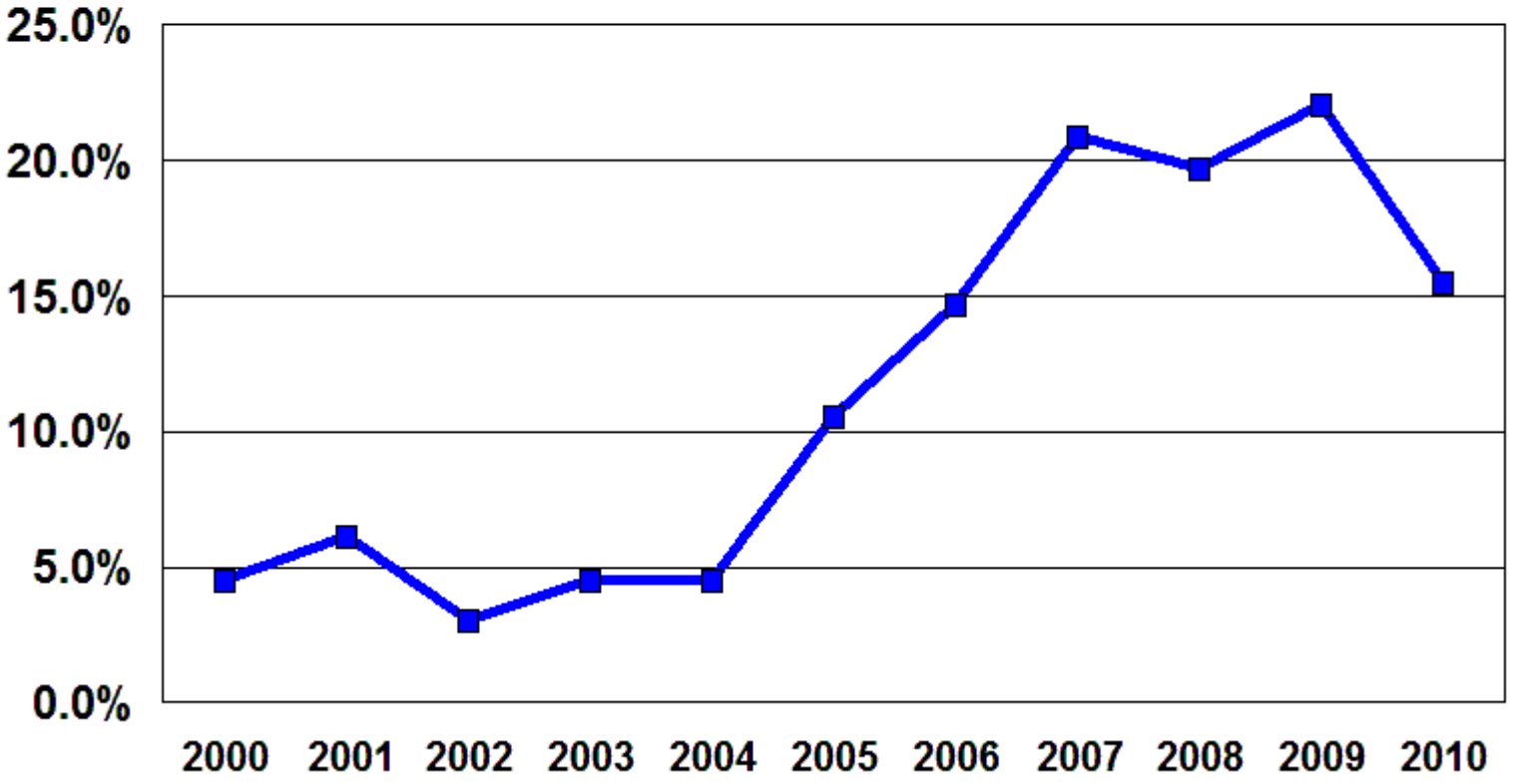


* Vilas Associate, Hilldale, Romnes, Kellett


Women as Percentage of Named Professorship Recipients
% Women
25%
20%
15%
10%
5%
0%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010

% Women Department Chairs

Biological & Physical Sciences



Lessons for Graduate Students

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