Gender Equity in Academic Medicine

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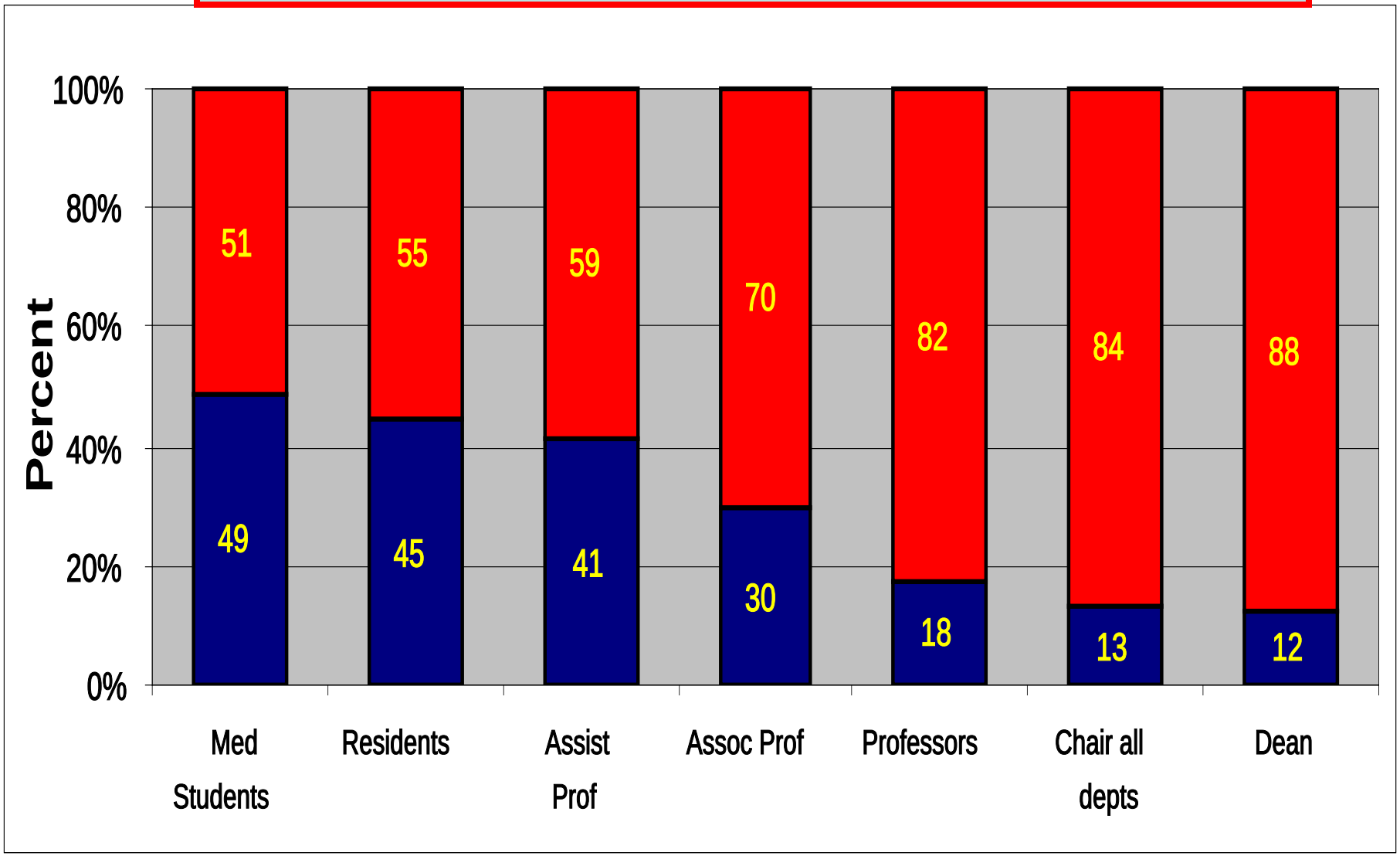
Today's Presentation

- What is gender equity and why it is important for academic medicine?
- How social science research helps us understand the slow pace of achieving gender equity
- Review of some of our research

What is “gender equity”?

Gender equity in an academic institution means that men and women enjoy equal opportunities for education, employment, success, advancement, and satisfaction.

% Men (red) and Women (blue), AAMC, 2009



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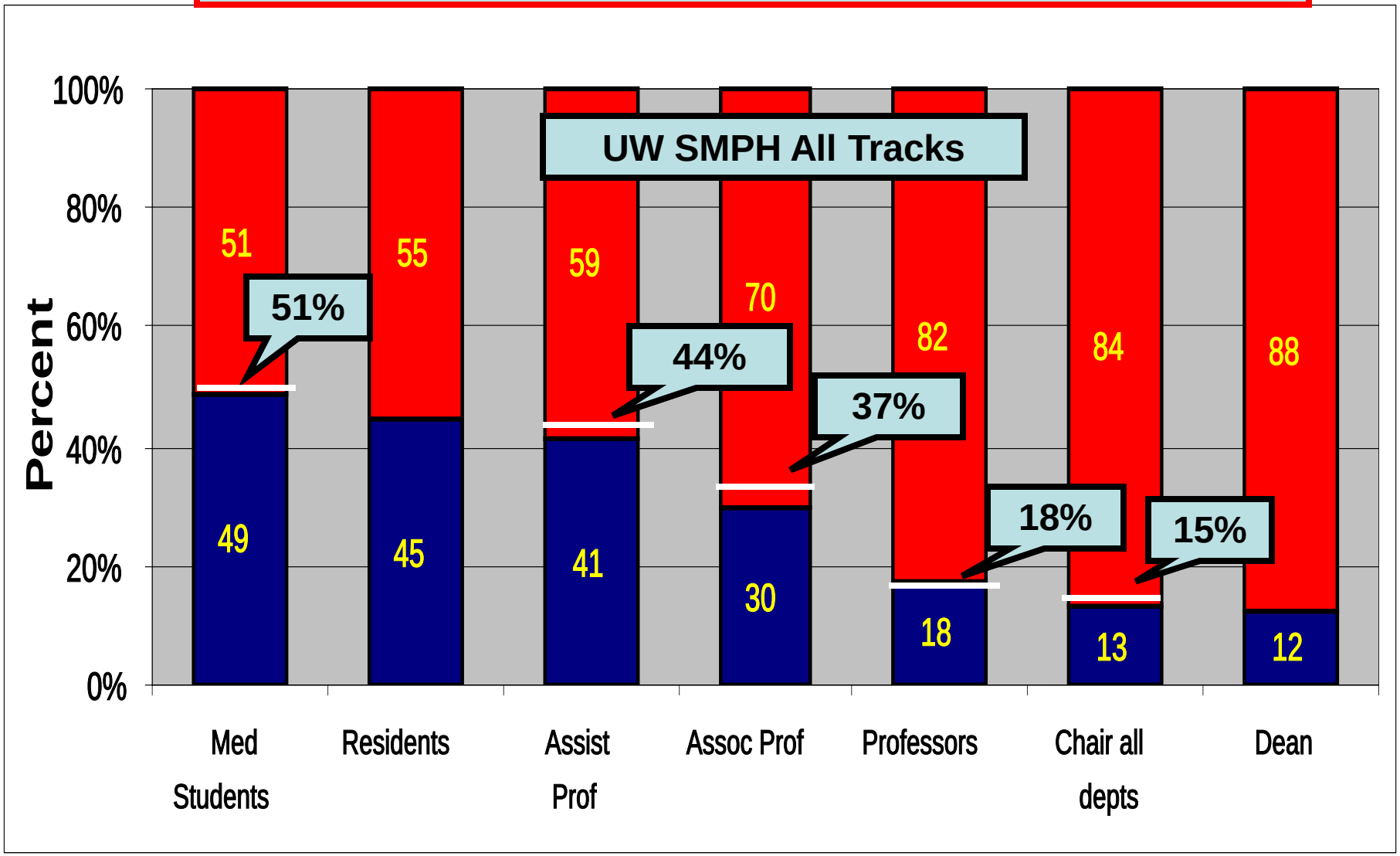

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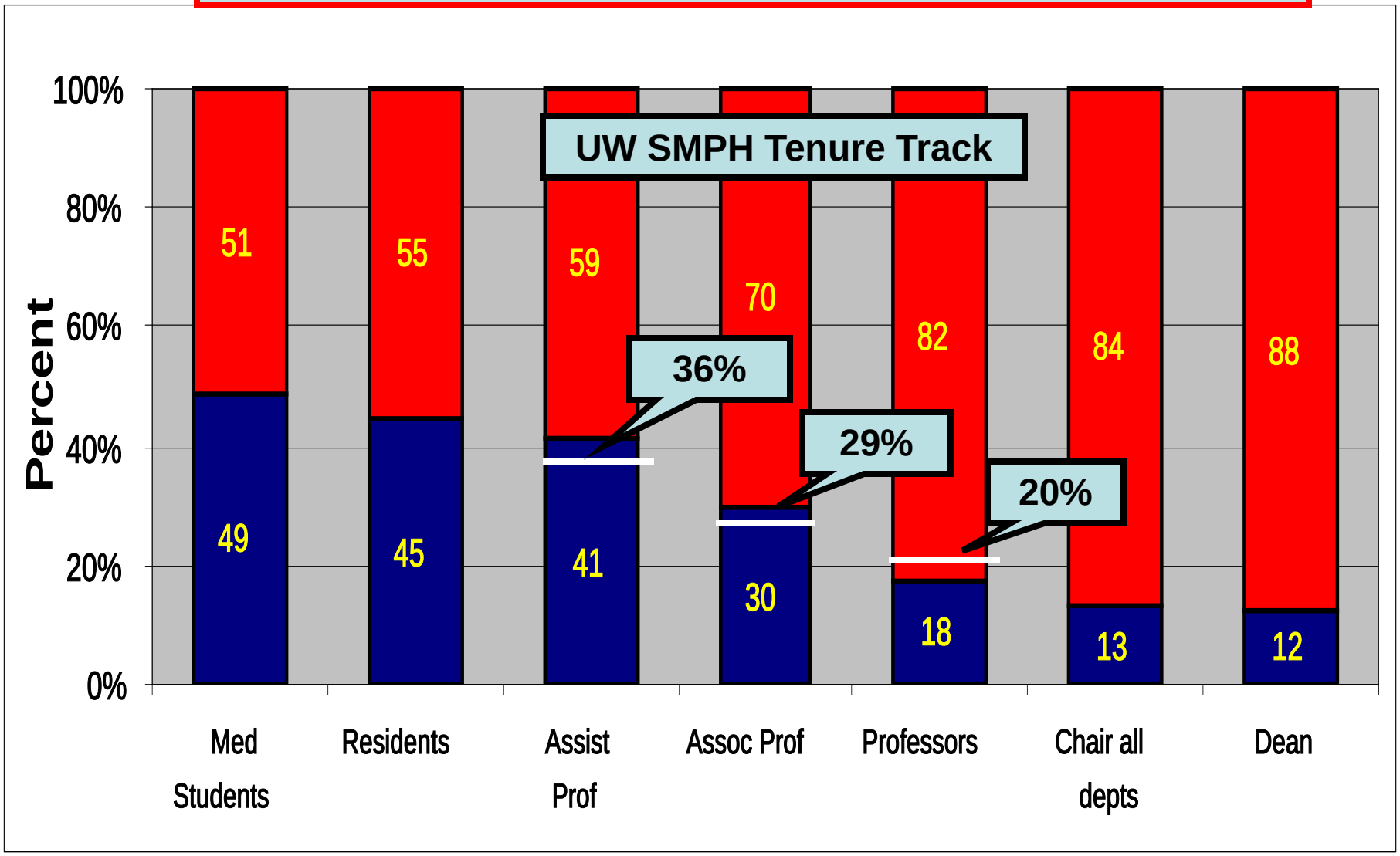


Importance of women leaders

- Link between women leaders and improvements in women's health (Carnes et al. JWH, 2008)
- Role models for future MDs (Carnes, JWH 1997)
- Multiple social identities increases creativity (Amabile and Khaire, HBR Oct, 2008)
- Women leaders more likely to be transformational (Eagly et. al., Psychol Bull 2003)

The easy answers have proven inadequate

“Pipeline” problem	Women over 30% in medical school since 1980; ~50% PhDs in bio/beh sciences since 1995
Women deficit argument	Female vs male MDs: equivalent or more competent despite lower self-rated competence (Rolfe et al. Med Educ, 1995; Lind et al. J Surg Res, 2002; Nasca et al. Med Teach, 2002) Women comparable or more effective leaders (Eagly et al. Psychol Bull 2003; Rosser, Equity & Excel in Educ, 2003: Griffin et al. JWH (in press))
Women are less interested or less committed	Male and female med faculty express comparable commitment and interest in career advancement (Broaddus & Feigel, Chest,1994; Wright et al. Acad Med, 2003; Shollen et al., Acad Med, 2009)

What we find instead

- Women faculty offered fewer opportunities for advancement (Wright et al, 2003)
- Women faculty provided fewer institutional resources and lower pay (Tesch et al. JAMA, 1995; Carr et al. Ann Int Med, 1998; Ash et al. Ann Int Med, 2004)
- Women physicians who submit R01 proposals to NIH are significantly less likely than men to be funded (Ley & Hamilton Science, 2008)
- Women faculty more likely assigned "institutional housekeeping" (Bird et al., NSWA Journal, 2004; Shollen et al., Acad Med, 2009)
- Letters of recommendation for women med school faculty are shorter, have more references to personal life, and contain fewer "outstanding" descriptors (Trix & Psenka, Discourse & Soc, 2003)
- When the gender of the author is known, women are less likely to have their publications accepted (Budden et al, Trends Ecol Evol, 2008)
- "Goldberg" designs indicate that work performed by women rated of lower quality than the work performed by men regardless of gender of rater (Isaac et al, Acad Med 2009)

If no conscious intent to discriminate against women, why?

- Widely shared and deeply pervasive assumptions about men and women exist (e.g. work of Heilman, Eagly, Fiske, others)
- These stereotype-based assumptions are easily and automatically activated and readily applied – even against our own explicit beliefs (e.g. work of Devine, Uhlman, Biernat, others)
- Anything that focuses attention on gender vs individual enables mind to fill in the gaps with stereotypes and promotes gender bias (Carnes et al., 2007; reviewed by Isaac et al., Acad Med, 2009)
- Those who profess the greatest objectivity exhibit the greatest bias (Uhlman & Cohen Psychol Sci, 2005; Uhlmann EL, Cohen GL. Organ Behav Hum Decis Process. 2007)

Prescriptive Gender Norms

Assumptions about the way men and women in the abstract behave

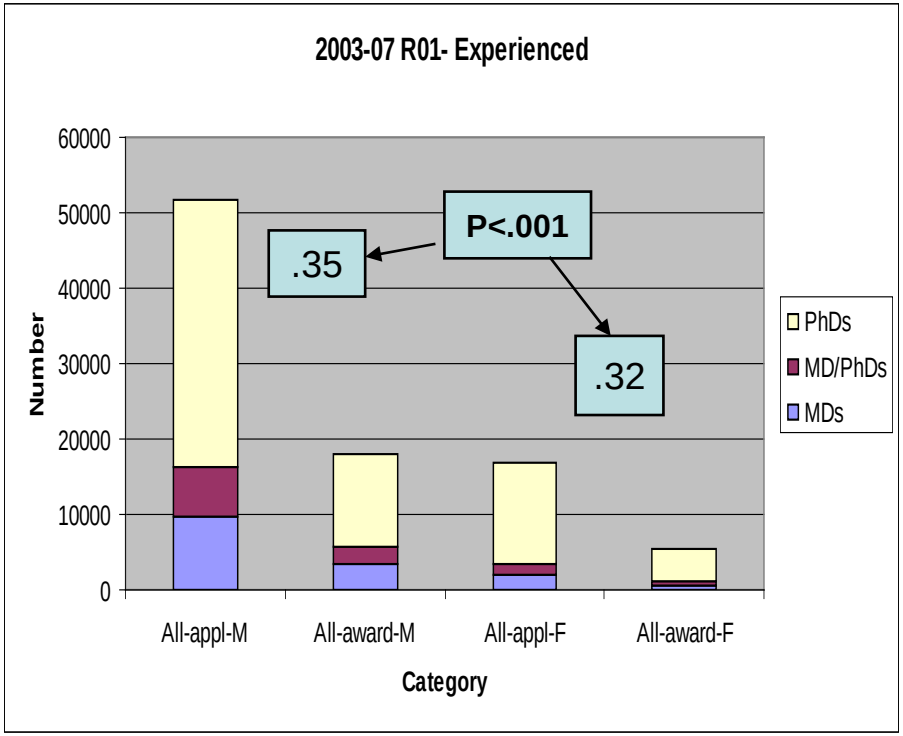
Women = *communal*: Nurturing, gentle, supportive, sympathetic, dependent

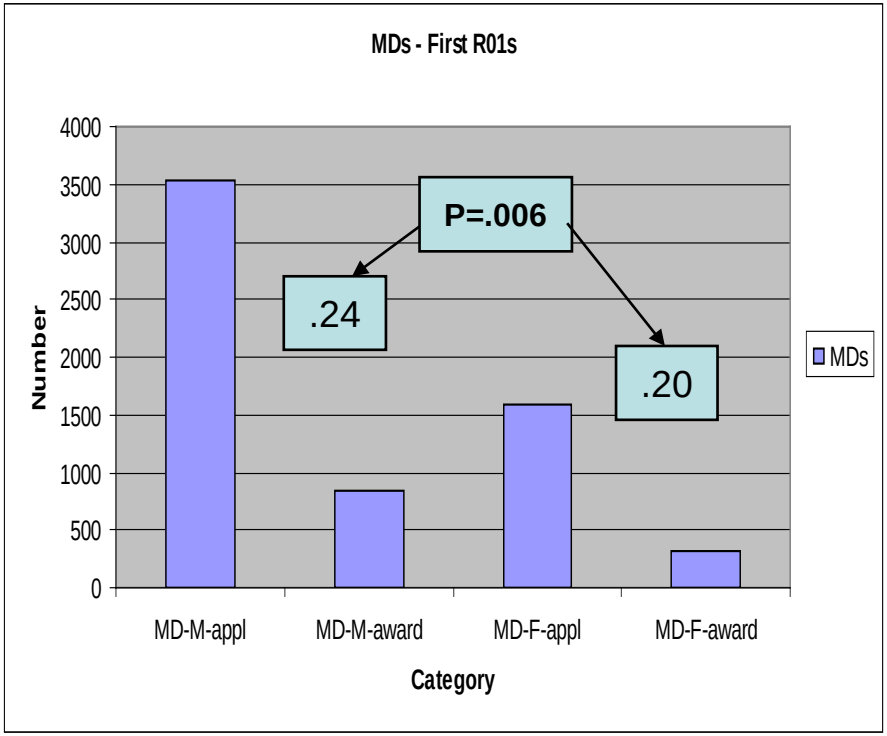
Men = *agentic:* Decisive, competitive, ambitious, independent, willing to take risks

Relevant points:

- Leaders, scientists, professors, chairs, deans, physicians: Decisive, competitive, independent
- Social penalties for violating prescriptive gender assumptions

Gender difference in NIH Award rates, 2003-07





Ley & Hamilton Science, 2008

MALE

NIH R01

- High prestige
- Scientific leadership
- Keen competition for scarce resources with high status

Agentic

- Role congruity for men
- Gender norm violation for agentic women

NIH K23

- Mentored (usually by senior male)
- Lower status than reviewers
- Lower budget
- Less competitive

Communal

FEMALE

- Status differential replicates societal gender roles

Study Section

Our Research

- Provide multiple portals of entry to an academic career
- Define the problem
- Examination of processes at gatekeeping junctures in an academic career that promote or mitigate gender bias in decision-making

Acknowledgements

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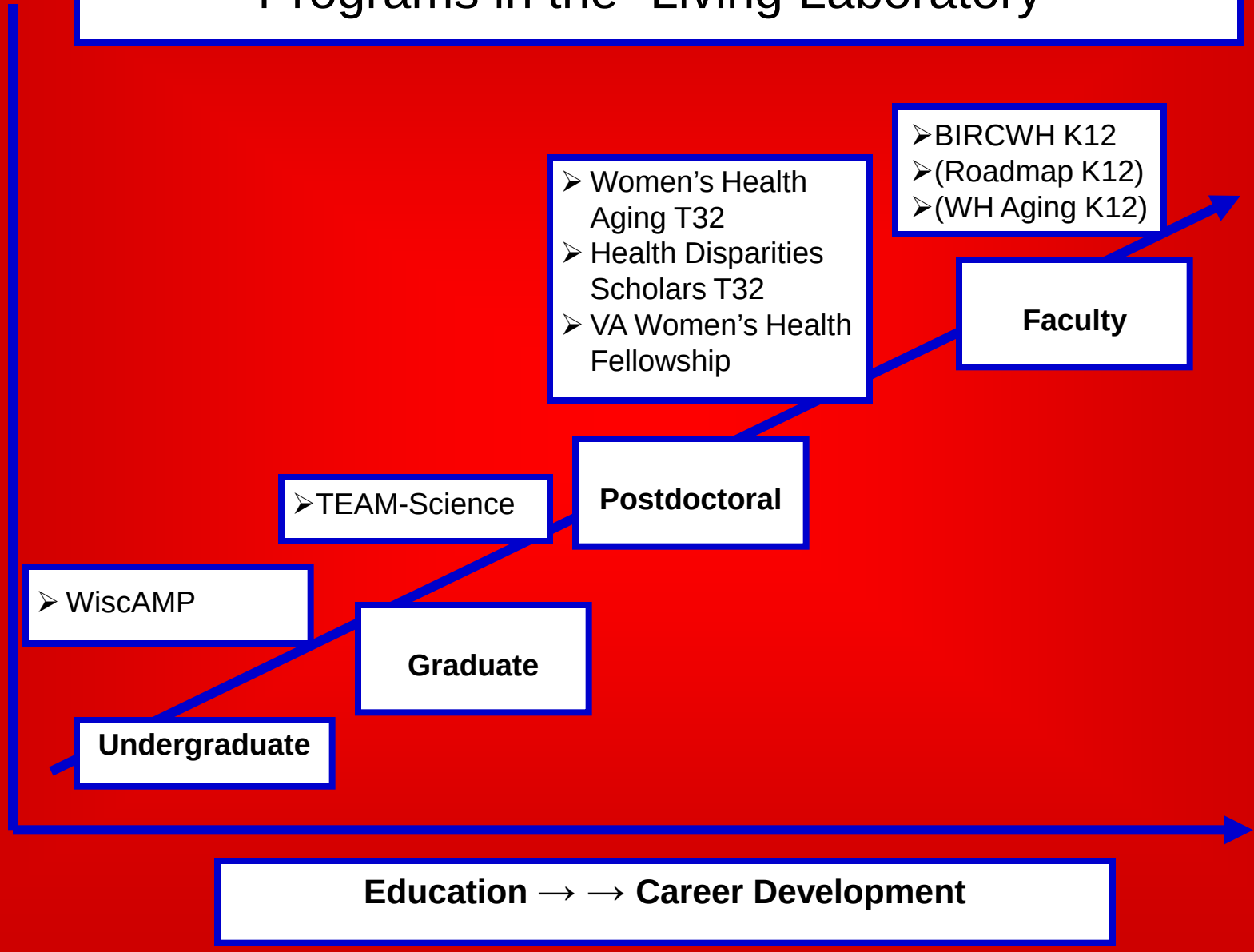
Programs in the “Living Laboratory”



Emerging Lead

Health Disparities Research Scholars - T32

Tiffany Green, PhD

Current research: Economics of child health, race and social stratification; historical demography

Nancy Greer Williams, PhD

Current research: Metabolic syndrome, obesity, and breast cancer disease in African American females

HDRS - T32 (cont.)

Vera Tsenkova, PhD

Current research: Interactive influence of psychosocial and

Building Interdisciplinary Research C

M. Alison Brooks, MD, MPH

Current research:

Number of trainees/scholars supported through CWHR programs (excluding RM K12)

	Past	Current
Postdoc/ scholar	32	13
Grad student	6	11
Women	57/62 = 92%	
URM	25/62 = 40%	

62

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UW Gender Climate Survey:

- 836 Med Sch faculty; 61% response
- Example of climate questions:

  "Are you aware of informal networking which systematically (even if not purposely) excludes faculty members on the basis of gender?"

  Yes: 24% women; 6% men ($p < .001$)

Foster et al. Acad Med, 75: 653-60, 2000

UW Gender Climate Survey

Gender differences in responses ($p<.001$)

- I feel like a welcome member of the academic community
- I feel my advice is sought
- My career is not taken seriously
- I have observed situations in which women are denigrated based on their gender
- Perceived obstacles to academic success – women 2-3X men

Foster et al. Acad Med, 75: 653-60, 2000

Gender norms predict that it would be more difficult for women physicians to give verbal orders: Is that true?

Mixed methods

- Survey:
  - 65/100 UW Medicine Residents responded
  - Vignettes with varying degrees of assertive responses
  - Self-assessment of stress in giving orders
  - Rating of factors that affect effectiveness in directing patient care
- Semi-structured interview:
  - 16 residents

Bartels et al. JWH, 17:1615-21, 2008

Survey results

- Male residents higher cumulative assertiveness score ($p=0.047$) (year of training, $p=0.09$)
- Difference in self-reported stress by year of training ($p=0.008$) but not gender ($p=0.86$)
- 30% female and no male resident ranked gender as the greatest disadvantage in directing patient care ($p<0.01$)

Interviews

Congruent with gendered norms:

- Men more likely “authoritative” “confident” “assertive”
- Women more likely “reflective” “self-conscious”
- “Tone” noted to be important for women

Representative quotes:

- “I’ve seen men able to say things in just terrible tones, but it’s just accepted. Whereas if a woman tried that…” *Senior M*
- “It just didn’t seem right for me to tell people what to do, even if I was asking them in a nice way.” *Junior F*
- “Sometimes you’re afraid that you’ll be thought of as being bossy or too aggressive.” *Junior F*

Conclusion

- Gender impacts the residency experience, especially for women
- Include discussion of research on gender in resident orientation & curriculum

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The Impact of Gender Stereotype Priming

- Exposure to stereotype-congruent information affects subsequent decision-making (multiple studies by Banaji's group, Steele's group including Davies et al. Pers Soc Psychol. 2005)

Semantic gender priming and tenure criteria?

- Top 25 ranked medical schools
- Tenure criteria from websites
- Scanned for “Leader”
- Slopes of regressions for annual % tenured women x 7 years
- “Leader” = OR 6.0 (1.02, 35.37) for slope below median compared to those without

Marchant, Bhattacharya, Carnes. J Woman’s Health, 2007

Semantic gender priming and the NIH Director's Pioneer Award?

- 2004: 0 women out of 9
- 2005: 6 women out of 14 (43%)
- 2006: 4 women out of 13 (31%)
- 2007: 4 women out of 12 (33%)
- 2008: 4 women out of 16 (25%)
- 2009: 7 women out of 18 (39%)

Were women doing better science after 2004 or was there something else?

2004	≥ 2005
Emphasis on risk	
Risk-taking emphasized: • "exceptional minds willing and able to explore ideas …considered risky" • "take…risks" • "aggressive risk-taking" • "high risk/high impact research" • "take intellectual risks" • URL includes "highrisk"	Emphasis on risk removed: • "pioneering approaches" • "potential to produce an unusually high impact" • "ideas that have the potential for high impact" • "highly innovative" • URL no longer includes "risk"
Focus on technological advances	
Technological advances highlighted as desirable: • "support the people and projects that will produce tomorrow's conceptual and technological breakthroughs"	Mention of technological breakthroughs removed; human health added: • "encourage highly innovative biomedical research with great potential to lead to significant advances in human health."

Carnes et al. JWH, 2005; Carnes, Nature, 2006

UW-Madison WISELI:

Searching for Excellence and Diversity – Workshops for faculty search committees

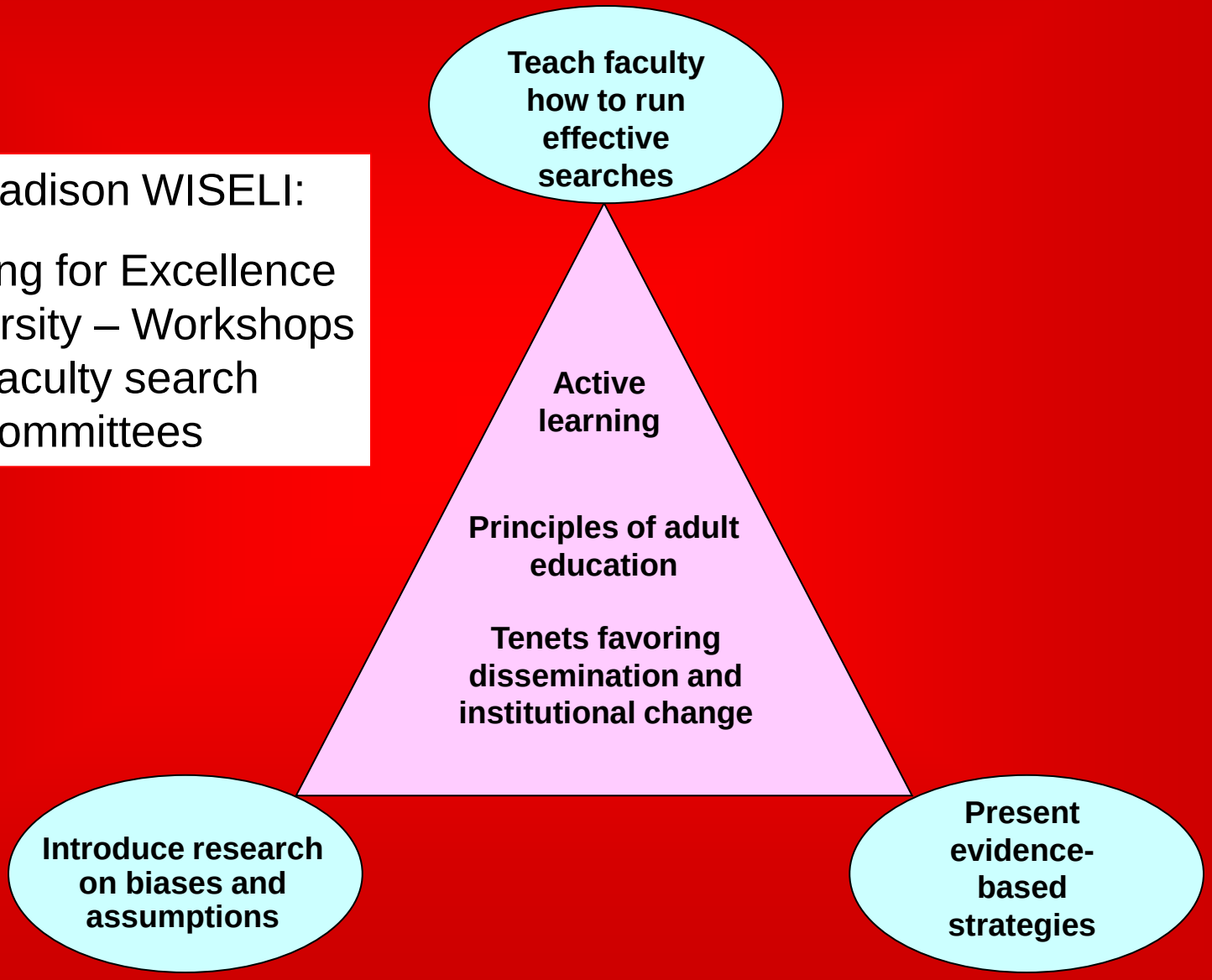
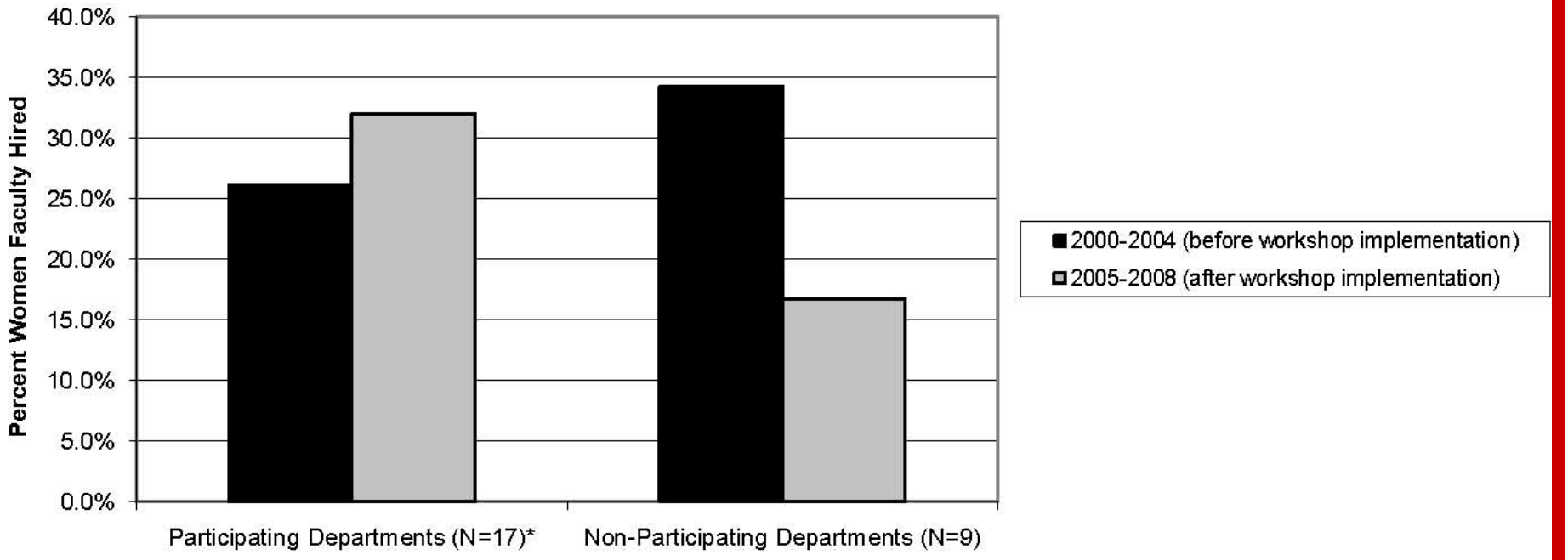


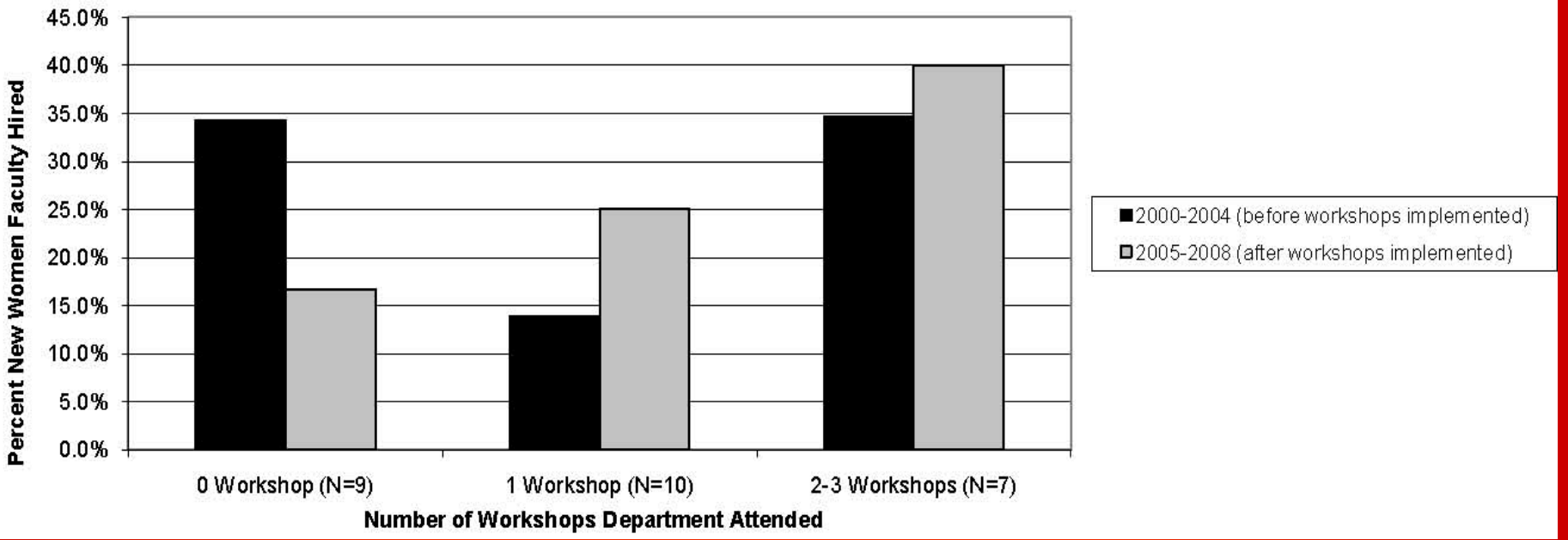
Figure 1. Percentage of New Women Faculty Hired in the UWSMPH by Any Workshop Attendance, 2000 – 2008



* Participating departments sent at least one faculty member to a workshop sometime between 2004-2007. Non-participating departments have sent no faculty to a workshop.

Sheridan et al., Acad Med, in press

Figure 2. Percentage of New Women Faculty Hired in the UWSMPH by Number of Workshops Attended, 2000 - 2008



Systematic Review of Interventions Affecting Gender Bias in Hiring

- 9639 from 9 electronic data bases
- 1920 abstracts screened
- 130 articles reviewed in full
- 27 met criteria:
  - After 1972
  - Randomized, controlled design
  - “Goldberg” paradigm (M and F with identical qualifications rated for employment outcomes)
  - Participants blinded to intent
  - Both genders in applicant pool and raters

Isaac, Lee & Carnes. Acad Med, 2009

What can institutions do to mitigate bias against women in hiring settings?

At least 1 RCT = level 1 evidence

- Infuse environment with statements that research evidence shows equivalent gender competence in relevant roles
- Encourage raters to take adequate time
- Allow applicants to provide individuating evidence of job-relevant competency
- Work for applicant pool to have at least 25% women
- Do not ask about parenthood status
- Use structured vs unstructured interview questions
- Avoid man-suffix job titles (e.g. use chair rather than chairman)
- Use inclusion vs. exclusion strategy for selection from final list
- Implement training workshops for personnel decision-makers

Isaac, Lee, & Carnes. Acad Med, 84:1440-46, 2009

Next Steps

- Approaching gender bias on the individual level as an unconscious habit
- Mobilizing research on facilitating intentional behavioral change
- Qualitative studies of internal medicine residents and faculty; women chairs and their faculty
- Examining words and descriptors in dean’s letter for resident applicants and in grant reviews

Summary & Conclusions

- No magic bullet; issues are complex
- As with any institutional change, achieving gender equity will require multi-level interventions with the goal of changing our cultural norms
- Awareness is a key first step = become “bias literate”
- Level 1 evidence exists for interventions that can reduce the impact of gender bias

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Questions?