

Women Leaders in Academic Health Sciences: Institutional Transformation Required

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What we believed...

- That the lack of women leaders in any field would fix itself when the pipeline was full
- That if women just behaved like men, they would succeed at the same rate
- That the workplace was a meritocracy where women's and men's accomplishments would be viewed and rewarded equally

What we now know...

- That unconscious gender-based assumptions and stereotypes are deeply embedded in the patterns of thinking of both men and women
- That women and work performed by women consistently receive lower evaluations than men and work performed by men (by both men and women evaluators)
- That such biases produce cumulative disadvantages that impede women's progress toward leadership

How do we know this?

- 51% of the population; never a woman President
- 16% of seats in the 109th U.S. Congress (16/100 Senate; 71/435 House)
- 35% women medical students since 1985; only 10% of chairs in AMCs are women (AAMC, 2005-6)
- Women on Editorial Boards of major medical journals: JAMA 6/24 (25%); NEJM 4/16 (25%)
- Heads of NIH Institutes & Centers: 6/27 (22%)
- Women's continued invisibility in clinical research (despite NIH Revitalization Act in 1993)

Women's continued invisibility in clinical research

- [Wooley and Simon, NEJM 343:1942-1950 2000](#) – review on managing depression in medical outpatients

No mention of:

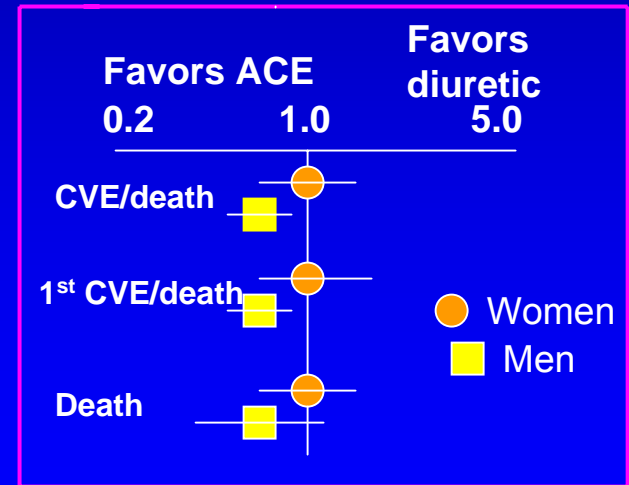
- greater prevalence in women;
- postpartum depression;
- safety of antidepressants during pregnancy or nursing;
- how to counsel women on rx who want to get pregnant;
- childhood sexual abuse, domestic violence, or sex and gender-based harassment in the work place as risk factors

- [Wing et al NEJM 348:583-92 2003](#) – ACE vs diuretic for HT in elderly outpatients

- results in older women ignored;
- results extrapolated to “the elderly”

- [McFalls et al NEJM 351:2795-804 2004](#) – RCT CABG before elective vascular surgery

- 98% men
- results extrapolated to “patients”



Inadequate compliance with NIH guidelines to include women in clinical trials

- NIH Revitalization Act of 1993 – NIH required to include women; other fed agencies followed
- 9 high impact medical journals in 2004
- 46 studies, not sex-specific
 - 70% enrolled \geq 30% women
 - 40 (87%) did not report outcomes by sex or include sex as a covariate in modeling
 - None acknowledged limits of generalizability (including 7 studies with $<$ 20% women)



"Are you just pissing and moaning, or can you verify what you're saying with data?"

Review of some of the evidence

WISELI.engr.wisc.edu

click on Library; extensive
annotated bibliography

UW Gender Climate Survey:

Foster et al. Acad Medicine, 2001

- 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 ($p < .001$)

UW Gender Climate Survey

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

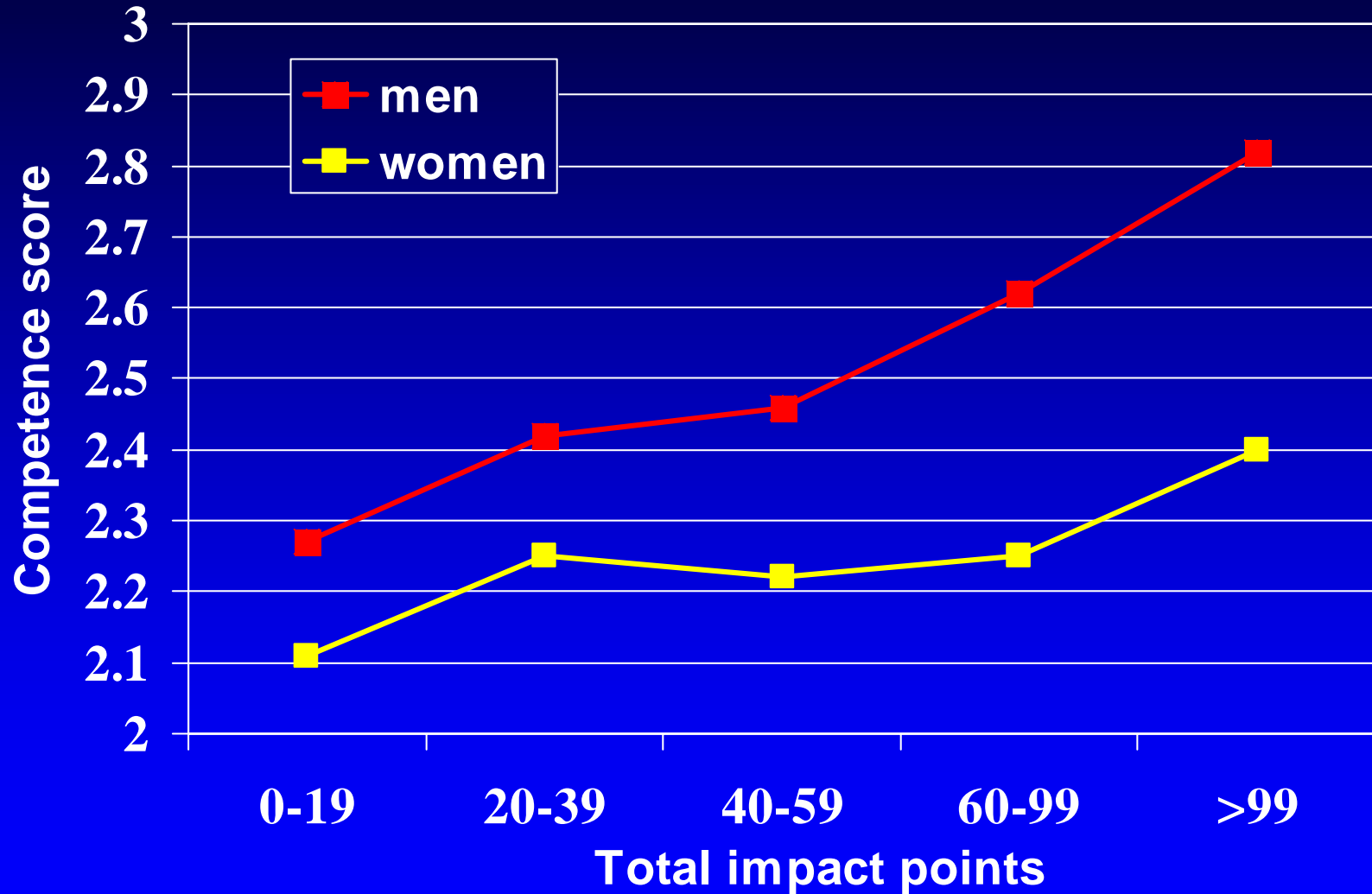
- I feel like a welcome member of the academic community
- I feel my advice is sought
- My career is not taken seriously
- I have observed situations in which women are denigrated based on their gender
- Perceived obstacles to academic success – women 2-3X men

Swedish Postdoc study

Wenneras and Wold, Nature, 1997

- 114 applications for prestigious research postdocs to Swedish MRC (52 women)
- Reviewers' scores vs standardized metric from publication record = impact points
- Women consistently reviewed lower, especially in "competence"
- Women had to be 2.5x as productive as men to get the same score
- To even the score, women needed equivalent of 3 extra papers in a prestigious journal like Science or Nature

Wenneras and Wold, Nature, 1997



Gender and Behavior

DESCRIPTIVE: How men and women actually behave

PRESCRIPTIVE: Subconscious assumptions about the way men and women in the abstract “ought” to behave:

- Women: Nurturing, communal, nice, supportive, helpful, sympathetic
- Men: Decisive, inventive, strong, forceful, independent

RELEVANT POINTS:

- Leaders: Decisive, inventive, strong, independent
- Social penalties for violating prescriptive gender assumptions

Penalties for success: Reactions to women who succeed at male gender-typed tasks

Heilman et al., J Applied Psychol 89:416-27, 2004

- 48 subjects (20 men)
- Job description; Assist VP; products made suggested male (e.g. engine parts, fuel tanks). Male and female rated in two conditions:
 - Performance clear
 - Performance ambiguous

Competence Score:

Competent - incompetent

Productive - unproductive

Effective - ineffective

Achievement-related
Characteristics:

Unambitious - ambitious

Passive - active

Indecisive - decisive

Weak - strong

Gentle - tough

Timid - bold

Unassertive - assertive

Interpersonal Hostility:

Abrasive - not abrasive

Conniving - not conniving

Manipulative - not manipulative

Not trustworthy - trustworthy

Selfish - not selfish

Pushy - accommodating

Likeability:

Likeable - not likeable

How much do you think
you would like to work
with this person?

Very much - not at all

Comparative Judgment:

Who is more likeable?

Who is more competent?

Results

- Performance clear
 - Competence comparable
 - Achievement-related characteristics comparable
 - Women less liked
 - Women more hostile
- Performance ambiguous
 - Likeability and hostility comparable
 - Men more competent
 - Men more achievement-related characteristics

- Study 2 – women only less liked in male gender type jobs
- Study 3 – Likeability and competence independently linked to recommendation for organizational rewards

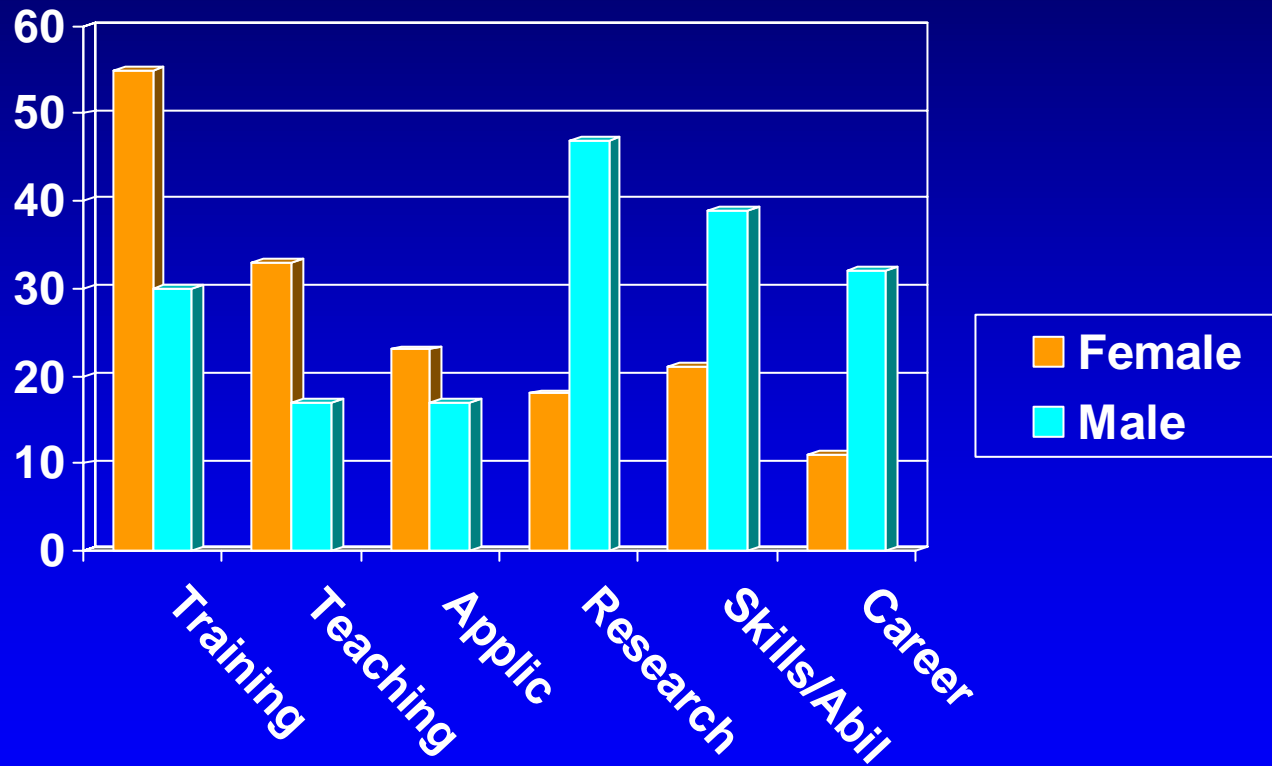
Only women were deemed unlikeable for being competent at their job!

Subtle gatekeeping bias

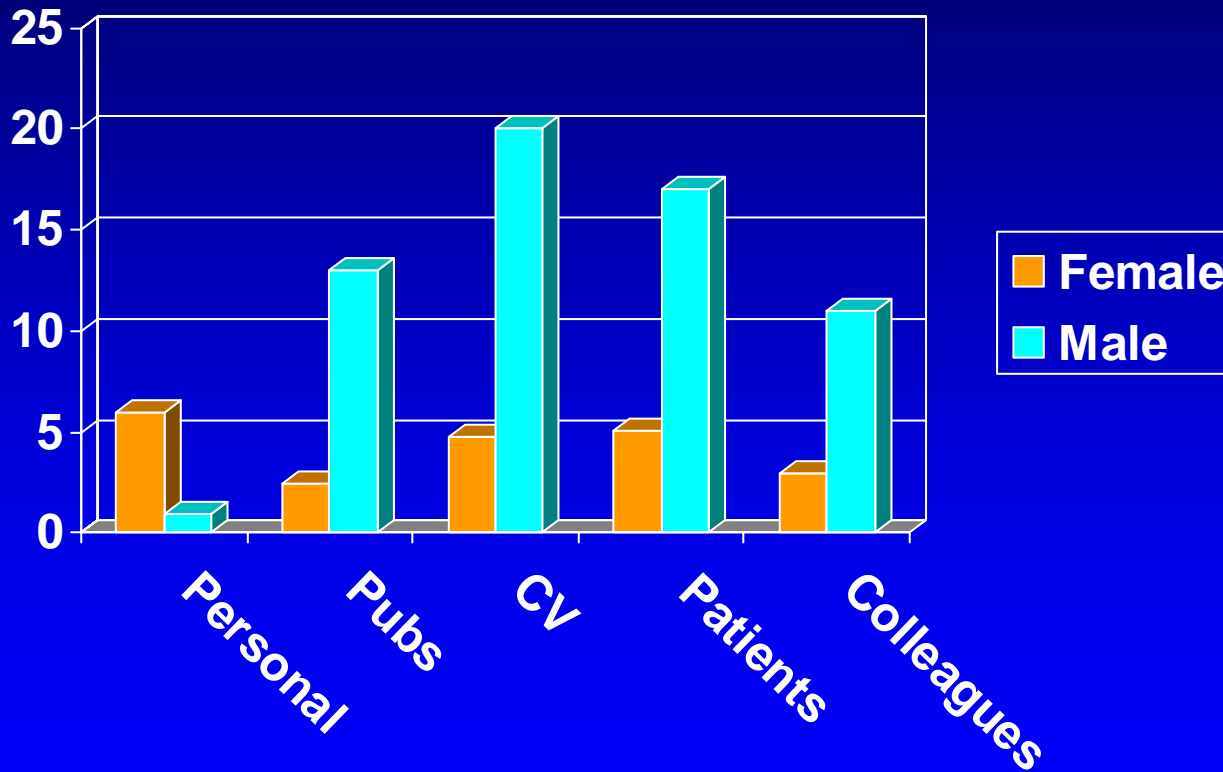
Trix and Psenka, *Discourse & Soc* 14:191 2003

- 312 letters of rec for medical faculty hired at large U.S. medical school
- Letters for women vs men:
 - Shorter
 - 15% vs 6% of *minimal assurance*
 - 10% vs 5% with *gender terms* (e.g. “intelligent young lady”; “insightful woman”)
 - 24% vs 12% *doubt raisers*
 - *Stereotypic adjectives*: “Compassionate”, “related well...” vs “successful”, “accomplished”
 - 34% vs 23% *grindstone adjectives*
 - Fewer *standout adjectives* (“outstanding” “excellent”)

Semantic realms following possessive (e.g. “her training”; “his research”)



Distinctive semantic realms following possessive



Nonverbal responses to leaders

Butler & Geis, J Pers Soc Psychol, 1990

- 168 intro psych students naive; 8 adv students confederates (50% F)
 - Task = rank 9 objects for survival
- Groups of 4; trained, scripted, rehearsed
 - 28 groups (solo leader, non-leader, co-leader)
- Evaluators behind 2-way glass recorded nonverbal affective responses to leaders
- Impressions of people in different roles

Nonverbal responses to leaders

Butler & Geis, J Pers Soc Psychol, 1990

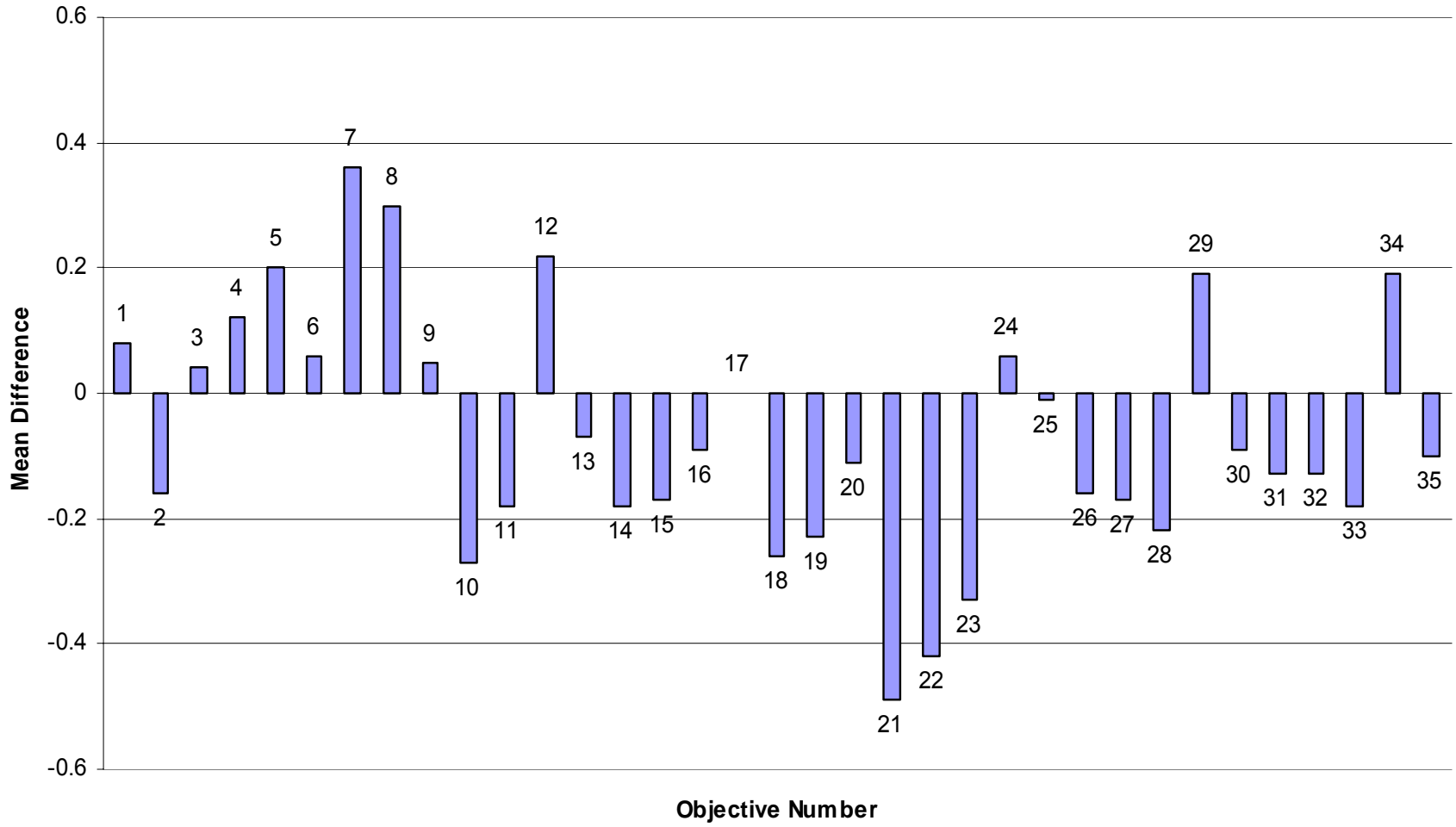
- Women leaders – fewer pleased and more displeased responses for same initiatives
- Competence evals equal
- Assigned gender-stereotyped traits
- Conclusion: deference is still normative for women in mixed-sex task discussions

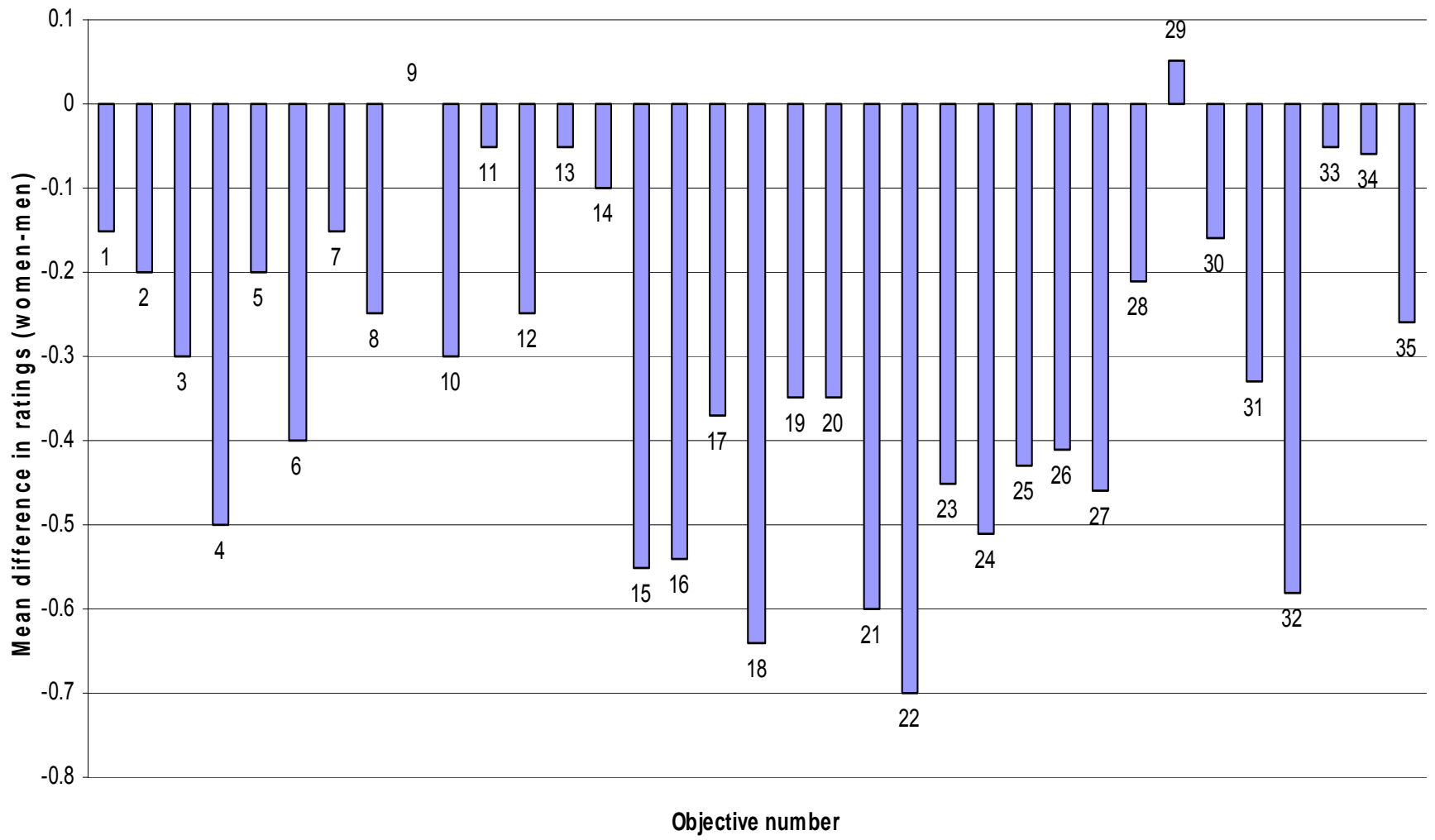
Gender Differences Among Physician-Scientists in Self-Assessed Abilities to Perform Clinical Research

Bakken et al., Acad Med, 2003

- Women (n=28) entering a program to train clinical investigators scored lower than men (n=29) on 22/35 competencies
 - significantly lower on “spend sufficient time developing and advancing one’s own area of scientific research.”
- Following 3 d workshop, gender difference increased; women lower on 34/35, sign. for 7

Pre-training difference in mean ratings of men and women for each objective on the self-assessment (n=57).



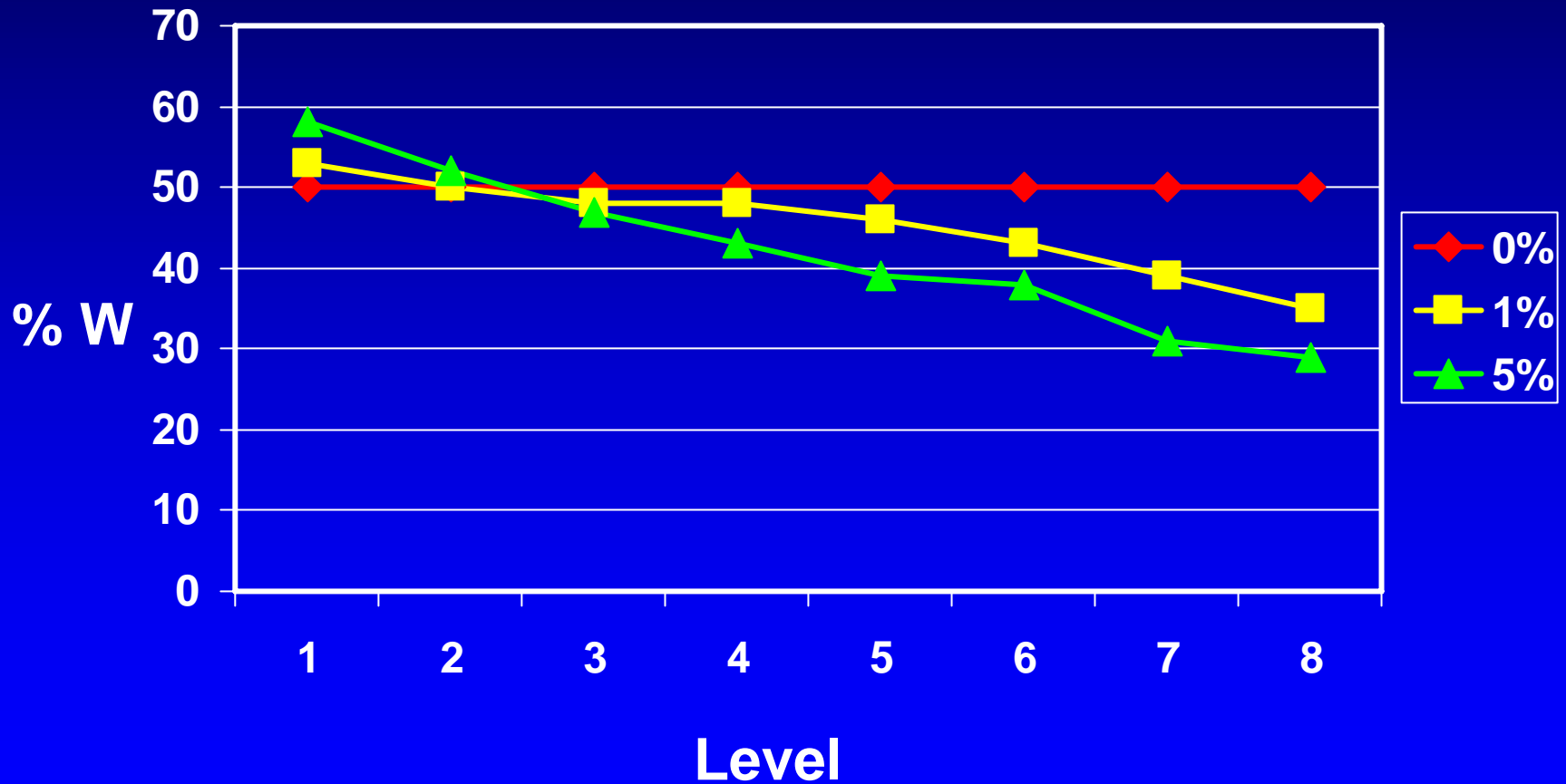


Computer simulation of cumulative advantage for men in an organization

Martell et al. *Am Psychol* 51:157-8 1996

- 8 levels: 500 employees at bottom; 10 at top; 50% women
- Eval scores normally distrib; highest scores promoted
- 15% attrition until organization staffed with all new employees
- “Bias” points given to favor men:
 - 5% = 29% women at top; 58% bottom
 - 1% = 35% women at top; 53% at bottom

How trivial bias works against women within organizations



How can we ensure that all the best talent has equal opportunity to become leaders?

What needs to be done?

- Take the focus off “fixing the women”
- Must be framed as institutional issues, bad science, waste of human capital
- Commitment at the highest levels of leadership is essential
- The first step is to get everyone to at least acknowledge that we all have biases and assumptions

Intentional behavioral change required:

Lessons from smoking cessation

Five stages of change identified:

- Precontemplation:
 - “Smoking is not a problem and I enjoy it!”
- Contemplation:
 - “I am worried that smoking is bad for my health and I want to quit.”
- Planning:
 - “I am going to buy a nicotine patch and quit on my birthday.”
- Action:
 - “I quit!”
- Maintenance:
 - “Whenever I feel like a smoke, I take a walk.”

As applied to diversity in leadership

Precontemplation

Individual statements	Institution behaviors
<p data-bbox="173 558 839 661">“We’ve always done it this way, and it seems to work just fine.”</p> <p data-bbox="173 751 801 911">“We can’t afford to lower our standards just to be politically correct.”</p>	<ul data-bbox="921 558 1763 1079" style="list-style-type: none"><li data-bbox="921 558 1763 732">• No forums for dialogue promoted despite visible absence of diverse leaders<li data-bbox="921 761 1595 872">• No resources committed to solutions<li data-bbox="921 901 1763 1079">• Decision-making committees continue to be established without women or minority members

Contemplation

Individual statements

“If we want to keep the best and brightest in our field, we must figure out a way to keep the women from leaving.”

“Diversity is excellence and we want our institution to be a leader in this area of social change.”

Institution behaviors

- Workshops convened to stimulate discussion
- Task force charges with reviewing local data

Preparation

“I am attending a national workshop on diversity”

“I am reading *Why So Slow?* By Valian and *Diversifying the Faculty* by Turner”

- A strategic plan for diversity is developed
- Institutional resources are committed to the issues (e.g. speakers, conference)
- Workshops developed to train search committees

Action

Individual statements	Institution behaviors
<p>“I hired my first woman postdoctoral fellow.”</p> <p>“I called the program chair and complained that there were no women speakers”</p>	<ul style="list-style-type: none">• Women chair hired• Number of minority faculty reaches targeted goal

Maintenance

<p>“ I am always in the recruiting mode for talented women and minority applicants”</p> <p>“I am proud of the advances our school has made in the hiring and promotion of women.”</p>	<ul style="list-style-type: none">• Institutional data is monitored and made public• Leaders interview women and minority faculty who leave or turn down offers
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Goal: Healthy Environment for All

If we can change the cultural norms for a powerfully addicting substance, we can change the cultural norms for leadership

Challenges

- Institutions exist in the context of broader culture
- As such, gender issues require continued monitoring and active, conscious strategies to maintain gender equity
- Very narrow range of behaviors allowed women in professional settings

Opportunities

- As the first lower status “minority” entering traditionally male professions, women have tremendous opportunity to move ahead as a diversified minority
- Gender equity in our fields can become an accepted area of research
- Re-examine effectiveness of current models of pedagogy for all students

Bottom line

- We need women's intellectual capital
- We need to change cultural norms of leadership – just as we have for smoking!



Sexist discrimination still exists – it is just less blatant than in the past when discrimination could be measured in terms of ‘deeds done,’ such as openly verbalized policies of gender exclusion. Now discrimination takes the form of ‘deeds undone’ – collaborations not offered, acknowledgments unvoiced, introductions not made, opportunities withheld. Because these are omissions rather than commissions, they go unnoticed.

[What's Holding You Back?](#)

Linda Austin, MD; 2000

Having time to focus on applicant evaluation reduces activation of gender schema

Martell RF. J Applied Soc Psychol, 21:1939-60, 1991

- 202 undergrads (77 male, 125 female)
- Subjects randomly assigned to 1 of 8 experimental conditions (2x2x2 factorial):
 - Male or female version of police officer's performance
 - Hi or low attentional demands (concurrent task demand and time pressure)
 - Hi or low memory demand

- 9-point graphic rating scales
 - Competence, job performance, potential for advancement, likely future success
 - Adjective scales of gender-related attributes (e.g. dominant-submissive, strong-weak)
 - Likeable - not-likeable; funny – not funny

- No effect of evaluator sex
- No impact of memory demand on evaluation
- Men and women rated comparably during low attentional demand
- Hi attentional demand:
 - Men rated higher than women
 - Men rated higher than men during low attentional demand (women same)

Conclusion: when multi-tasking and pressed for time, evaluation defaults to prescriptive gender characteristics

Mental imagery can moderate implicit gender stereotypes

Blair et al. J Pers and Soc Psychol 81:828, 2001

- Conducted 5 experiments on undergrads
- Measured implicit stereotypes 3 ways, before and after intervention
- Counterstereotype imagery (“imagine a strong woman”), stereotype imagery (“imagine a storybook princess or Victorian woman”), neutral (imagine a house)
- Significant reduction in measures associated with unconscious gender assumptions following counterstereotype imagery

Images of admired and disliked individuals combat automatic attitudes

Dasgupta & Greenwald J Pers & Soc Psych 81:800, 2001

- Pictures of 40 well known individuals; 10 each in 4 categories or flowers:
 - Admired black (e.g. Denzel Washington)
 - Admired white (e.g. Tom Hanks)
 - Disliked black (e.g. Mike Tyson)
 - Disliked white (e.g. Jeffrey Dahmer)
- Implicit Association test: white preference effect sign smaller after positive black exemplars (immediately and at 24 h)
- Repeated with young and old - same

“To be sure, women need to better understand the mechanisms of hiring, funding, and promotion; that is, how to play the game. But the game itself has to be purged of cloning, patronage, and outright discrimination if transparency in hiring and promotion is to become the rule.”

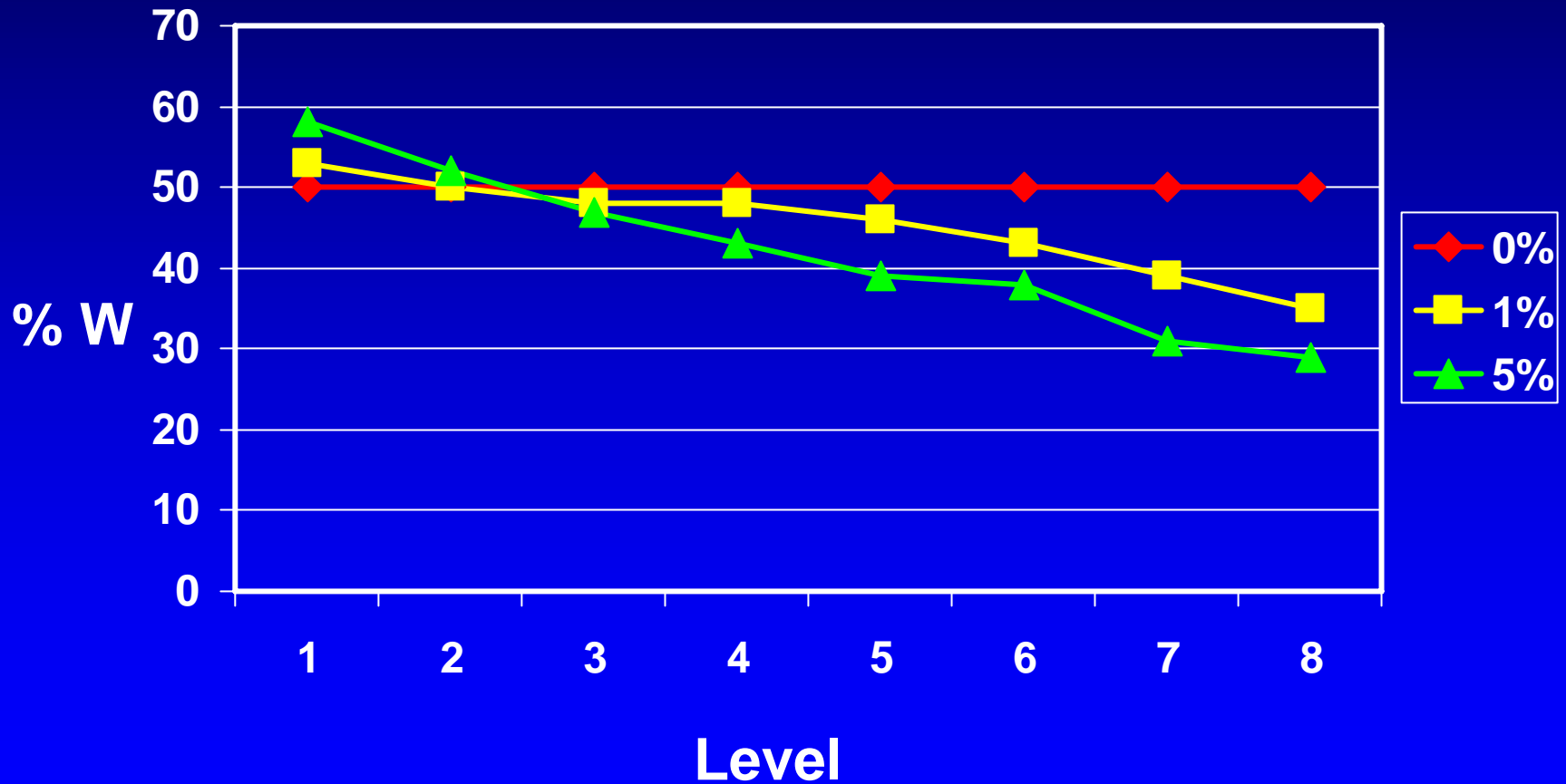
Tobias S, M Urry, A Venkatesan. (2002 May 17).
Physics: For women, the Last Frontier. Science. Vol
296 www.sciencemag.org

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Recommendations

- Acknowledge that we all have biases and assumptions
- Examine language at gatekeeping junctures for evidence of semantic priming and linguistic expectancy bias
- Describe desired behaviors in specific, concrete terms to avoid transmitting stereotypes
- Continue to raise awareness of the fact that:
 - “fixing the women” is not enough to achieve gender equity
 - it is not good science to exclude women or to fail to note the limits of generalizability and it is potentially harmful to women’s health