Obstacles in Achieving Gender Diversity in Academic Medicine

GENDER DIFFERENCES IN THE ACADEMIC WORKFORCE: AND STRATEGIES FOR IMPROVING GENDERED DECISIONS AND EVALUATIONS
Learning Objectives

① Understand the current national landscape related to gender diversity in academic medicine.

② Discuss the research on the importance of diversity for excellence for each component of the tripartite mission of academic medical centers.

③ Provide specific strategies to overcome unconscious bias and create inclusive environments within academic medicine institutions.
Agenda

- Challenges to Gender Diversity in Academic Medicine
- Research on Gender Discrepancies in Academia
- The Importance of Diversity for Excellence
- Strategies to Overcome Obstacles to Gender Diversity
CHALLENGES TO GENDER DIVERSITY IN ACADEMIC MEDICINE
Academic Medicine Gender Distribution
141 Medical Schools

Male | Female
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Medical Students | 53% | 47%
Assistant Professors | 56% | 44%
Associate Professors | 66% | 34%
Professors | 79% | 21%
Department Chairs | 85% | 15%

Challenges

- Unsupportive work environments, institutional barriers, active discrimination, personal choice, unconscious gender biases\(^1\)

- At current rates, gender parity at the full professor level will not be achieved for at least 40 years\(^2\)

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2 Valantine, Sandborg, 2013.
Gender Discrepancies By Department (Bottom 3)

**Basic Science Departments**

- **Physiology**
  - Men: 73%
  - Women: 27%

- **Biochemistry**
  - Men: 72%
  - Women: 28%

- **Pharmacology**
  - Men: 71%
  - Women: 29%

**Clinical Departments**

- **Orthopaedic Surgery**
  - Men: 84%
  - Women: 16%

- **Surgery**
  - Men: 78%
  - Women: 22%

- **Radiology**
  - Men: 72%
  - Women: 28%

Women’s progress in academic medicine has increased over the past five years, but so have their departures from the field.

Women in Leadership

For the most part, the representation of women in leadership ranks has slowly increased, yet remains low.

Women Chairs By Department, 2014

Dentistry: 0%
Orthopaedics: 0%
Surgery: 1%
Otolaryngology: 3%
Ophthalmology: 8%
Physiology: 9%
Emergency: 10%
Neurology: 11%
Internal Medicine: 12%
Psychiatry: 13%
Anesthesiology: 13%
Biochemistry: 15%

Radiology: 16%
Phys Med &...: 16%
Pathology: 16%
Veterinary...: 17%
Pharmacology: 17%
Microbiology: 18%
Dermatology: 19%
Family Practice: 19%
Pediatrics: 20%
Anatomy: 21%
Ob/Gyn: 22%
Public Health: 27%

Case Study: Pediatrics

What Women Are Up Against: IAT Results in the General Population: Gender-Science

**Gender-Science IAT**

- **Strong automatic association of Male with Science and Female with Liberal Arts**: 26%
- **Moderate automatic association of Male with Science and Female with Liberal Arts**: 28%
- **Slight automatic association of Male with Science and Female with Liberal Arts**: 18%
- **Little to no automatic preference between gender and academic domains**: 18%
- **Slight automatic association of Male with Liberal Arts and Female with Science**: 6%
- **Moderate automatic association of Male with Liberal Arts and Female with Science**: 3%
- **Strong automatic association of Male with Liberal Arts and Female with Science**: 1%

*Project Implicit: implicit.harvard.edu*
What Women Are Up Against: IAT Results in the General Population: Gender-Career

Gender-Career IAT

- Strong automatic association of Male with Career and Female with Family: 24%
- Moderate automatic association of Male with Career and Female with Family: 32%
- Slight automatic association of Male with Career and Female with Family: 20%
- Little to no automatic preference between gender and Career or Family: 17%
- Slight automatic association of Male with Career and Female with Family: 4%
- Moderate automatic association of Male with Family and Female with Career: 2%
- Strong automatic association of Male with Career and Female with Career: 0.3%

Project Implicit: implicit.harvard.edu
RESEARCH ON GENDER DISCREPANCIES IN ACADEMIA
Salary Differences

Early-Career Faculty
A study of recent K08 and K23 award recipients revealed\(^1\):

*Mean Salary:*
- Women (N=419): $141,325
- Men (N=593): $172,164

*In final models controlling for specialty, rank, leadership, publications, research time:*

Being of male gender led to a +$10,921 salary bump.

Mid-Career Faculty
A study of past K08 and K23 award recipients revealed\(^2\):

*Mean Salary:*
- Women (N=247): $167,669
- Men (N=553): $200,433

*In final models controlling for specialty, rank, leadership, publications, research time:*

Being of male gender led to a +$13,399 salary bump.

Startup Packages

• In a study of application data from two New England biomedical research programs administered by the Medical Foundation Division of Health Resources in Action:

  - Women (N=92) Median Startup Package $350,000
  - Men (N=127) Median Startup Package $889,000

  - 40% of men reported support >$1M
  - 12% of women reported support >$1M

P<.001

Systemic Challenges

• Academic medicine environments can perpetuate **Stereotype Threat**: *the anxiety faced when confronted with situations in which one may be evaluated using a negative stereotype*
  
  ➢ In a study of 174 junior faculty at Stanford, women reported greater *rejection sensitivity* \( (p=0.001) \); lower *perceptions of relative potential* \( (p=0.048) \), lower *sense of belonging* \( (p=0.049) \), and lower *belief in career advancement* \( (p=0.021) \) than men\(^1\)

• A lack of women at the top → lack of mentors and role models\(^2\)

• Societal gender roles also play a role:
  
  ➢ New mothers with partners who work full-time are more likely to reduce working hours\(^2,3\)
  
  ➢ Women spend more time on household chores, but are less likely to have children than men\(^2,4\)

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\(^1\) Fassiotto et al. (2015). *J Women’s Health.*  
\(^2\) Siller et al. (2014). *Paths to Career and Success for Women in Science.*  
The Role of Gender in Clinical Care

- Physicians may under-diagnose certain illnesses among women $^{1,2}$
- Visits are longer in gender-concordant visits than in gender discordant visits$^3$
- Preliminary evidence of Press Ganey data at Stanford suggests that female physicians in the ER setting are rated lower than male physicians in patient satisfaction, particularly by female patients

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Letters of Recommendation for Medical School Faculty

Analysis of 312 recommendation letters for 103 positions at a medical school revealed different tendencies...

Letters for men:
- Longer;
- More references to CV, Publications, Patients, Colleagues

Letters for women:
- Shorter;
- More “doubt raisers” (hedges, faint praise, and irrelevancies);
- More references to personal life

“It’s amazing how much she’s accomplished.”

Search Committee Evaluations

When evaluating identical faculty application packages, male and female University psychology professors (N=125) preferred 2 : 1 to hire “Brian” over “Karen” (p<.001).

Evaluations of Students: Obstacles in the Pipeline

A nationwide sample of biology, chemistry, and physics professors (n=127) evaluated application materials of an undergraduate science student (female or male) for a lab manager position.

Gendered Language of Faculty Evaluations

In an analysis of 14 million reviews on RateMyProfessor.com

brilliant

nice

brilliant
nice
Evaluation of Identical Resumes: Mothers vs. Fathers

• Evaluators rated mothers as **less** competent and committed, and less likely to be promoted. They were also awarded lower starting salaries than non-mothers.

• Fathers were seen as **more** committed to their work, more likely to receive a promotion, and were awarded higher starting salaries than non-fathers.

Research shows that women scientists who marry and have families publish as many articles per year as single women.

Diversity = Excellence

The Importance of Diversity for Excellence
The Importance of Diverse Teams

• We usually choose work teams (i.e., research teams, hiring new faculty/staff, selecting incoming students/trainees) based on automatic tendencies:

  ➢ Past Experiences: Validation [specific university, research area]
  ➢ Social Ties: Friendship [with advisor, someone in common]

• The biggest predictor of team success [financial, innovation, etc.):

  ➢ Diversity of Expertise [thought, experience, background, approaches]
Homogeneous v. Heterogeneous Teams

• Homogeneous teams:
  - Less information available
  - Less capacity to learn because everyone agrees
  - Lack of unique perspectives leads to illusion of “rightness” (groupthink)

• Heterogeneous groups:
  - Bring distinct backgrounds to the table: demographic, educational, cultural experiences
  - Bring diverse opinions and points of view

• In fact, studies show that the most influential are often the least competent
The Importance of Diverse Teams

Group Accuracy

- Socially Similar: 54%
- Socially Dissimilar: 75%

Confidence in Accuracy

- Socially Similar: 77%
- Socially Dissimilar: 71%

The Importance of Diverse Teams

Group Accuracy

- Socially Similar: 54%
- Socially Dissimilar: 75%

Perceived Group Effectiveness

- Socially Similar: 6.01
- Socially Dissimilar: 5.62

Increasing Sense of Belonging and Decreasing Stereotype Threat Among Diverse Individuals Improves Group-Level Performance

- An intervention to increase sense of belonging and reduce stereotype threat among African American students not only improved their individual performance in class, but also improved the performance of the entire class.

Strategies to Overcome Obstacles to Gender Diversity
Addressing Women

• Mentoring programs
• Skills-building workshops
  ➢ Communicating with Power
  ➢ Negotiations
  ➢ Conflict Management
• Networking groups
• Targeted research funding

For more information on specific programs focused on women faculty, see: med.stanford.edu/facultydiversity
Addressing the Environment

• Diversity training across the institution [*educate the community*]
• Implement comprehensive work-life policies for all [*address structural barriers*]
• Conduct frequent salary and A&P reviews [*discover hidden systemic inequities*]
• Mandate double-blind review processes across the institution for all preliminary evaluations [*eliminate opportunities for bias*]

Addressing Individual Tendencies Toward Gendered Decisions

• What is most natural for us is not most functional
• We need to work hard within our groups to fix the following three problems:

  ➢ Composition – we group based on natural tendencies
  ➢ Participation – work teams are often dominated by small minority
  ➢ Influence – those that emerge as leaders are not always the most competent
Promote Awareness in Self and Others

• Education about how gender biases affect decisions.
• Recognize that we all make gendered decisions.
• Although implicit attitudes are difficult to change, people can learn to self-correct for them.

EXAMPLE OF EFFECTIVENESS

At one medical school, departments that participated in workshops on gender bias had significantly higher odds (p<.05) of increasing the % of women faculty hires.

Recruiting

• Think about how ads, information documents might impact who decides to apply for your positions.

**EXAMPLE OF EFFECTIVENESS**

The number of women applicants for the NIH Pioneer award increased after self-nominations were allowed, more women were added to the selection committee, and the job description was changed in 2005 to state that women are “especially encouraged” to apply. Ultimately, 6 out of the 13 winners in 2005, as opposed to 0 out of 9 winners in 2004, were women.

• Ask colleagues for the names of top female candidates.

• Recruitment often begins before you have a posted position.
Avoid Bias-Inducing Situations

- Perform “blind” reviews when possible (beyond what may be mandated by the institution)!

EXAMPLE OF EFFECTIVENESS

Quantitative analysis of audition and hiring records from major U.S. symphony orchestra from 1970-1996:

Data based on 14,000 individuals shows using a screen to blind auditions increases the chance that a woman will advance from preliminary rounds by 50%.

Roster data from 11 major orchestras shows the switch to blind auditions accounted for 30% increase in new hires of women musicians.

Disrupt Mental Shortcuts

• Choose diverse committees and teams in order to ensure a representation of diverse perspectives and backgrounds.

• Decide on criteria before conducting any type of work-related evaluation.

EXAMPLE OF EFFECTIVENESS


• Devote adequate time to evaluation. People are more likely to rely on stereotypes when distracted or pressured.

• Ask team members to explain reasons behind their decisions.
Assign A Team Member: “Diverse Thinker”

- Assign a Devil’s Advocate in your team for each meeting. This person’s role will be to remain on guard to avoid “groupthink.”
  - “Ok. That sounds like a good plan that we all agree on, but we still haven’t thought about contingencies. What happens if X doesn’t turn out as we thought? Let’s think about how we might solve this.”
  - “Let’s listen to the idea that Wendy is proposing. I think she might have a new idea that could be useful to our thinking.”

EXAMPLE OF EFFECTIVENESS

One study showed that teams in which participation was high and there was a high amount of dissent produced more than twice as many innovative ideas than teams with low dissent.

QUESTIONS?