



University of California
San Francisco

Fixing the Gaps in Medicine and Science

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Disclosures

- No relevant financial relationships to disclose

My Path



- Art history and biology double major in college
- Excited by research in med school (clinical)
- Persuaded by mentors to pursue basic/translational science
- Research fellowship in residency (1 yr on ID T32)
- NIH funded since residency (K to R01s, R21s, T32s, P50, U54, R35)
- Clinic/Surgery 2 days/week, until UCSF (now 1 day/week)
- Married as PGY-3, 2 children (first as chief resident and second as 2nd yr faculty)
- I had the support I needed to succeed at every stage of my career!

The Gender Gap in a Surgical Subspecialty

Analysis of Career and Lifestyle Factors

Jennifer Rubin Grandis, MD; William E. Gooding, MS; Beth A. Zamboni, MS;
Marilyn M. Wagener, MPH; Stephanie D. Drenning, MS; Lori Miller, BS;
Karen Jo Doyle, MD, PhD; Susan E. Mackinnon, MD; Robin L. Wagner, BS

- Male and female otolaryngologists differ in important ways
- Women enjoy less career success as defined by compensation (20% less despite controls)
- Personal cost to women is higher (divorce, childlessness, regret, discrimination/harassment)
- MESSAGE: Keep your eyes wide open regarding implications of career/family decisions, you are your best advocate (can't assume others will do this for you); I WAS WRONG!

Otolaryngology's Gender Wage Gap

by Karen Appold

Issued: **April 18, 2023**



<https://www.enttoday.org/article/otolaryngologys-gender-wage-gap/>

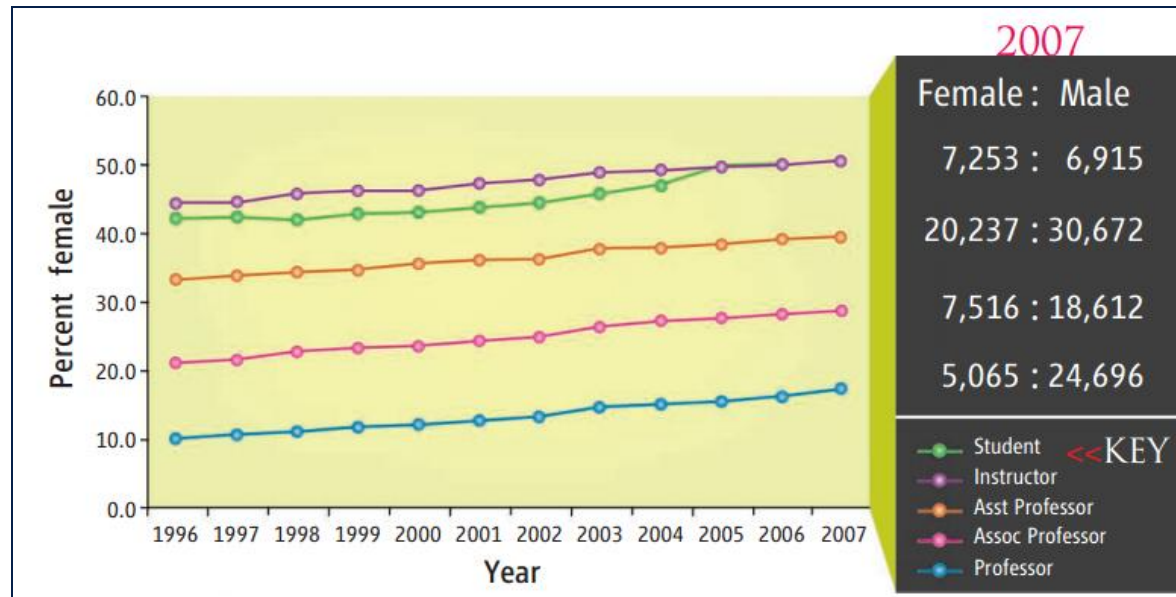
2020 Doximity data show the **largest** gap between men's and women's salaries in different medical specialties occurs in otolaryngology. Women made 77.9% of what men earned, a difference of 22.1%

SOCIOLOGY

The Gender Gap in NIH Grant Applications

Timothy J. Ley^{1*} and Barton H. Hamilton²

Many qualified women scientists stop applying for NIH grants in the late postdoctoral and early faculty years.



Science. 2008 Dec 5;322(5907):1472-4

Commentary

Career trajectories of MD-PhD physician scientists: The loss of women investigators

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May 2024

Gender in My Career

- Unaware of gender impact until surgical training (I was the only woman in a surgical internship with 18 men and the only woman ENT resident)
- Overlooked/ignored gendered behavior from faculty and fellow trainees (flirting/harassment/worse): grit/resilience
- Focused on metrics of success (grants and publications)
- Grew accustomed to being the only woman in the room
- Believed that I could pave the way for others by being “excellent”
- Was protected by powerful men (until I wasn’t)
- Realized that if I could be subjected to discrimination/harassment because I was a woman, it could happen to anybody...
- The importance of intersectionality

2018 National Academies' Report on Sexual Harassment of Women

- **46% of women** in academic medicine report being sexually harassed
- Women who are harassed experience declining job satisfaction and they **leave the organization**



SPECIAL ARTICLE

Women Physicians and Promotion in Academic Medicine

Kimber P. Richter, Ph.D., M.P.H., Lauren Clark, M.S., Jo A. Wick, Ph.D.,
Erica Cruvinel, Ph.D., Dianne Durham, Ph.D., Pamela Shaw, M.D.,
Grace H. Shih, M.D., Christie A. Befort, Ph.D., and Robert D. Simari, M.D.

CONCLUSIONS Over a 35-year period, women physicians in academic medical centers were less likely than men to be promoted to the rank of associate or full professor or to be appointed to department chair, and there was **no apparent narrowing in the gap over time.**

November 2020

Gender Bias is not Restricted to Men

PNAS

Science faculty's subtle gender biases favor male students

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Edited* by Shirley Tilghman, Princeton University, Princeton, NJ, and approved August 21, 2012 (received for review July 2, 2012)

Despite efforts to recruit and retain more women, a stark gender disparity persists within academic science. Abundant research has demonstrated gender bias in many demographic groups, but has yet to experimentally investigate whether science faculty exhibit a bias against female students that could contribute to the gender disparity in academic science. In a randomized double-blind study ($n = 127$), science faculty from research-intensive universities rated the application materials of a student—who was randomly assigned either a male or female name—for a laboratory manager position. Faculty participants rated the male applicant as significantly more competent and hireable than the (identical) female applicant. These participants also selected a higher starting salary and offered more career mentoring to the male applicant. The gender of the faculty participants did not affect responses, such that female and male faculty were equally likely to exhibit bias against the female student. Mediation analyses indicated that the female student was less likely to be hired because she was viewed as less competent. We also assessed faculty participants' preexisting subtle bias against women using a standard instrument and found that preexisting subtle bias against women played a moderating role, such that subtle bias against women was associated with less support for the female student, but was unrelated to reactions to the male student. These results suggest that interventions addressing faculty gender bias might advance the goal of increasing the participation of women in science.

diversity | lifestyle choices | science education | science workforce

gender disparity in science (9–11), and that it “is not caused by discrimination in these domains” (10). This assertion has received substantial attention and generated significant debate among the scientific community, leading some to conclude that gender discrimination indeed does not exist nor contribute to the gender disparity within academic science (e.g., refs. 12 and 13).

Despite this controversy, experimental research testing for the presence and magnitude of gender discrimination in the biological and physical sciences has yet to be conducted. Although acknowledging that various lifestyle choices likely contribute to the gender imbalance in science (9–11), the present research is unique in investigating whether faculty gender bias exists within academic biological and physical sciences, and whether it might exert an independent effect on the gender disparity as students progress through the pipeline to careers in science. Specifically, the present experiment examined whether, given an equally qualified male and female student, science faculty members would show preferential evaluation and treatment of the male student to work in their laboratory. Although the correlational and related laboratory studies discussed below suggest that such bias is likely (contrary to previous arguments) (9–11), we know of no previous experiments that have tested for faculty bias against female students within academic science.

If faculty express gender biases, we are not suggesting that these biases are intentional or stem from a conscious desire to impede the progress of women in science. Past studies indicate that people's behavior is shaped by implicit or unintended biases.

“John” preferred over “Jennifer” and offered higher compensation by *both* men and women scientists

October 2012

My Study: Understanding How Gender Shapes Career Paths in Science and Medicine

- The problem: women scientists/physicians are underrepresented in leadership positions, experience more discrimination and harassment, and are paid less than their male counterparts
- The reality: even with recognition of disparities and institution of measures intended to mitigate them, the data remain stubbornly unchanged
- The objective: to record and synthesize the experiences and perspectives of representative women and men in science and medicine at various career stages with the ultimate goal of accurately describing the current landscape

Study Methods

- In-depth, in person, semi-structured interviews carried out in 2019 with 52 men and 52 women at 16 academic medical centers around the US
- Diversity of geography, public/private, institutional prestige (NIH and US News rankings)
- Enriched for Full Professors and Institutional Leaders
- Interviews recorded (lasted about 60 minutes), transcribed and coded to identify intersections between features of the academic medicine ecosystem and gender

Study Methods

- Development of Codes: based on literature and salient features in first 10 interviews
- Academic medicine ecosystem codes: mentorship/sponsorship, recruitment/retention, negotiation, resources, compensation, productivity, leadership, term limits networking/professional relationships, promotion/tenure, policies
- Gender-related bad stuff (GRBS) codes: experiences of GRBS, awareness/perception/observations of GRBS (including National Academies report), perceived lack of awareness of GRBS, borderline GRBS, individual/unofficial responses to GRBS, institutional/official responses to GRBS, experiences related to family, pregnancy, children, perceptions/observations related to family, pregnancy, children

Peer-Reviewed Articles Published to Date

Original Investigation | Diversity, Equity, and Inclusion

Acad Med. 2021 Sep 7. doi: 10.1097/ACM.00000000000004388.

Women's Experiences of Promotion and Tenure in Academic Medicine and Potential Implications for Gender Disparities in Career Advancement A Qualitative Analysis

Marie Murphy, PhD; Jacquelyn K. Callander, MD; Daniel Dohan, PhD; Jennifer R. Grandis, MD

JAMA Network Open. 2021;4(9):e2125843. doi:10.1001/jamanetworkopen.2021.25843

Mentoring Relationships and Gender Inequities in Academic Medicine: Findings From a Multi-Institutional Qualitative Study

Marie Murphy, Helena Record, Jacquelyn K. Callander, Daniel Dohan, Jennifer R. Grandis

PMID: 34495884 DOI: [10.1097/ACM.00000000000004388](https://doi.org/10.1097/ACM.00000000000004388)



Articles

Networking practices and gender inequities in academic medicine: Women's and men's perspectives

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^b Philip R. Lee Institute for Health Policy Studies, University of California, San Francisco, United States



Key Mentorship Findings

- Both women and men became aware of gender inequities in academic medicine through relationships with women mentors and mentees
- Both women and men mentors recognized the challenges their women mentees faced and made deliberate efforts to help them navigate an inequitable environment
- Both women and men mentors modeled work-family balance and created family-friendly environments for their mentees
- Women (only) reported being sexually harassed by mentors

Discrimination, Abuse, Harassment, and Burnout in Surgical Residency Training

Yue-Yung Hu, M.D., M.P.H., Ryan J. Ellis, M.D., M.S.C.I., D. Brock Hewitt, M.D., M.P.H., Anthony D. Yang, M.D., Elaine Ooi Cheung, Ph.D., Judith T. Moskowitz, Ph.D., M.P.H., John R. Potts III, M.D., Jo Buyske, M.D., David B. Hoyt, M.D., Thomas J. Nasca, M.D., and Karl Y. Bilimoria, M.D., M.S.C.I.

CONCLUSIONS: 97% of surgical residents in the US reported “Attending surgeons were the most frequent sources of sexual harassment (27.2%) and abuse (51.9%)”



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scientific reports



OPEN

Examining how a documentary film can serve as an intervention to shift attitudes and behaviours around sexism in STEM

Evava S. Pietri¹  , Arispa Weigold², Lisa M. P. Munoz³ & Corinne A. Moss-Racusin⁴

September 2024

Key Promotion/Tenure Findings (only Women)

- Ambiguous and/or inconsistent criteria provided for promotion/tenure
- Lack of standard processes for reviewing applications and making decisions
- Vulnerability to malicious behavior of senior faculty, division chiefs and department chairs
- Women see men having different experiences of advancement

SOCIAL SCIENCES

Gender and retention patterns among U.S. faculty

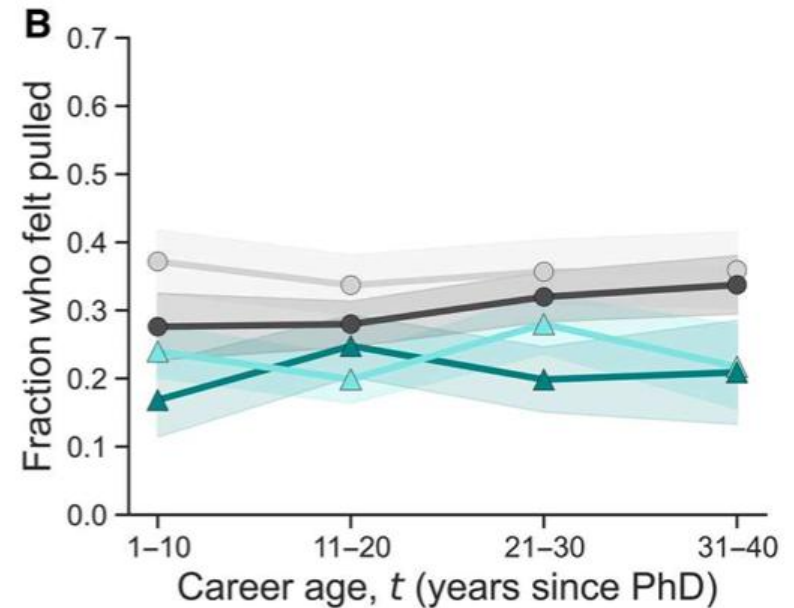
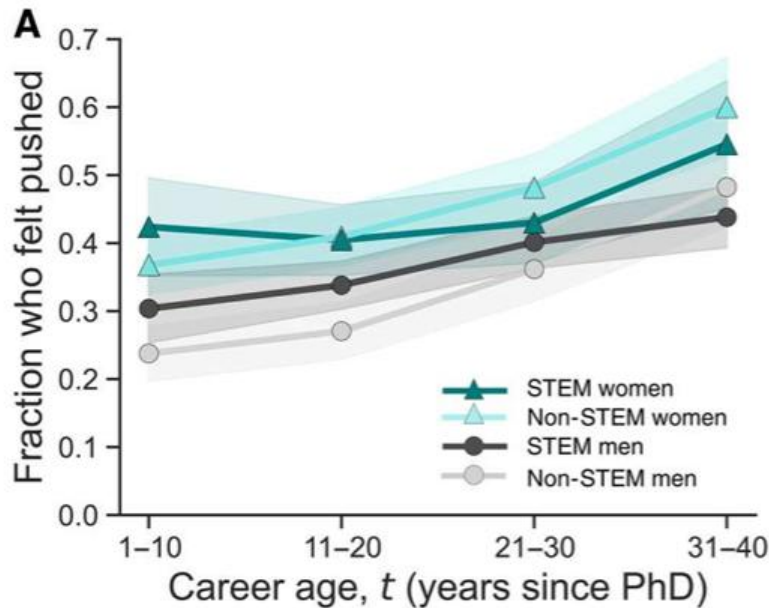
**Katie Spoon^{1*}, Nicholas LaBerge¹, K. Hunter Wapman¹, Sam Zhang², Allison C. Morgan¹,
Mirta Galesic³, Bailey K. Fosdick⁴, Daniel B. Larremore^{1,5}, Aaron Clauset^{1,3,5*}**

Women remain underrepresented among faculty in nearly all academic fields. Using a census of 245,270 tenure-track and tenured professors at United States–based PhD-granting departments, we show that women leave academia overall at higher rates than men at every career age, in large part because of strongly gendered attrition at lower-prestige institutions, in non-STEM fields, and among tenured faculty. A large-scale survey of the same faculty indicates that the reasons faculty leave are gendered, even for institutions, fields, and career ages in which retention rates are not. Women are more likely than men to feel pushed from their jobs and less likely to feel pulled toward better opportunities, and women leave or consider leaving because of workplace climate more often than work-life balance. These results quantify the systemic nature of gendered faculty retention; contextualize its relationship with career age, institutional prestige, and field; and highlight the importance of understanding the gendered reasons for attrition rather than focusing on rates alone.

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October 20, 2023

Women are Pushed to Leave While Men are Pulled to Stay in Academia



Spoon et al Sci Adv 2023

Why Women Leave?



- They have children and prioritize families (what men told me)
- They do not receive the resources or support needed to sustain their research such as protected time (what women told me)
- Navigating an inequitable environment (and worse) is hard
- There is a price for complaining or reporting bad behavior
- The lack of progress is discouraging

Key Networking Findings

- Women were regularly excluded from networking activities dominated by men
- Both women and men referred to a “boys’ club” in academic medicine, and believed it conferred benefits to those in the club and excluded non-members from such benefits
- Participation in “boys’ club” activities yielded distinct professional advantages
- Women made efforts to counteract their exclusion yet identified limits of those efforts
- There were other patterns of gender-related exclusion, unrelated to the “boys’ club”

Fishing, strip clubs and golf: How male-focused networking in medicine blocks female colleagues from top jobs

Jennifer R. Grandis, Distinguished Professor of Otolaryngology-Head and Neck Surgery, University of California, San Francisco



Building relationships with colleagues outside of work is important for career development. [10'000 Hours/Digital Vision via Getty Images](#)

From The New Yorker, July 2026



THE SPORTING SCENE

TAKE ME OUT TO THE BRAINBALL GAME

Hundreds of neurosurgeons gathered in Central Park for inter-hospital softball. Who took home the skull-shaped trophy?

By Ben McGrath

July 27, 2026

“Some teams included women. Some, but not all, invited their women to take positions on the field.”

Getting Naked at Work (departmental retreats)



One Third of Female Surgeons Sexually Assaulted While Operating!



British Medical Journal, **September 2023**

IN THE LAB

NIH grant terminations affected women scientists more than men, study finds

Female Ph.D. students and assistant professors saw disproportionate impacts

Oliveiria et al, *PNAS*, 2026



Advice to my younger self (and to you)

- Write down your experiences and how they make you feel
- Find communities where you can bring your full self and be accepted (if someone is uncomfortable with you, it is their problem)
- Family and friends are everything
- Your children will love you for who you are and forgive your missteps
- Take the bad stuff seriously, but not personally
- Push back against harassment (when you feel safe): bystanders vs upstanders **ANYONE CAN DO THIS!**

Solutions (we can do this!)

- Identify organizational priorities and metrics
- Collect data to determine success of interventions
- Put measures/policies in place to sustain interventions that work (iterative process)
- Presume bias and introduce systems to mitigate
- Don't underestimate the power of humble inquiry: ask people about their experiences and listen to learn; share your experiences with others.
- We need a language and a culture free from retaliation to talk about what we experience: **we need to get comfortable feeling uncomfortable!**

What keeps me in here....

- The thrill of discovery with the potential to help so many people (beyond my clinical practice)
- Interactions with colleagues and mentees (like you)
- The hope that I can make a difference

Uniting people
for gender equity in
medicine & science.



Jennifer Grandis, MD



Let's Connect



[linkedin.com/in/jennifer-grandis-md/](https://www.linkedin.com/in/jennifer-grandis-md/)



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GOOD LUCK!