

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.JournalofSurgicalResearch.com

Association for Academic Surgery

Gender disparities in scholarly productivity of US academic surgeons



Claudia M. Mueller, PhD, MD,* Dyani K. Gaudilliere, DMD, MS,
Cindy Kin, MD, Roseanne Menorca, BS, and Sabine Girod, MD, DDS, PhD

Department of Surgery, Stanford University, Stanford, California

ARTICLE INFO

Article history:

Received 3 February 2016

Received in revised form

21 March 2016

Accepted 24 March 2016

Available online 1 April 2016

Keywords:

Gender differences

Cohort analysis

Publication rate

Academic surgery

ABSTRACT

Background: Female surgeons have faced significant challenges to promotion over the past decades, with attrition rates supporting a lack of improvement in women's position in academia. We examine gender disparities in research productivity, as measured by the number of citations, publications, and h-indices, across six decades.

Materials and methods: The online profiles of full-time faculty members of surgery departments of three academic centers were reviewed. Faculty members were grouped into six cohorts by decade, based on year of graduation from medical school. Differences between men and women across cohorts as well as by academic rank were examined.

Results: The profiles of 978 surgeons (234 women and 744 men) were reviewed. The number of female faculty members in the institutions increased significantly over time, reaching the current percentage of 35.3%. Significant differences in number of articles published were noted at the assistant and full but not at the associate, professor level. Women at these ranks had fewer publications than men. Gender differences were also found in all age cohorts except among the most recent who graduated in the 2000s. The impact of publications, as measured by h-index and number of citations, was not consistently significantly different between the genders at any age or rank.

Conclusions: We identified a consistent gender disparity in the number of publications for female faculty members across a 60-year span. Although the youngest cohort, those who graduated in the 2000s, appeared to avoid the gender divide, our data indicate that overall women still struggle with productivity in the academic arena.

© 2016 Elsevier Inc. All rights reserved.

Introduction

Female applicants to medical schools reached a high of 50.8% in the 2003-2004 academic years. Along with this increase, the proportion of women in surgical training has risen from 25.6% in 2003 to a peak of 37.9% in 2013.¹ Thus, women represent a large component of the current and future surgical workforce

pipeline. However, women are still markedly absent at the more senior academic levels in surgery: 25% of assistant professors, 19% are associate professors, and only 10% of full professors are female. Furthermore, these numbers have been stagnant in academic medical centers (AMCs) for years, with the advancement and promotion of women and minorities remaining statistically below average.¹ In addition, although

* Corresponding author. Department of Surgery, Stanford University Medical Center, 777 Welch Road, Suite G, Stanford, CA 94304. Tel.: 650-723-6439; fax: 650-725-5577.

E-mail address: clmueller@stanfordchildrens.org (C.M. Mueller).
0022-4804/\$ – see front matter © 2016 Elsevier Inc. All rights reserved.
<http://dx.doi.org/10.1016/j.jss.2016.03.060>

the proportion of female faculty hires in AMCs has increased over the last decades, the attrition of female faculty has risen equally, resulting in an overall proportion of female faculty in surgery of only 22%. AMCs in the United States are leaking talented faculty—both men and women—at a rate of 38% over ten years with an upward tendency.² Apart from the educational toll of losing experienced faculty, the replacement cost for a single surgeon in one AMC was calculated to be more than half a million dollars. Faculty turnover is therefore a significant business expense, representing up to 5% of the budget.³

The reasons behind the lack of retention and advancement of female faculty in academic surgery are not well understood. Some studies cite unconscious bias or the lack of mentorship for junior faculty as culprits for the difficulties faced by academic female surgeons in promotion.⁴ A gap in understanding the requirements for promotion may also contribute to this disparity, and women may not be as aware as men of the opportunities and steps required in career advancement.⁵ Another contributor may be academic productivity. Some studies note, that female faculty are less academically productive, as determined by publications and grants, whereas others argue that there is no difference when controlling for academic rank.⁶⁻⁹ In surgery, the proportion of original research articles with female first or senior authors has increased over the last several decades; however, overall articles are still largely authored by men.¹⁰ Understanding and reconciling areas of disconnect in academic productivity has the potential to increase success and satisfaction and, possibly, improve retention for all faculty in surgery departments.

In this study, we draw from online academic surgeons' profiles from three AMCs in the United States to examine how academic productivity relates to faculty rank and gender in different cohorts, as determined by year of graduation from medical school. We address the following questions: (1) are there differences between male and female surgeons in productivity by academic rank? (2) do different cohorts of male and female academic surgeons show differences in productivity? and (3) at what career stage do these differences occur? In addition, we consider how faculty development may advance the strategic plans of a surgery department to improve prospects for all faculty members, including women, to succeed in their careers and possibly stem the exodus.

Methods

Faculty profiles listed on the websites of three AMCs were reviewed and used to collect data about gender, year of graduation from last residency or fellowship program, current faculty line and rank, and surgical specialty in the 2013-2014 academic years. All three institutions are ranked among the 10 best AMCs in the United States and are in the same peer group in terms of their academic reputation.¹¹ One institution is in an urban east coast setting, one in an urban west coast setting, and one in a suburban west coast setting. Inclusion criteria for the study were: full-time faculty in a surgical specialty with a medical degree and a profile on the institution's website. Emeritus, volunteer, and adjunct faculty members were excluded, as were emergency department physicians.

The faculty lines and requirements for promotion at the three institutions differ, and thus faculty members could not be compared directly within specific promotion tracks. We therefore only analyzed aggregate data by rank and cohort.¹ We used Elsevier's SCOPUS to collect data about research productivity as measured by the number of articles published, the number of citations (including self citations), and the h-index. We chose SCOPUS as the most reliable tool to measure h-index as it has been found to offer consistently more coverage than Web of Science and higher accuracy than Google Scholar.¹²⁻¹⁴

Analyses were conducted using SPSS version 20. Faculty members were separated into six cohorts based on the year they received their medical degree, with each cohort representing a ten-year graduation period (from 1950 to 1959, 1960 to 1969, 1970 to 1979, 1980 to 1989, 1990 to 1999, and 2000 to 2009). T-tests were conducted to compare the h-indices, articles, and citations between men and women in each graduation year cohort as well as in each faculty rank (assistant, associate, and full professor). T-tests were also conducted to determine gender differences in articles, citations, and h-indices by school. A P value of less than 0.05 was considered significant.

Results

Sample demographics

We analyzed a total of 978 full-time surgeons (234 women and 744 men) from three US AMCs. The proportion of women of this sample (24%) is slightly higher than the overall representation of surgical faculty in the United States AMCs (22%).¹ The urban west coast school had the highest percentage of female faculty (27.8%) followed by the urban east coast school (25.7%) and the suburban west coast school (16.7%). The year of graduation from medical or dental school ranged from 1952 to 2009 (Mean = 1990, Standard deviation = 11.39). The proportion of women rose steadily each decade with 0% women in the 1950s, 7.7% in the 1960s, 13.1% in the 1970s, 19.4% in the 1980s, 24.7% in the 1990s, and 35.3% in the 2000s (Fig. 1). Owing to the low number of faculty graduating in the 1950s and 1960s ($n = 48$), with no women graduating in the 1950s and only three in the 1960s, these faculty were included with the 1970s cohort for the remainder of the analyses.

¹ The two west coast schools both have three basic tracks: a research-focused track, a track for physician scientists that combines research with clinical work, and a more completely clinical track with little formal requirement for publications. For these two schools, the faculty track was accessible on the faculty website biographies. The east coast institution has a less clearly outlined system of tracks and follows a more flexible structure of promotion-driven activities. Furthermore, the websites from this institution did not distinguish between research-oriented versus clinical-oriented tracks, as both were considered to be eligible for promotion along a similar timeline. Since the basic academic endeavors were similar across all three institutions, we chose to perform our analyses across institutions. However, we also analyzed productivity by institution to assess differences based on the local culture. We also examined basic policies for family leave and were able to determine that maternity leave practices listed on the websites of all three institutions followed the guidelines set by the Family Medical Leave Act.

Download English Version:

<https://daneshyari.com/en/article/4299186>

Download Persian Version:

<https://daneshyari.com/article/4299186>

[Daneshyari.com](https://daneshyari.com)