Association for Academic Surgery

Gender differences in academic surgery, work-life balance, and satisfaction

Dadrie Baptiste, MD,a Alison M. Fecher, MD,a,b Scott C. Dolejs, MD,a,b Joseph Yoder, MS,b C. Maximillian Schmidt, MD, PhD, MBA,a Marion E. Couch, MD, PhD, MBA,c and DuyKhanh P. Ceppa, MDa,b,*

a Department of Surgery, Indiana University School of Medicine, Indianapolis, Indiana
b Department of Surgery, Center for Outcomes Research in Surgery, Indiana University School of Medicine, Indianapolis, Indiana
c Department of Otolaryngology, Head and Neck Surgery, Indiana University School of Medicine, Indianapolis, Indiana

ABSTRACT

Background: An increasing number of women are pursuing a career in surgery. Concurrently, the percentage of surgeons in dual-profession partnerships is increasing. We sought to evaluate the gender differences in professional advancement, work-life balance, and satisfaction at a large academic center.

Materials and methods: All surgical trainees and faculty at a single academic medical center were surveyed. Collected variables included gender, academic rank, marital status, family size, division of household responsibilities, and career satisfaction. Student t-test, Fisher’s exact test, and chi-square test were used to compare results.

Results: There were 127 faculty and 116 trainee respondents (>80% response rate). Respondents were mostly male (77% of faculty, 58% of trainees). Women were more likely than men to be married to a professional (90% versus 37%, for faculty; 82% versus 41% for trainees, \( P < 0.001 \) for both) who was working full time (\( P < 0.001 \)) and were less likely to be on tenure track (\( P = 0.002 \)).

Women faculty were more likely to be primarily responsible for childcare planning (\( P < 0.001 \)), meal planning (\( P < 0.001 \)), grocery shopping (\( P < 0.001 \)), and vacation planning (\( P = 0.003 \)). Gender-neutral responsibilities included financial planning (\( P = 0.04 \)) and monthly bill payment (\( P = 0.03 \)). Gender differences in division of household responsibilities were similar in surgical trainees except for childcare planning, which was a shared responsibility.

Conclusions: Women surgeons are more likely to be partnered with a full-time working spouse and to be primarily responsible for managing their households. Additional consideration for improvement in recruitment and retention strategies for surgeons might address barriers to equalizing these gender disparities.

Published by Elsevier Inc.


*Corresponding author. Department of Surgery, Indiana University School of Medicine, 545 Barnhill Drive, EH 215, Indianapolis, IN 46220.
Tel.: +1-317-944-7728; fax: +1-317-274-2940.
E-mail address: dpceppa@iupui.edu (DuyKhanhP. Ceppa).
0022-4804/$ – see front matter Published by Elsevier Inc.
http://dx.doi.org/10.1016/j.iss.2017.05.075
Introduction

Over the last several decades, there has been a steady rise in the number of females in the medical profession. According to the Association of American Medical Colleges, the graduating class of 2016 was 49.8% female and 50.2% male. Although the percentage of females pursuing surgical careers is not as robust, it, too, has seen a steady rise over the years. Concomitantly, there has been a rise in dual-physician relationships. Goodman et al. reported that physicians were more likely to marry other physicians or those with a higher degree of learning than previously. In 2010, 54% of physicians were married to another professional, as opposed to less than 10% in 1960.

Dual-professional/dual-physician relationships create a unique set of challenges in both the professional and personal environments. Work-home conflicts have been previously described as being a factor in surgeon burnout and depression. Moreover, prior studies have reported household responsibilities to primarily be the concern of women surgeons despite being in dual-professional partnerships. We sought to further delineate the gender differences in professional advancement, work-life balance, division of household duties, and overall career satisfaction among surgical trainees and faculty at a major academic center.

Methods

Study population

All surgical trainees (residents, clinical fellows) and faculty in the Departments of Surgery (including the Divisions of Abdominal Transplant, Colorectal, Cardiothoracic, Minimally invasive, Pediatric, Plastic, Surgical Oncology, Trauma, and Vascular Surgery), Neurosurgery, Ophthalmology, Orthopedic Surgery, Otolaryngology, and Urology at a single, large academic medical center were included in the study. Approval from our institution’s Internal Review Board was obtained prior to study initiation.

Survey instrument

A pilot survey was administered to faculty members and residents of the Division of General Surgery in August 2015. The survey was then revised to improve the user interface. The survey was designed to acquire data in the following areas: gender, specialty, surgical training, academic rank, academic productivity, marital status, spouse employment status, spouse profession, family size, division of household responsibilities, and career satisfaction. The study was designed for ease of the respondent, with few open-ended questions. Satisfaction scores were measured on a Likert-like scale. A priori categories were created for years in practice (0-5 years; 6-10 years; 11-15 years; and >15 years) and number of publications. Spousal level of employment was defined as a homemaker if the spouse did not work; part time if the spouse worked less than 1 full-time equivalent (FTE); and full time if the spouse worked 1 FTE.

A final version of the survey (Appendix 1, Survey Monkey, Inc) was distributed via email to all potential participants in January 2016. Subjects were identified through department listservs. The completion of the survey was considered implied consent to participate in the study. A reminder notice was issued 2 and 3 weeks later. The survey was closed for collection of responses 30 days following initial distribution.

Statistical analysis

Univariate data analysis was performed for categorical variables with Fisher’s exact and chi-square tests as appropriate. Continuous data was assessed for normality. The Likert scales were normal, and parametric tests (nonpaired t-tests) were used to assess the Likert scales. Using parametric test in survey responses that utilize a Likert scale is well established in the current literature. The number of publications exhibited substantial deviation from a normal distribution. Thus, this variable was studied with a Wilcoxon rank-sum test. Interaction between years in practice and gender was tested for various outcomes including the number of publications, academic rank, academic track, marital status, and satisfaction scores. For categorical outcomes with more than two levels, a multivariable multinomial distribution was used to assess for interaction. For categorical outcomes with two levels, Breslow-Day test was used. For numerical outcomes, multivariable linear regression was used. All statistical analyses were performed using SAS version 9.4 (Cary, NC).

Results

Respondent demographics

The survey was distributed to 156 faculty surgeons and 121 clinical trainees (residents and fellows). One hundred twenty-seven faculty (81%) and 116 trainees (96%) responded, with more than 90% of respondents answering all pertinent questions. Table 1 depicts the demographics of the survey respondents. The respondents were predominantly male (77% of faculty and 58% of trainees, P = 0.002) and married or in committed relationships (87% of faculty and 66% of trainees, P ≤ 0.001). The majority of participants were in the Department of General Surgery (56% of faculty, 65% of trainees). Ninety-five percent of faculty were fellowship-trained, and 80% of trainees indicated that they intend to pursue fellowship training. Faculty were more likely than trainees to be married (87% versus 66%, P < 0.001) and were more likely to have children (87% versus 27%, P < 0.001).

Employment level and academic advancement

Women were more likely to be more junior than men (P = 0.05; Table 2). There was no significant difference in the level of employment (P = 0.4) between men and women. Male faculty were more likely to have published (99% versus 76%, P < 0.001), with male faculty having more publications (median: 21 versus 6, P < 0.001). However, after adjusting for number of years in practice, we found that female and male faculty had similar
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