The Laryngoscope

Gender Disparities in Research Productivity Among 9952 Academic Physicians

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Objectives/Hypothesis: The number of women in medicine has increased considerably over the past 3 decades, and they now comprise approximately half of medical school matriculants. We examine whether gender disparities in research productivity are present throughout various specialties and compare these findings to those previously described among otolaryngologists.

Study Design: Bibliometric analysis.

Methods: Research productivity, measured by the h-index, was calculated for 9,952 academic physicians representing 34 medical specialties. Additionally, trends in how rate of research productivity changed throughout different career stages were compared.

Results: Women were underrepresented at the level of professor and in positions of departmental leadership relative to their representation among assistant and associate professors. Male faculty had statistically higher research productivity both overall ($H = 10.3 \pm 0.14$ vs. 5.6 ± 0.14) and at all academic ranks. For the overall sample, men and women appeared to have equivalent rates of research productivity. In internal medicine, men had higher early-career productivity, while female faculty had productivity equaling and even surpassing that of their male colleagues beyond 20 to 25 years. Men and women had equivalent productivity in surgical specialties throughout their careers, and similar rates in pediatrics until 25 to 30 years.

Conclusions: Female academic physicians have decreased research productivity relative to men, which may be one factor contributing to their underrepresentation at the level of professor and departmental leader relative to their proportions in junior academic ranks. Potential explanations may include fewer woman physicians in the age groups during which higher academic ranks are attained, greater family responsibilities, and greater involvement in clinical service and educational contributions.

Key Words: H-index, academic promotion, academic productivity, gender disparities, academic appointment.

Level of Evidence: N/A.

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INTRODUCTION

With the article entitled "Why Diseases of Children Should be Made a Special Study," Mary Harris Thompson, MD, presented at the annual AMA meeting 125 years ago and became the first female physician to publish in *JAMA*.[1] While women have since made significant strides within academic medicine, recent literature indicates female faculty members may be underrepresented at senior level positions. Multiple analyses have reported that historically, female faculty members take longer to get promoted, especially at more senior levels.[2,3] As a direct result of this, women may continue to be underrepresented at senior levels relative to their numbers at junior ranks.[4,5] Although they comprise almost 50% of medical school applicants and graduates, women constitute 37% of medical school faculty but only 19% of full professors.[6,7] This potential underrepresentation is more concentrated among surgical specialties, where women have not been recruited at the same proportion as other nonsurgical specialties.[8,9]

Research productivity affects appointment and promotion, making the availability of reliable measures of research productivity of paramount importance.[10–21] Measures used to evaluate research productivity include the number of publications and the number of times an individual's article has been cited.[17,18,22] These metrics, however, have limitations. Only counting the number of publications reveals little about the relevance of scholarship or the impact of an individual's research contributions on a field.[17,23] Conversely, the number of times an author's work has been cited in the literature is more indicative of relevance and impact, but may be disproportionately affected by a single significant publication.

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TABLE I.
Specialties Used to Obtain Faculty Listings.

Medicine	Surgery	Pediatrics
Allergy & Immunology/Infectious Disease	General Surgery	Adolescent Medicine (Pediatrics)
Cardiology	Neurological Surgery	Pediatric Cardiology
Endocrinology	Obstetrics & Gynecology	Pediatric Critical Care
Gastroenterology	Ophthalmology	Developmental Pediatrics
Hematology–Oncology	Orthopedic Surgery	Pediatric Emergency Medicine
Internal Medicine (General) Nephrology	Otolaryngology–Head and Neck	Pediatric Endocrinology
Pulmonary and Critical Care Medicine	Surgery	Pediatric Gastroenterology
Nephrology	Plastic Surgery	General Pediatrics
Rheumatology	Urology	Pediatric Hematology–Oncology
	Other Specialties	Pediatric Infectious Disease
	Anesthesiology	Neonatology
	Radiology	Pediatric Nephrology
		Pediatric Pulmonology
		Pediatric Rheumatology

The h-index addresses inadequacies of these and other commonly used measures of research productivity. For each author, the h-index provides a measure of the number (h) of articles published that have a minimum of h citations each.[17,18,24]_ENREF_8 This takes into account the relevance of the work, as judged by the number that are consistently cited, and thereby provides a measure of quality and influence.[25] The h-index can be calculated using several databases, including Scopus, Google Scholar, and ISI Web of Science (WOS). Scopus encompasses 44.5 million records and over 18,500 peer-reviewed journal titles.[26] A previous examination of the h-index in *Neurosurgery* demonstrated a strong correlation between h-index results from Scopus and Google Scholar.[27]

Previously, we examined gender differences in productivity among academic otolaryngologists.[28] We showed that female otolaryngologists demonstrate a different productivity curve, with less research output earlier in their careers than men, but at senior levels they equal or exceed the research productivity of men. The objective of the current analysis was to use the h-index to comprehensively examine whether gender disparities in research productivity are present among academic physicians from various specialties.

MATERIALS AND METHODS

Using a random number generator, 25 institutions were selected from the AMA's Fellowship and Residency Electronic Interactive Database (FREIDA). Faculty listings from the websites of these institutions were obtained for various specialties (Table I). Faculty members were organized by the following: assistant professor, associate professor, professor, and departmental chairperson/division chief. To avoid double-counting faculty, all departmental leaders were included in the latter category, and not within any of the other academic rank categories. Faculty members were grouped by gender, as assessed both by using their name as well as information from their online profiles. Individuals for whom gender could not be determined with confidence were excluded. Adjunct, voluntary, instructors, part-time, nonclinician research (PhDs), and nonacademic faculty were excluded. Individual faculty members whose academic ranks were not available were excluded from this analysis. Scopus was used to calculate the h-index and length of publication range (in years). All data was collected in July and August 2012. Nonparametric statistical analyses using Mann-Whitney U Tests and Kruskal-Wallis Tests were performed as appropriate, due to the lack of normal distribution in the data using MedCalc Statistical Software (Mariakerke, Belgium). Threshold for significance was set at $P < 0.05$.

RESULTS

Academic physicians numbering 9,952 in 10 medical, 14 pediatric, eight surgical, and two other specialties were analyzed (Appendix 1). Women comprised 31.5% of faculty overall. Relative to this 31.5% proportion, they were underrepresented at the level of professor (17.2%) and in positions of departmental leadership (14.5% of chairpersons and chiefs) (Fig. 1).

Male faculty members had statistically higher research productivity, as measured by the h-index, than their female colleagues (Mann-Whitney U Test, $P < 0.0001$), a finding that persisted upon further examination of faculty in medicine, pediatric, and surgical specialties ($P < 0.0001$) (Fig. 2).

For both genders, h-index statistically increased with successive academic rank (Kruskal Wallis Test, $P < 0.0005$) (Fig. 3). Men had higher research productivity among all academic ranks (Mann-Whitney U tests, $P < 0.0005$) (Fig. 3). This gender disparity was further present among examination of successive academic ranks, although not statistically significant among professors and chairpersons in surgical specialties (Mann-Whitney U Tests, $P = 0.19$, 0.20), and associate professors and professors in pediatric specialties ($P = 0.38$, 0.09) (Fig. 4).

Although men had statistically higher research productivity in nearly all specialties (Figs. 5–8), this trend did not reach statistical significance in plastic surgery (Mann-Whitney U-Test, $P = 0.29$), otolaryngology

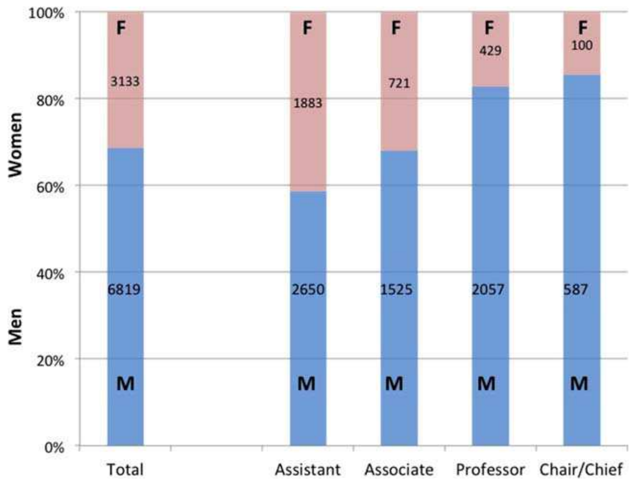

Fig. 1. Academic rank proportions of 9,952 academic physicians from 33 specialties. M represents males; F represents females. Values within bars represent number of physicians. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

($P = 0.09$), pediatric critical care ($P = 0.50$), pediatric emergency medicine ($P = 0.69$), and pediatric rheumatology ($P = 0.39$). Pediatric endocrinology was the only specialty in which men did not have higher trending research productivity ($P = 0.54$).

The relationship between h-indices and publication range was examined to see whether there were any differences in the rate of research productivity among different stages of careers in men and women. For all specialties combined, men and women had equivalent rates of productivity (Fig. 9). This relationship held true for physicians in surgical specialties (Fig. 10). In medical specialties, men had higher early career rates of productivity (as depicted by the slope in Fig. 11), while female faculty members' productivity rates equaled and surpassed those of their male counterparts beyond 20 to 25 years of research experience (Fig. 11). In pediatric specialties, male faculty members have higher rates of research productivity throughout their careers, although this difference is minimal during the first two decades and only becomes larger after this point (Fig. 12).

DISCUSSION

Women Constitute a Smaller Proportion of Academic Physicians with Successive Academic Rank

This study's primary objective was to characterize differences in scholarly productivity, as measured by the h-index. Women comprised 31.5% of academic physicians in this sample, consistent with recent figures suggesting that they constitute 37% of physicians in academic practice.[7] The proportion of female faculty decreased with successive academic rank (Fig. 1). This is likely a result of fewer women than men with a sufficient number of years of experience that may be needed for promotion at more senior levels. However, the disparities in scholarly productivity at each academic rank cannot be ignored as another factor contributing to this finding. Academic promotion is often heavily reliant on an individual's research productivity.[13–18] Furthermore, women may be spending a greater proportion of their professional time in teaching and patient care or clinically oriented activities, as opposed to research.[29,30]

Our findings show that women in internal medicine specialties increase their research productivity at a later point in their careers. This is similar to the authors'

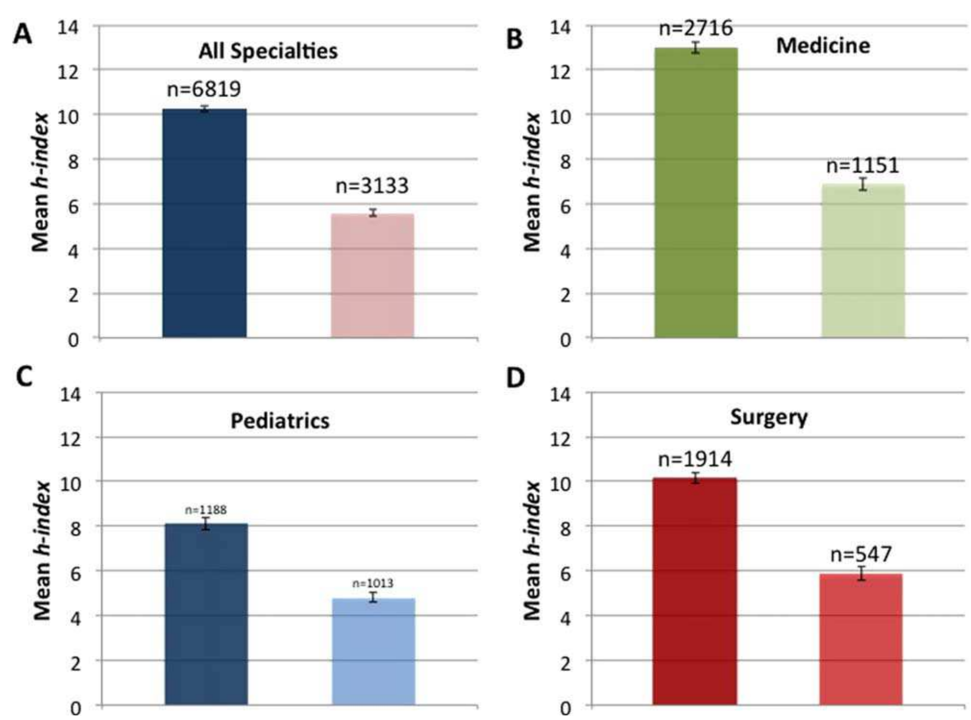

Fig. 2. Research productivity, as measured by the h-index, organized by gender. Left (darker) bars represent male faculty. Right (lighter) bars represent female faculty. (A) All specialties, including anesthesiology and radiology. (B) Internal medicine specialties. (C) Pediatrics specialties. (D) surgical specialties. Error bars represent standard error of means, n represents sample size. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

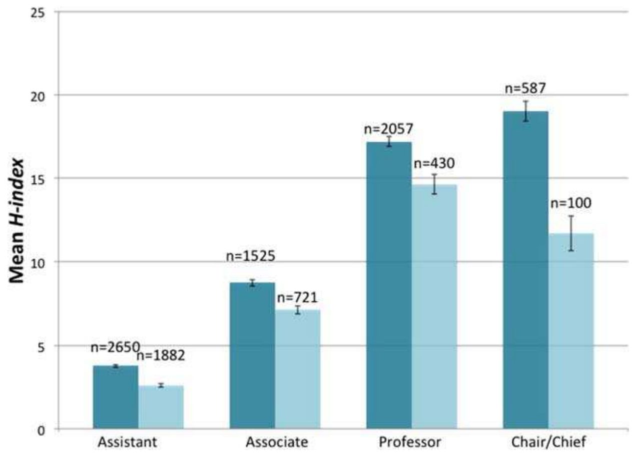

Fig. 3. Research productivity, as measured by the h-index, organized by gender and rank of 9,953 academic physicians from 33 specialties. n represents sample size, error bars represent standard error of means. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

previous finding in academic otolaryngology.[28] When considering all surgical specialties overall in the present analysis, men and women had equivalent academic productivity throughout their careers, similar to findings among pediatricians up until 25 to 30 years of experience. The majority of academic leadership appointments occur when an individual has shown 10 to 20 years of service, a time when the research productivity of women in internal medicine may be still considerably less than that of men (Fig. 11). One possible reason is that early in their careers women may prioritize family responsibilities over academic goals.[21,23,24] Child-rearing duties may decrease time devoted to academic pursuits, including publications and career advancement. This may be exacerbated by after-hour meetings and a lack of family leave policies, both of which may be more burdensome for female faculty members.[31] Previous surveys of female academic physicians have shown that women in all departments believe that children had delayed their career advancement.[31]

Other potential reasons for the unequal representation of women in academic medicine include the limitations of traditional gender roles, effects of sexism in the medical world, scarcity of female role models and mentors for junior female colleagues, and fewer females in the research-intensive medical schools that tend to produce a higher number of academic physicians.[10,32,33]_ENREF_20 Previous studies have found that women are considerably less likely than men to be promoted, with each additional year of seniority of less value to women in improving their chances of becoming full professors, after accounting for total career publications among other related factors. The average time to promotion was 6.5 years for women and 5.2 years for men.[6,29]_ENREF_2 Women with young children are also less likely to be included in professional networks, with any existing female networks having fewer colleagues from other institutions.[31]

The lack of mentorship may be explained by the scarcity of successful female academic medical specialists. Formal mentoring programs for women in academic medicine are also often focused on leadership development, practice management, legislative advocacy, and selecting a generalist career, as opposed to choosing academic medicine as a career. Female physicians have been found to select careers based more on perceived quality of life and organizational reward rather than national recognition and leadership, the latter two of which have frequently ranked as higher priorities for

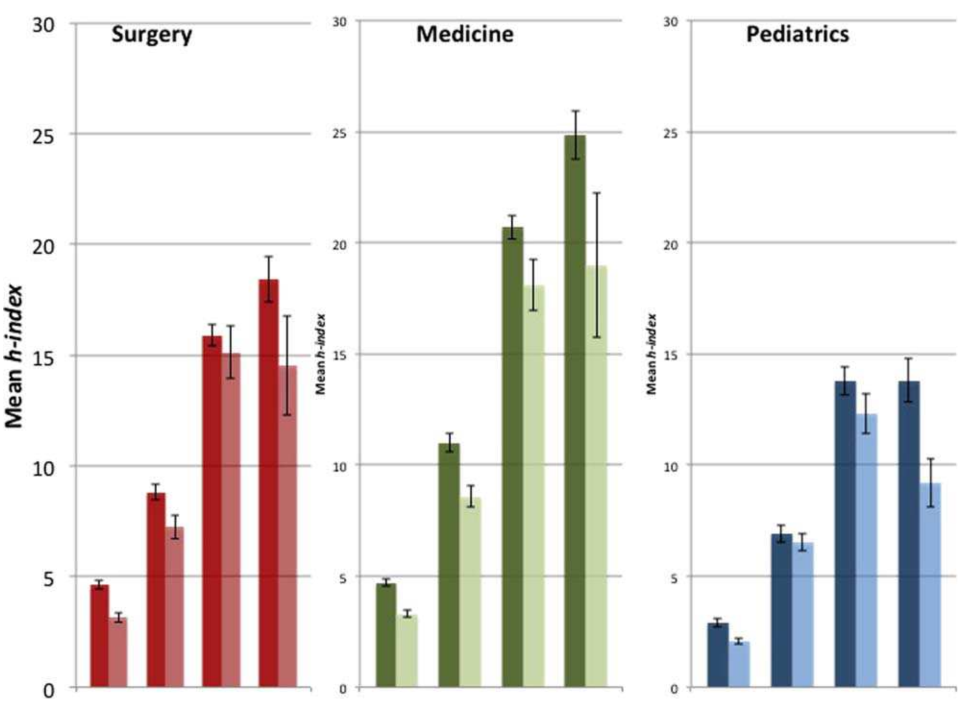

Fig. 4. Research productivity, as measured by the h-index, organized by gender and rank of academic physicians in surgical, medical, and pediatric specialties. Error bars represent standard error of means. Each pair of bars represents successive academic rank: assistant professor, associate professor, professor, chairperson/chief. Dark (left) bar in each pair represents male faculty. Light (right) bar in each pair represents female faculty. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

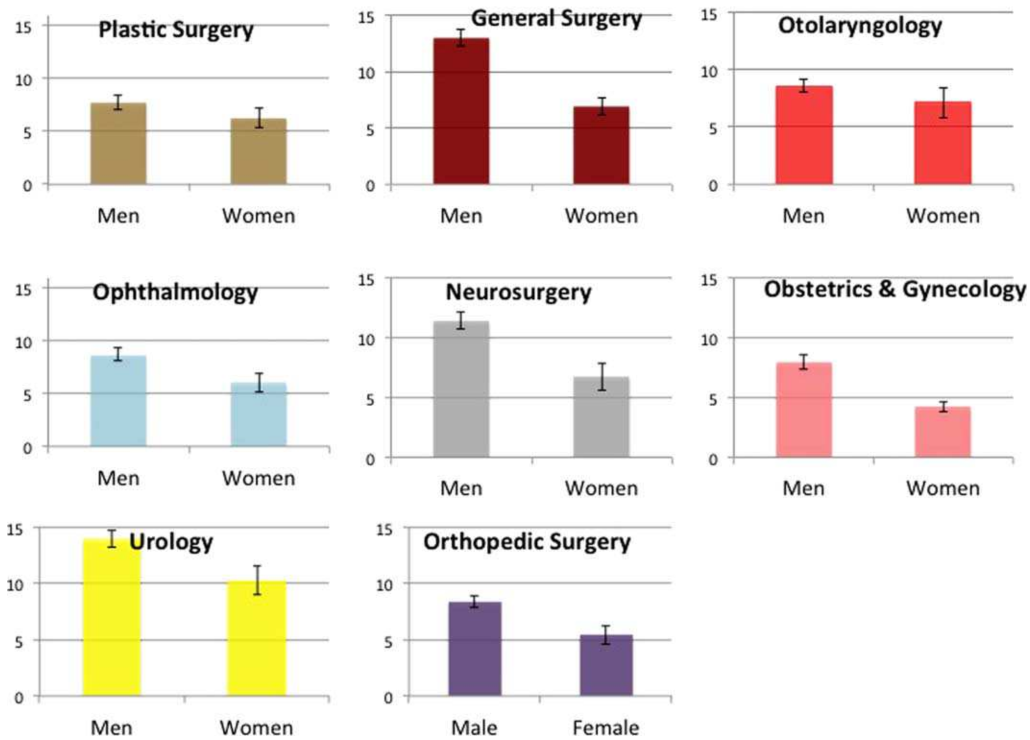

Fig. 5. Comparison of research productivity between genders among surgical specialties. Vertical axis represents h-index. Error bars represent standard error of means. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

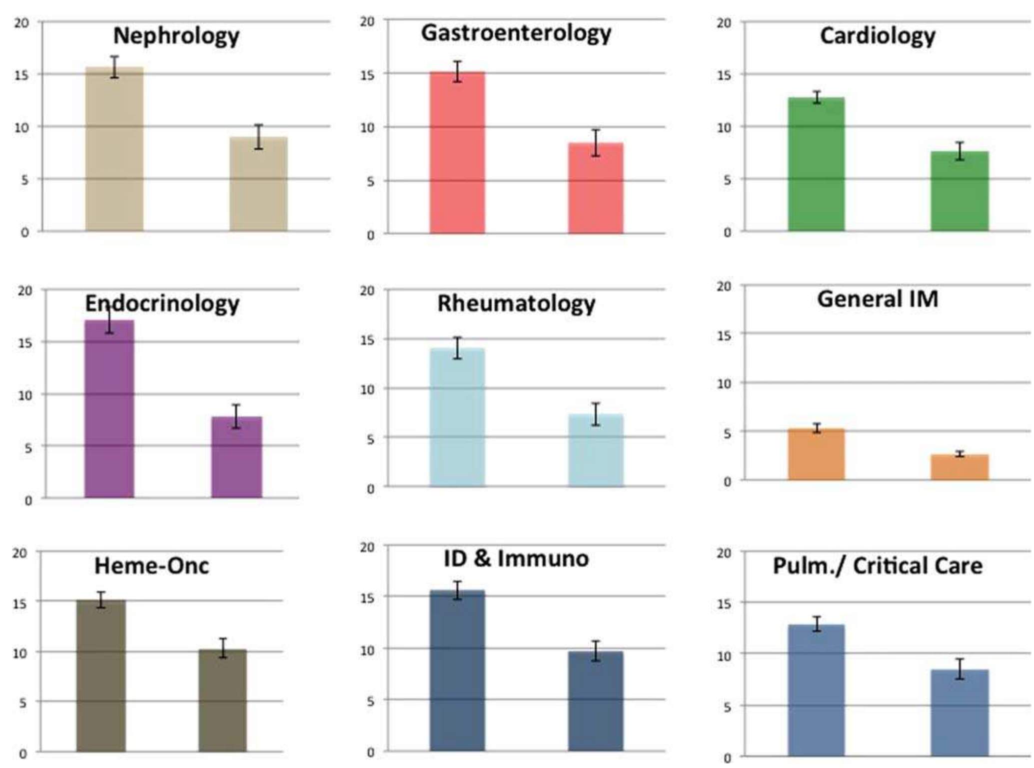

Fig. 6. Comparison of research productivity between genders among internal medicine specialties. Vertical axis represents h-index. Error bars represent standard error of means. Bars on the left of each chart represent male faculty. Bars on the right represent female faculty. General IM = internal medicine (nonfellowship-trained); Heme-Onc = hematology & oncology; ID & Immuno = infectious disease; immunology, pulm./critical Care = pulmonary and critical care medicine. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

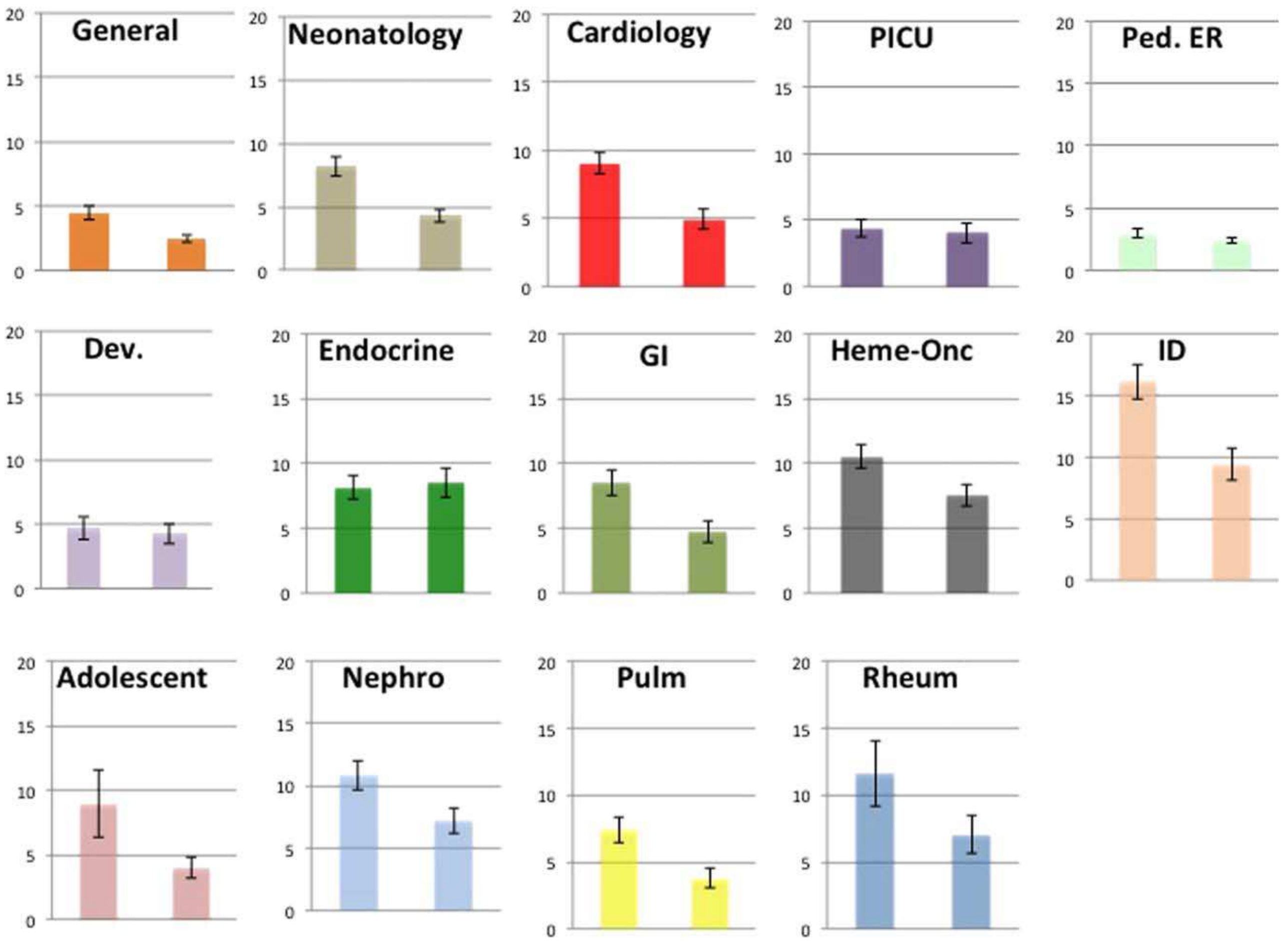

Fig. 7. Comparison of research productivity between genders among pediatric specialties. Vertical axis represents h-index. Error bars represent standard error of means. Bars on the left of each chart represent male faculty. Bars on the right represent female faculty. PICU = pediatric critical care; Ped. ER = pediatric emergency medicine; Dev. = developmental pediatrics; GI = pediatric gastroenterology; Heme-Onc = pediatric hematology & oncology; ID = pediatric infectious diseases; Nephro = pediatric nephrology; Pulm = pediatric pulmonology; Rheum = pediatric rheumatology. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

male physicians. However, the differing approaches of men and women of successive generations to personal and work-life balance issues and career advancement may lead to differing dynamics and a lessening influence of a gender-disparate value system in future decades.[33]

A study of 1814 faculty in 24 medical schools revealed that, although base salaries of nonphysician faculty are gender comparable, female physician faculty have a noticeable deficit (−$11,691; $P = 0.01$), and, furthermore, both physician and non-physician women with greater seniority have larger salary deficits (−$485 per year of seniority; $P = 0.01$).[34] That same study showed that 66% of men but only 47% of women ($P < 0.01$) with 15 to 19 years of seniority were full professors. A survey

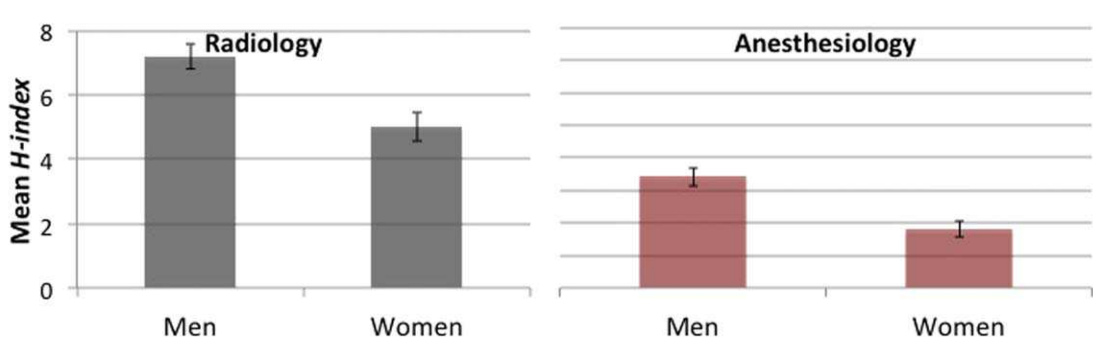

Fig. 8. Comparison of research productivity between genders in radiology and anesthesiology. Error bars represent standard error of means.

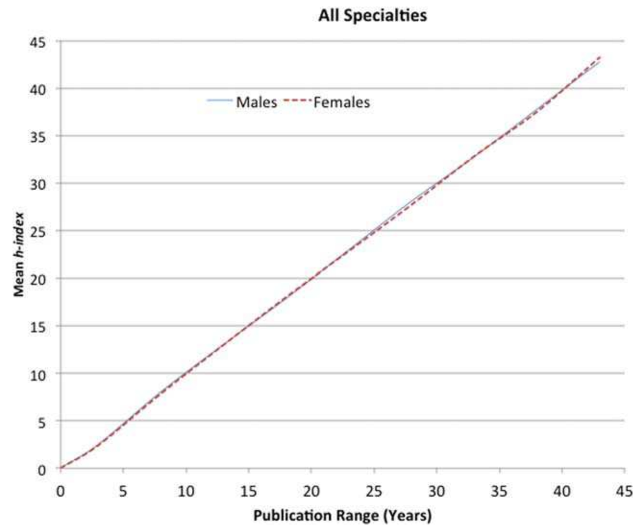

Fig. 9. Comparison between genders of h-index change with publication range, in years, of 9,953 academic physicians from 33 specialties. Slope of these lines represent rate of research productivity. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

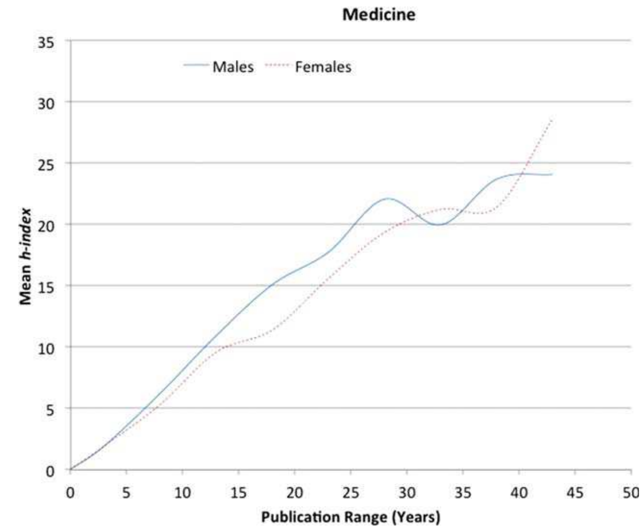

Fig. 11. Comparison between genders of h-index change with publication range, in years, of academic physicians in internal medicine specialties. Slope of these lines represent rate of research productivity. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

of surgical faculty and residents (n = 32 women and 16 men) showed that 80% of women agreed or agreed strongly with the statement, "My gender limits my chances for promotion," while 70% of men disagreed or disagreed strongly with that statement.[35] In another study of a major medical department, male professors were found to have held their current rank for an average of 6 years longer than their female counterparts.[6]

Data compiled for multiple years from the American Association of Medical Colleges (AAMC) on gender and rank composition of surgical faculty demonstrate that, although there are more assistant professors than either associate or full professors among both men and women, among men full professors outnumber associate professors, while conversely among women, both assistant and associate professors outnumber full professors. Regarding surgical specialties in particular, there has been no demonstrable change in these percentages over the past 2 decades.[35]

A study of 141 third-year medical students at a major U.S. medical school found that, despite performing equally to their male peers, female medical students consistently report decreased self-confidence and increased anxiety, particularly over issues related to their

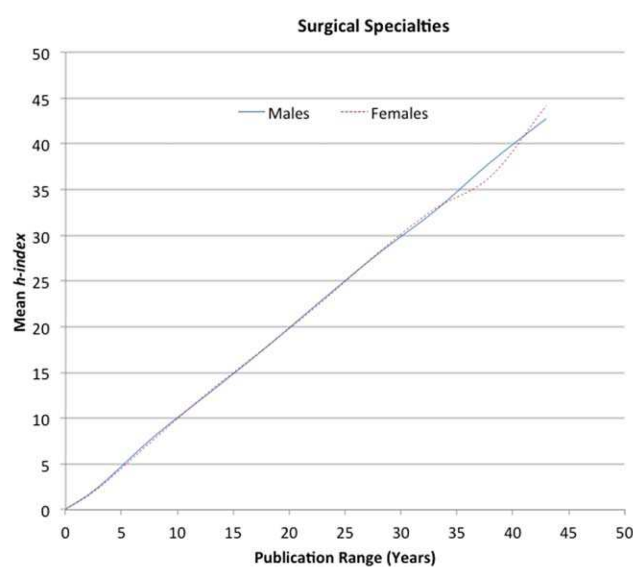

Fig. 10. Comparison between genders of h-index change with publication range, in years, of academic physicians in surgical specialties. Slope of these lines represent rate of research productivity. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

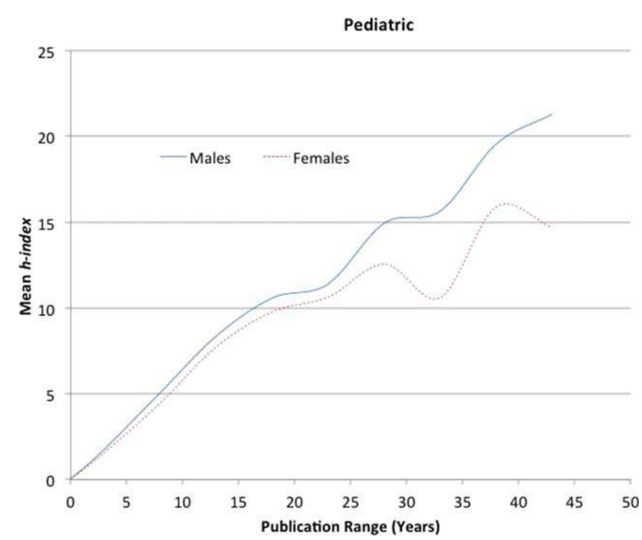

Fig. 12. Comparison between genders of h-index change with publication range, in years, of academic physicians in pediatric specialties. Slope of these lines represent rate of research productivity. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

competence.[36] This may stem in part from the paucity of mentorship. A systematic review of mentorship published in 2006 showed that 50% of medical students and 20% of faculty members overall report having a mentor.[37] Women perceived that they had more difficulty finding mentors than their colleagues who are men.

Bibliometrics May Favor More Experienced Authors

The h-index favors authors with higher numbers of research publication years, meaning a low-value for an author in the first few years of their career does not necessarily mean poor research productivity.[26] Using a measure of research productivity that seems to be biased against new authors may have contributed to lower h-indices seen in female faculty members, who have only recently emerged in higher numbers in academic medicine compared to males.

Conversely, the continuing numerical gender disparity in surgical specialties may account for the still considerable inequities in research productivity between the genders in most of the surgical subspecialties. Although the overall sample of 547 women in the combined surgical specialties in this analysis was sufficient to detect statistical differences, the small sample size of women in some of the individual surgical fields, such as plastic surgery (n = 24 women) and otolaryngology (n = 45), may have led to inadequate power to detect statistically significant gender differences in research productivity in these fields. Hence, in a recent analysis examining gender disparities among 1,054 academic otolaryngologists, men were found to have a statistically higher research productivity as measured by the h-index.[28]

Male and Female Academic Physicians Have Equal Rates of Research Productivity, When Considering all Medical Specialties

These findings support previous literature that has shown that when stratified by rank and track, no significant differences exist between genders in terms of the number of peer-reviewed publications.[29] Although rates of research productivity of male and female academic physicians, organized by publication range (Fig. 9), were found to be equivalent, there was still a difference among overall mean research productivity (Fig. 2). This is at least partly due to the fact that within our sample, women are overrepresented at more junior academic ranks relative to their numbers in more senior positions (Fig. 1). As a result, a greater proportion of female overall mean scholarly productivity (Fig. 2) is influenced by faculty at more junior ranks than this calculation is for male otolaryngologists. In 2004, women comprised only 19% of associate and full professors of clinical faculties of medical schools, and women were senior authors in only 19% of six prominent scientific journals studied.[32] Furthermore, because women have more recently emerged as academic leaders, they may have less international recognition, a factor that is frequently used when inviting authors to write guest editorials.[32] However, while women continue to comprise only 19% of full professors as of 2012,[7] the number of female associate professors has risen to 32%. Still, this smaller pool of female senior faculty members may lead to a lower aggregate research productivity measure, even though individual females have equal rates of research productivity when compared to their male counterparts.

When considering individual fields, the research productivity of female academic physicians was found to be less than men in the 10 to 30 publications/year range for practitioners in internal medicine, and surpassed that of men in the +30 publications/year range. This latter finding supports previous literature contending that the publication productivity of women reaches and may exceed that of men later in their careers.[10,28] These trends may reflect that women delay their most productive periods to a time when leadership promotions are largely decided[32], accounting for the lower representation of female academic physicians in higher academic ranks relative to their overall numbers in this analysis.

The research productivity of male pediatric academicians was higher than that of females at all ages, with the gender gap increasing beyond 25 to 30 publication years. This may result from female pediatricians devoting more time toward educational activities.[31] The time spent in teaching and in clinically oriented activities has been found to inversely correlate with scholarly productivity for both men and women.[38] Furthermore, while women have held at least 50% of positions in pediatrics for the past 25 years, they continue to be underrepresented in leadership positions; they constitute only 20% of full professors and 10% of department chairs, numbers that have remained stable over this time period.[29] This emphasizes that for pediatric specialties, findings other than just differences in scholarly productivity may contribute to differences in promotion trends.

Perhaps surprisingly, research productivity rates showed no gender differences throughout the careers of academic surgeons when organized by publication range (Fig. 10). This is in contrast to mean h-indices overall in individual surgical specialties (Fig. 5), which had statistical differences in most surgical specialties. These findings suggest that, more so than in internal medicine and pediatrics, the lower relative representation of women at higher academic ranks is due to the fact that relatively few women enter surgical specialties compared to other disciplines, rather than this difference being due to differential rates of scholarly productivity. It should be noted, however, that mean h-indices of academic surgeons controlled by academic rank did show real and statistically significant deficits in research productivity at junior levels (Fig. 4), suggesting the need for further studies to examine why this is occurring.

Limitations

The h-index does not consider an author's specific contributions to a publication, failing to consider the order of the author on a manuscript.[18] It may also theoretically be influenced by self-citations.[18] In addition, by focusing on a single number, the h-index fails to specify the finer gradations of an author's productivity, neglecting to differentiate between the specific types of research publications.[18] Scopus, the database used for this analysis, also does not account for citations prior to 1995[18], likely undercounting h-index values in more senior authors; however, there was a statistical increase in h-index with seniority, likely marginalizing the potential for undercounting.

Another limitation of this analysis is that there are simply fewer women at this point in the age groups that would allow them to be full professors and departmental leaders; therefore, they may not be underrepresented at these levels. Our primary objective was to characterize differences in scholarly productivity rather than comment on whether there is underrepresentation. Within this analysis, "underrepresentation" simply refers to the overall number of women in this sample. Therefore, while female faculty at the level of full professor are underrepresented relative to their 31.5% composition in this sample, this is not intended as a commentary on whether they are represented relative to their age or other factors. All other references to underrepresentation may also refer to their historical underrepresentation, which is very well documented, especially within the surgical specialties.

CONCLUSION

The apparent gender differences shown in this analysis are consistent with trends previously described among academic otolaryngologists. Gender representation at successive academic ranks may be partially accounted for by gender disparities in research productivity. Other potential explanations may include fewer numbers of physicians in the age groups during which higher academic ranks are attained, greater family responsibilities, and greater involvement in clinical service and educational contributions.

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APPENDIX I.
h-Index of Physicians in Various Specialties.

Specialty	Men		Women	
	Sample Size	*H-index* (±SEM)	Sample Size	*H-index* (±SEM)
All Specialties	**6819**	**10.25 (± 0.14)**	**3133**	**5.59** (±0.14)
Assistant	2650	3.77 (±0.10)	1882	2.60 (±0.09)
Associate	1525	8.76 (±0.20)	721	7.14 (±0.25)
Professor	2057	17.22 (±0.30)	430	14.65 (±0.60)
Chair/Chief	587	18.98 (±0.60)	100	11.72 (±1.04)
Anesthesiology	**441**	**3.41** (±0.27)	194	1.80 (±0.25)
Internal Medicine (All IM Specialties)	**2716**	**13.00** (±0.26)	1151	6.89 (±0.28)
Assistant	1014	4.71 (±0.19)	706	3.31 (±0.18)
Associate	570	11.02 (±0.40)	261	8.57 (±0.48)
Professor	925	20.68 (±0.52)	165	18.08 (±1.16)
Chair/Chief	208	24.86 (±1.10)	19	19.00 (±3.25)
Allergy/Immuno/ID	261	15.56 (±0.86)	120	9.73 (±0.98)
Cardiology	617	12.76 (±0.55)	123	7.64 (±0.87)
Endocrinology	175	17.08 (±1.30)	101	7.83 (±1.13)
Gastroenterology	253	15.08 (±0.93)	75	8.48 (±1.28)
Hematology–Oncology	342	15.15 (±0.78)	141	10.29 (±0.96)
Internal Medicine (General)	401	5.31 (±0.46)	350	2.69 (±0.27)
Nephrology	187	15.63 (±0.99)	67	8.99 (±1.14)
Pulmonary/Crit. Care	338	12.93 (±0.72)	104	8.52 (±0.97)
Rheumatology	143	14.06 (±1.11)	70	7.37 (±1.16)
Surgical Specialties	**1914**	**10.16** (±0.23)	547	5.88 (±0.29)
Assistant	714	4.62 (±0.20)	332	3.14 (±0.20)
Associate	473	8.81 (±0.34)	136	7.23 (±0.53)
Professor	553	15.88 (±0.47)	66	15.13 (±1.18)
Chair/Chief	174	18.40 (±1.02)	13	14.54 (±2.25)
General Surgery	278	12.97 (±0.70)	72	6.89 (±0.73)
Neurological Surgery	238	11.41 (±0.68)	31	6.74 (±1.14)
Obstetrics & Gynecology	233	7.95 (±0.61)	206	4.20 (±0.39)
Ophthalmology	232	8.72 (±0.63)	78	6.08 (±0.91)
Orthopedic Surgery	333	8.4 (±0.52)	48	5.46 (±0.83)
Otolaryngology	222	8.58 (±0.53)	45	7.13 (±1.34)
Plastic Surgery	116	7.72 (±0.66)	24	6.33 (±0.95)
Urology	261	13.98 (±0.73)	45	10.29 (±1.29)
Pediatric Specialties	**1188**	**8.13** (±0.28)	**1013**	**4.82** (±0.21)
Assistant	449	2.92 (±0.20)	590	2.08 (±0.13)
Associate	269	6.90 (±0.39)	235	6.52 (±0.38)
Professor	312	13.81 (±0.64)	125	12.33 (±0.91)
Chair/Chief	158	13.81 (±0.97)	63	9.21 (±1.09)
Adolescent Medicine	21	8.90 (±2.60)	45	3.98 (±0.78)
Cardiology (Pediatric)	164	9.07 (±0.78)	71	4.92 (±0.76)
Critical Care (Pediatric)	89	4.37 (±0.64)	59	4.03 (±0.75)
Developmental Pediatrics	35	4.69 (±0.88)	58	4.24 (±0.76)
Emergency Medicine (Pediatrics)	94	2.97 (±0.37)	185	2.43 (±0.24)
Endocrinology (Pediatric)	58	8.12 (±0.94)	73	8.52 (±1.15)
Gastroenterology (Pediatrics)	72	8.51 (±0.99)	58	4.73 (±0.83)
General Pediatrics	118	4.50 (±0.56)	184	2.48 (±0.30)
Hematology–Oncology (Pediatric)	127	10.51 (± 0.92)	82	7.54 (± 0.83)

APPENDIX I. (*Continued*)				
	Men		Women	
Specialty	Sample Size	*H-index* (±SEM)	Sample Size	*H-index* (±SEM)
Infectious Disease (Pediatric)	80	16.10 (±1.46)	56	9.41 (±1.29)
Neonatology	153	8.24 (±0.79)	139	4.33 (±0.52)
Nephrology (Pediatrics)	51	10.82 (±1.22)	33	7.24 (±1.05)
Pulmonology (Pediatric)	89	7.37 (±0.96)	44	3.80 (±0.72)
Rheumatology (Pediatric)	37	11.57 (±2.41)	27	7.04 (±1.39)
Radiology	**559**	**7.19** (±0.38)	**228**	**5.00** (±0.46)