



HHS Public Access

Author manuscript

Acad Med. Author manuscript; available in PMC 2017 August 01.

Published in final edited form as:

Acad Med. 2016 August ; 91(8): 1108–1118. doi:10.1097/ACM.0000000000001284.

Variability in Women Faculty's Preferences Regarding Mentor Similarity: A Multi-Institution Study in Academic Medicine

René Carapinha, PhD, MA(SW),

Research and program manager, Office for Diversity Inclusion and Community Partnership, and research fellow, Department of Global Health and Social Medicine, Harvard Medical School, Boston, Massachusetts

Rowena Ortiz-Walters, PhD,

Dean of the School of Business and Economics and professor of management at SUNY Plattsburgh in Plattsburgh, New York

Caitlin M. McCracken, MA,

Data collection coordinator, The Harvard Clinical and Translational Science Center, Harvard Medical School, Boston, Massachusetts

Emorcia V. Hill, PhD, and

Director of research and evaluation, Office for Diversity Inclusion and Community Partnership, Harvard Medical School, Boston, Massachusetts

Joan Y. Reede, MD, MPH, MS, MBA

Dean, Office for Diversity Inclusion and Community Partnership, and associate professor of medicine, Harvard Medical School, and associate professor, Department of Social and Behavioral Sciences, Harvard School of Public Health, Boston, Massachusetts

Abstract

Purpose—To investigate which mentor similarity characteristics women faculty in academic medicine rate most important and to determine whether the importance of similarity differs among women faculty based on current and prior mentoring, demographic and personal factors, and career factors.

Method—Cross-sectional survey data from 3,100 women faculty at 13 purposively sampled U.S. medical schools were collected in 2012. The preferences of participants regarding the importance of mentor similarity in terms of race/ethnicity, gender, personal and career interests, and department and institution were studied. Analysis entailed chi square tests and multivariable ordered logistic models.

Correspondence should be addressed to René Carapinha, Harvard Medical School, 164 Longwood Avenue, 3rd Floor, Boston, MA 02115; telephone: 617-432-1647; rene_@hms.harvard.edu.

Other disclosures: None reported.

Ethical approval: Ethical approval was provided by the Harvard University Faculty of Medicine Committee on Human Studies (CHS Study Number M19492-106).

Previous presentations: American Council on Education (ACE) national conference, "Career Flexibility for Biomedical Faculty of Today and Tomorrow." March 14–15, 2015, Boston, Massachusetts.

Results—Overall, respondents ranked having a mentor in the same department and institution as most important. Same department and institution were less important for those without a current mentor and for senior faculty, and were more important for Asian faculty. Same career and personal interests were less important for older faculty and more important for those with a doctorate only. Same gender was more important for Black faculty, faculty at the rank of instructor, and those without current mentoring. Overall, same race/ethnicity was rated least important; however, it was more important for racial/ethnic minorities, foreign-born faculty, and those who had never had a mentor.

Conclusions—Mentor preferences, as indicated by level of importance assigned to types of mentor similarity, varied among women faculty. To advance effective mentoring, characterized by high degree of mentor-mentee fit, the authors provide recommendations on matching strategies to be used in academic medicine when considering the diverse mentor preferences of women faculty.

Gender gaps plague careers in academic medicine as seen in differential rates in advancement,^{1–5} compensation,^{3,6} and productivity^{7,8} between women and men faculty. The work environment can be particularly complex for women faculty who struggle to balance professional and personal-life demands^{9–11} and who are members of disenfranchised groups, such as racial-ethnic minorities¹²; foreign-born individuals; lesbian, gay, bisexual, and transgender (LGBT)^{13,14} people; and/or persons with disabilities.¹⁵

Mentoring is one promising strategy to address gender gaps in academic medicine, in part because women faculty report that insufficient mentoring is the most common challenge that impedes advancement.^{16,17} Mentoring is an intense developmental relationship¹⁸ that involves the reciprocal exchange of resources between a mentor and a mentee.¹⁹ The dyadic form of mentoring (i.e., a relationship between two individuals) remains common in academic medicine,²⁰ and having more than one dyadic mentoring relationship is typical and encouraged.^{21–23} Effective mentoring includes mentoring with positive career and individual outcomes, such as promotions, greater salary growth, and career satisfaction.^{19,24,25}

To promote effective mentoring for women faculty, a focus on mentor-mentee fit is needed. The Goodness-of-Fit model of mentoring suggests that the quality and value of mentoring are predicated on the degree of fit between mentor and mentee preferences, endowments, and the content of knowledge transmitted.^{19,26} Although prior studies have investigated desired mentor characteristics pertaining to the mentor's personality, interpersonal abilities, and professional status,^{22,25–30} a lack of research on additional desirable mentor characteristics from the perspective of women faculty in academic medicine limits our ability to advance optimal mentoring through better mentor-mentee matching.

The topic of fit has been studied mostly at the stage of mentoring initiation. Mentorships are typically initiated on the basis of perceived similarity, identification, and interpersonal comfort between the mentor and the mentee.^{25,31–33} Underlying these psychological and interpersonal factors are the dynamics of similarity-attraction (i.e., the tendency to be attracted to, like, and/or benefit from interactions with others we perceive as similar).³⁴

Studies show that similarity can be based on socio-demographic factors, attitudes, interests, and beliefs or experience-based factors such as departmental affiliation and organizational setting.^{35–37} Although these studies on experience-based similarity were conducted outside of academic medicine, their results suggest we should consider the importance of similarity in academic medical settings where contextual differences in demographics, promotion patterns, and expectations for productivity exist among departments.³⁸ A mentor's awareness of the departmental environment may influence his or her understanding or perception of mentee needs and the type of support offered.

This study addresses two research questions:

1. Which mentor similarity characteristics do women faculty in academic medicine report as most important?
2. Does importance of similarity differ among women faculty based on current and prior mentoring, demographic and personal factors (race-ethnicity, foreign-born status, age, childcare responsibilities), and career factors (rank, degree type)?

We investigate similarity in terms of medical institution (same medical school/academic medical center), department, personal and career interests, and race-ethnicity and gender. The importance of similarity is not assessed relative to a specific outcome, but rather represents women faculty preferences in general.

Method

Data and sampling

We used quantitative survey data from the Women and Inclusion in Academic Medicine study (WIAM).³⁹ The aim of the WIAM study was to examine the characteristics and interrelationships of institutional, individual, and sociocultural factors that influence the entry, progression, and persistence of women faculty in academic medicine. The WIAM study was conducted by *Converge: Building Inclusion in the Sciences*, the research and evaluation arm of the Harvard Medical School Office for Diversity Inclusion and Community Partnership. Data were collected in 2012 using a purposive sample of 13 academic medical institutions based on geographic location, public versus private status, faculty size, Research Center in Minority Institution status, and research intensity (Table 1). All women faculty in clinical and basic science departments who had a valid email address (N = 8,041) were invited to participate in the study via an email that linked to the online survey. No material incentives were offered to encourage study participation. Across the 13 medical schools 3,127 women faculty (39%) responded to the survey. Of the respondents, 3,100 met the inclusion criterion of being faculty at the rank of instructor or higher. The respondents closely represent the women faculty at the 13 medical schools in terms of rank and race/ethnicity breakdown. The Harvard Medical School Committee on Human Subjects approved the study.

Measures

Dependent variables—Respondents were provided the following definition of a mentor: “an individual who holds a position senior to yours who takes an active interest in

developing your career”. Using a 5-point response scale ranging from “not at all important” (1) to “very important” (5), respondents were asked to indicate how important it is that a mentor (1) be at the same medical school/academic medical center; (2) be in the same department; (3) be of the same gender; (4) be of the same race/ethnicity; (5) have the same career interests; and (6) have the same personal interests as you. Responses to each of these items were used as single-item measures.

Independent variables—We coded current and prior mentoring using two survey questions: (1) across your education, training, and employment, have you ever had a mentor? and (2) do you currently have a mentor? Codes used included: (1) have a mentor currently (reference), (2) had a mentor in the past but not currently, (3) never had a mentor. We used data about multiple mentors and past mentoring to further describe those who reported currently having a mentor.

We measured race/ethnicity using self-identified race and ethnicity, coded as non-Hispanic White (reference), Non-Hispanic Black, Non-Hispanic Asian, Hispanic, multiple races, and other/decline to answer. We measured US-born (reference) and foreign-born as a dichotomous variable. Based on birth year, we grouped respondents into three age groups: (1) 44 years (reference), (2) 45–55 years, and (3) >55 years. We asked whether respondents had childcare responsibilities and again grouped respondents into three groups (1) yes, within the past two years (reference), (2) yes, more than 2 years ago, and (3) no. Exploratory models included care for dependent adult(s), LGBT status, marital/partnership status, and disability status; however, these variables were not significant in bivariate or multivariable analyses and were omitted after assessing model fit.

Academic rank was coded as (1) full professor, (2) associate professor, (3) assistant professor (reference), and (4) instructor. Degree type was categorized as (1) medical degree only (reference) (MD, MBBS, DO, etc.), (2) doctoral degree only (PhD, ScD, etc.), (3) medical and doctoral degree, and (4) Masters or Bachelors.

Statistical analysis

The WIAM data were imputed to address missing data for items assumed to be missing at random. We used multiple imputation procedures to address missing data for items missing less than 30% and generated five completed datasets for analysis. To calculate point estimates and standard errors, we used Rubin’s rules to pool the results from the five imputed waves.⁴⁰

We assessed observation non-independence within medical schools by calculating the intra class correlation coefficient (ICC). The ICC for the six models ranged between 2% and 3%, indicating a marginal covariance by medical school. We used a set of dummy variables to control for the differences between medical schools to allow the simultaneous use of imputed data and ordinal logistic models.

The sample is described using summary statistics from the unimputed data. We tested the distribution of independent variables by academic rank using Pearson’s Chi Square. Overlap among the categorical independent variables was assessed using Pearson’s Chi Square,

Spearman correlation, and variance inflation factor (VIF). Although the independent variables were related, the VIF was low and coefficients did not change if one or more variables were omitted from the models. We estimated the multivariable models with imputed data and used ordinal logistic regression. We estimated cross-product interactions with post-hoc tests to investigate the differences among faculty by race/ethnicity and foreign-born status. All *P* values were two-sided, and a minimum significance level of .05 was used. We used STATA version 13.1 (StataCorp, College Station, TX) for the analysis.

Results

Description of respondents

Table 2 shows characteristics of the respondents using the unimputed data. Study participants were predominantly White ($n = 1,484$, 68%) age 44 years ($n = 1,045$, 48%), assistant professors ($n = 1,245$, 41%), or instructors ($n = 698$, 23%), married or had a partner ($n = 1,752$, 79%), currently care for dependent children ($n = 1,220$, 55%). One-quarter were foreign born ($n = 558$, 25%), with the highest percentages among Asian faculty (189/322, 59%) and Hispanic faculty (59/148, 40%). Over half of all participants currently have a mentor ($n = 1,170$, 53%), about one-third ($n = 736$, 34%) had a mentor in the past but not currently, and 13% ($n = 290$) never had a mentor.

Most independent variables were significantly associated with faculty rank (see Table 2). For example, of 465 participants with the rank of professor, 277 (77%) were White, 28 (8%) were Hispanic, 23 (6%) were Asian, and 10 (3%) were Black. The majority of professors ($n = 190$, 53%) currently do not have a mentor but had a mentor in the past. Table 3 shows that the majority of all faculty in our study currently have a mentor. Among the 1,154 who have a mentor currently, 805 (69%) indicated they currently have multiple mentors, and 56 (5%) reported no prior mentoring.

Importance of mentor similarity characteristics for women faculty

As shown in Table 4, on average, using the 1–5 rating scale, participants rated same medical institution (median = 4, IQR = 2) and same department (median = 4, IQR = 2) most important, and same race/ethnicity least important (median = 1, IQR = 1) among mentor similarity characteristics. Table 5 displays preferences for mentor characteristics among different women faculty participants.

Current and prior mentoring—Compared to those with a current mentor, women faculty who had a past mentor but no current mentor had 22% lower odds of rating same institution (OR = .78, CI = 0.63–0.98) or same department (OR = .78, CI = 0.65–0.92) very important and 31% higher odds of rating same gender very important (OR = 1.31, CI = 1.05–1.64). Compared to those with a current mentor, women faculty who never had a mentor were more likely to rate same gender (OR = 1.62, CI = 1.19–2.20) and same race/ethnicity (OR = 1.75, CI = 1.15–2.66) very important.

Demographic and personal characteristics—Race and place of birth (US- vs. foreign-born) were also associated with preferences for mentor characteristics. Compared to

Whites, Blacks had 32% lower odds of rating same medical school very important (OR = 0.68, CI = 0.48–0.95), 50% higher odds of rating same gender very important (OR = 1.5, CI = 1.03–2.19), and over five times greater odds of rating same race/ethnicity (OR = 5.44, CI = 3.42–8.65) very important. Compared to Whites, Hispanics (OR = 2.53, CI = 1.73–3.72) and Asians (OR = 1.37, CI = 1.07–1.76) were more likely to rate same race/ethnicity very important. The preference for same race mentors was generally stronger among US-born than foreign-born faculty. For example, compared to US-born Whites, the odds of rating same race/ethnicity as very important was six times greater for US-born Blacks (OR = 6.06, CI = 3.63–10.11) but only 3.5 times greater for foreign-born Blacks (OR = 4.04, CI = 2.09 – 7.80). Other differences in preferences were also observed among faculty based on where faculty were born. For example, compared to US-born Whites, foreign-born Asians had 47% (OR = 1.47, CI = 1.41–1.90) greater odds of rating same department as very important.

Differences by age group were also observed. For example, compared to faculty whose age was 44 years, faculty older than 55 years had 22% lower odds (OR = .78, CI = 0.61–1.01) of rating same personal interest as important and 38% lower odds of rating same career interest as important (OR = .62, CI = 0.47–0.81)

Career characteristics—Faculty of lower rank generally had greater preferences for mentors with the same career characteristics than did faculty at higher ranks. Compared to assistant professors, full professors (OR = 0.56, CI = 0.42–0.75) had 44% lower odds of rating same institution as important and 55% lower odds (OR = .45, CI = 0.33–0.62) of rating same department very important. Compared to assistant professors, the odds of rating same gender very important were 36% greater among instructors (OR = 1.36, CI = 1.09–1.68). The odds of rating same department very important were 33% lower for those with both medical and research doctorate degrees (OR = 0.67, CI = 0.47–0.95) compared to those who have a medical degree. Those with a doctorate degree alone had 19% higher odds for rating career similarity as more important (OR = 1.19, CI = 1.00–1.42) compared to those who had a medical degree alone.

Discussion and Conclusions

Finding a good fit between mentor and mentee is essential for effective mentoring. Given this fact and our limited knowledge about mentor preferences among women faculty in academic medicine, we investigated the importance women faculty assign to mentor similarity with regard to various characteristics. While our findings underscore the importance women faculty assign to mentor similarity, the variability in preferences based on mentee minority status, academic rank, and mentor exposure indicate that in designing mentoring programs, organizations should, from the beginning, seek direct input from individual mentees regarding their mentor preferences.

In general, same department and same institution were rated most important relative to other mentor characteristics. The importance given to same department and same institution may be attributed to contextual differences.³⁸ We encourage greater accountability on all levels for access to “local” mentors, including from institutions (e.g., design of programs), departments and mentors (e.g., knowing and understanding their own unique contextual

demands and challenges and mentor availability), and faculty (e.g., communicating their needs and preferences, especially through annual reviews). Such accountability measures should encourage faculty to build mentoring networks that consist of “local/internal” and “outside/external” mentors.

Our findings also document the preferences of diverse women faculty, and below we discuss these findings in terms of mentor preferences based on current and prior mentoring, as well as demographic, personal, and career characteristics. We also provide recommendations for mentor-mentee matching strategies.

Current and prior mentoring

The prevalence of mentoring is extremely variable, with some faculty having limited access to mentors, as demonstrated in this study and past studies.¹⁷ We found that faculty members’ preferences about mentors varied based on prior mentor experiences. Faculty with no prior mentoring assigned greater importance to same race/ethnicity in the mentoring relationship than did faculty with current mentors. This may suggest that assumed difficulties associated with racial/ethnic incongruences may be mitigated with mentoring exposure. Alternatively, for those who had past mentors, needs for race similarity might have been satisfied in prior mentoring relationships. Those who never had a mentor may be making assumptions about benefits that might accrue to them in same-race/ethnicity mentor-mentee relationships.

Compared to faculty with a current mentor, participants without a current mentor (whether or not they had prior mentoring) viewed gender similarity as important. The issues of cross-gender mentoring may be more salient to those without a current mentor who may perceive gender-related challenges^{1–11} for which they have inadequate support. Additionally, compared to participants with a current mentor, faculty with prior but no current mentors placed less importance on same department and same institution. This may be attributed to a shift in career interest, career focus, and/or needs that have changed since last having a mentor. This may be particularly relevant for senior faculty. In the matching process, prior and current mentor experiences should be ascertained to better understand and accommodate mentee preferences.

Demographic and personal characteristics

A review of mentoring programs at academic medical centers for faculty who are underrepresented in medicine (Black, Hispanic, Native American) reports that matching is most often based on similarity in research interests and/or discipline.⁴¹ These findings may miss other unique needs of minority (Black, Hispanic and Asian) and foreign-born women faculty. Overall, our participants rated same race/ethnicity least important among mentor characteristics; however, it was more important for minority and foreign-born faculty than for their white and US-born counterparts. This observation is consistent with relational demography theory (i.e., observable demographic factors will be more salient for those who are a numerical minority in an organization).⁴² Same-race matching should be strongly considered for minority and foreign-born faculty; however, availability of similar mentors within an institution or department may present difficulties for women of color. Building a diverse mentoring network that meets racial/ethnicity similarity preferences may require

reaching outside one's department and institution. Additionally, unconscious bias training may increase all mentors' sensitivity to cross-cultural differences and be better enable mentors to meet the needs of diverse mentees.

Compared to White US-Born faculty, US-born black faculty in our study rated same-gender mentors more important and same institution mentors less important. Prior research of Obstetrics/Gynecology residents found that, compared with other racial groups, African-American women were more likely to have a female mentor. This trend was consistently observed over time.⁴³ African-American women, in particular, believed same-gender mentors would be more understanding.⁴³ Gender should be taken into account in mentor-mentee matching, particularly for African-American women. Having mentors within the same department was important to foreign-born Asians in our study. This may reflect differences in background, training, and/or clinical vs. basic science focus.

Matching based on personal and career interest may be less critical for older faculty compared with younger faculty, as suggested by our finding that faculty older than 55 years viewed these characteristics less important. When matching mentors and mentees, one should be mindful that age does not equal rank. In our study, 29% of professors were under 55 and 20% of faculty older than 55 held the ranks of either assistant professor or instructor. Needs may change depending on career- and life-stage⁴⁴, as well as personal, social, and environmental factors.⁴⁵ Therefore, life and career stage should be considered in mentor matching. For example, younger faculty may prefer mentors whom they can emulate as they establish careers and/or families,¹⁶ while older faculty may be more focused on expanding or revising their careers trajectories irrespective of rank.

Rank and degree type

In mentor-mentee matching and mentorship in general, there is a tendency to focus on junior faculty as mentees. In this study, full professors were least likely to have a current mentor compared to faculty at lower ranks. Both junior and senior faculty experience challenges^{23,46-48} and could therefore benefit from mentoring. As we found in our study, associate and full professors rated same-department mentors less important than did junior faculty, and full professors placed less value on mentors in the same institution than did junior faculty. This may relate to the scope of senior faculty's work and service (e.g., greater national/international focus and/or taking on broader leadership assignments). These findings are consistent with past studies showing that the networks of senior faculty are less local or organizationally dependent,⁴⁹ as senior faculty tend to source mentors outside their organization.⁴⁹

We encourage organizations to consider specific efforts that target the mentoring needs of senior women faculty. This may include broadening access to external mentors and encouraging involvement in networks outside of the local institution. Senior faculty should also report their needs to department heads (e.g., during annual reviews or reappointment reviews) in order to bring attention to and/or greater accountability for mentoring of senior faculty. In our study, having a female mentor was considered important by instructors. Blood et.al. found that instructors have the greatest unmet mentoring needs.¹⁶ Although there is a limited number of female mentors in academic medicine,^{43,50} the need for female mentors

among instructors could possibly be met since same gender was less important for faculty at higher ranks. These more senior faculty may not be as sensitive to cross-gender mentee-mentor matching. The preference of instructors for same-gender mentors should be assessed during the matching process and incorporated in discussions on mentoring as part of faculty development programs.

With regard to degree type, faculty with non-clinical degrees considered same career interest to be more important than did faculty with medical degrees. Same career interest is likely critical for faculty who are primarily engaged in research and for whom consideration of alternative career paths inside and outside of academic medicine may be a necessity. Particularly for non-clinical faculty, identification and matching require receptive mentors who share and/or can support mentees along career paths that reflect a wide array of interests.

In summary, we offer six recommendations for enhancing mentor-mentee fit:

1. Institutions and/or leadership should be more accountable for access to “local mentors” for all women faculty, and for encouraging mentoring of senior women faculty.
2. Prior and current mentor status of all women faculty should be ascertained prior to matching and/or during relationship initiation stages.
3. The importance of same-gender and same-race/ethnicity matching should be assessed and discussed with women faculty, especially those at lower ranks or who are earlier in their careers, and with minority and foreign-born faculty.
4. Mentor and mentee training programs should encourage mentor training in areas such as unconscious racial and gender bias.
5. Age- and rank-related preferences should be treated as distinct.
6. Identify and match mentors who share mentees’ intended career paths and/or who can support mentees along varied career paths, especially for non-clinical faculty.

Limitations

Study limitations include reliance on cross-sectional and self-reported survey data, which could introduce common method bias.⁵¹ Although the participants in our sample had a roughly equal demographic composition to the entire population at their institutions, access to individual data of non-respondents would have allowed us to better estimate any potential bias introduced by non-respondents. The study focused solely on women in academic medicine. Given the lack of empirical studies on mentor preferences among academic medicine faculty in general, we suggest that future studies should include male faculty to allow comparison. The study highlighted what might be important mentor preferences for women faculty. More research is needed to fully understand why women faculty value certain mentor characteristics. Six respondents identified their race as American Indian or Alaskan Native and three specified Native Hawaiian, limiting analysis by these racial groups.

Conclusions

A systematic review of mentoring in academic medicine found that insufficient evidence exists to provide guidance on mentor matching or selection of a mentor.³⁰ Given the importance of mentor-mentee fit for effective mentoring^{19,26} our study calls attention to the mentor preferences of women faculty in academic medicine specifically regarding the importance of mentor similarity. Our findings document the relative importance of mentors “in-place” (same department and/or institution) compared to other mentor characteristics as well as other preferences of a diverse sample of women faculty across 13 medical schools. These findings can be instructive in addressing ongoing challenges related to increasing faculty diversity in higher education. The results can inform preference-based matching in mentor program design and implementation. We acknowledge that faculty may have multiple mentors, therefore providing several opportunities to act on these recommendations. Taking preferences into consideration will improve goodness-of-fit for mentor-mentee dyads and ultimately should enhance the potential for optimized outcomes. Preference-based matching may provide an impetus for programs to be more explicit and transparent regarding the algorithms/criteria used in matching mentors with mentees. This could simultaneously inform research about mentoring preferences and the evaluation of mentor program effectiveness.

Acknowledgments

The authors gratefully acknowledge Michael Wake, MSW, MPH, for his contribution to the Women and Inclusion in Academic Medicine study, including general program management and data collection. In addition, they wish to thank Dr. Sharon-Lise Normand and Dr. Robert Wolf for their work on data imputation and statistical support, Dr. Stacy Blake-Beard for conceptual support, and Dr. Erica Warner for her analytical advice. Finally, they thank the participating site liaisons at the 13 medical schools and the study advisory committee for their support.

Funding/Support: This work was supported by a National Institutes of Health R01 award from the National Heart, Lung and Blood Institute (5 RO1 HL101996-02), and grant B07-07 from the Josiah Macy Jr. Foundation. R. Carapinha was also supported by National Institutes of Health Directors Pathfinders Award grant 1DP4GM096852 from the National Institute of General Medical Sciences.

References

1. Carr PL, Gunn CM, Kaplan SA, Raj A, Freund KM. Inadequate progress for women in academic medicine: findings from the National Faculty Study. *J Womens Health* 2002. 2015; 24(3):190–199.
2. Amrein K, Langmann A, Fahrleitner-Pammer A, Pieber TR, Zollner-Schwetz I. Women Underrepresented on Editorial Boards of 60 Major Medical Journals. *Gend Med*. 2011; 8(6):378–387. [PubMed: 22153882]
3. Ash AS, Carr PL, Goldstein R, Friedman RH. Compensation and advancement of women in academic medicine: is there equity? *Ann Intern Med*. 2004; 141(3):205–212. [PubMed: 15289217]
4. LaPierre TA, Zimmerman MK. Career advancement and gender equity in healthcare management. *Gend Mgmt Int J*. 2012; 27(2):100–118.
5. Settles IH, Cortina LM, Malley J, Stewart AJ. The climate for women in academic science: The good, the bad, and the changeable. *Psychol Women Q*. 2006; 30(1):47–58.
6. Jagsi R, Griffith KA, Stewart A, Sambuco D, DeCastro R, Ubel PA. Gender differences in the salaries of physician researchers. *Jama*. 2012; 307(22):2410–2417. [PubMed: 22692173]
7. Eloy JA, Svider PF, Cherla DV, et al. Gender disparities in research productivity among 9952 academic physicians. *The Laryngoscope*. 2013; 123(8):1865–1875. [PubMed: 23568709]
8. Svider PF, D’Aguillo CM, White PE, et al. Gender Differences in Successful National Institutes of Health Funding in Ophthalmology. *J Surg Educ*. 2014; 71(5):680–688. [PubMed: 24776863]

9. Dyrbye LN, Shanafelt TD, Balch CM, Satele D, Sloan J, Freischlag J. Relationship between work-home conflicts and burnout among american surgeons: A comparison by sex. *Arch Surg.* 2011; 146(2):211–217. [PubMed: 21339435]
10. Shollen S, Bland C, Finstad D, Taylor A. Organizational climate and family life: How these factors affect the status of women faculty at one medical school. *Acad Med.* 2009; 84(1):87–94. [PubMed: 19116483]
11. Buddeberg-Fischer B, Stamm M, Buddeberg C, et al. The impact of gender and parenthood on physicians' careers - professional and personal situation seven years after graduation. *BMC Health Serv Res.* 2010; 10(1):40. [PubMed: 20167075]
12. Pololi LH, Evans AT, Gibbs BK, Krupat E, Brennan RT, Civian JT. The experience of minority faculty who are underrepresented in medicine, at 26 representative US medical schools. *Acad Med.* 2013; 88(9):1308–1314. [PubMed: 23887015]
13. Eliason MJ, Dibble SL, Robertson PA. Lesbian, gay, bisexual, and transgender (LGBT) physicians' experiences in the workplace. *J Homosex.* 2011; 58(10):1355–1371. [PubMed: 22029561]
14. Sánchez NF, Rankin S, Callahan E, et al. LGBT Trainee and Health Professional Perspectives on Academic Careers—Facilitators and Challenges. *LGBT Health.* 2015; 2(4):346–356. [PubMed: 26788776]
15. Steinberg AG, Iezzoni LI, Conill A, Stineman M. Reasonable accommodations for medical faculty with disabilities. *JAMA.* 2002 Dec 25; 288(24):3147–54. [PubMed: 12495395]
16. Blood EA, Ullrich NJ, Hirshfeld-Becker DR, et al. Academic women faculty: are they finding the mentoring they need? *J Womens Health.* 2012; 21(11):1201–1208.
17. Sambunjak D, Straus SE, Marusi A. Mentoring in academic medicine: a systematic review. *JAMA J Am Med Assoc.* 2006; 296(9):1103–1115.
18. Kram, KE. *Mentoring at Work: Developmental Relationships in Organizational Life.* University Press of America; 1988.
19. Bozeman B, Feeney MK. Mentor Matching: A “Goodness of Fit” Model. *Adm Soc.* 2008; 40(5): 465–482.
20. Kashiwagi DT, Varkey P, Cook DA. Mentoring Programs for Physicians in Academic Medicine: A Systematic Review. *Acad Med.* 2013; 88(7):1029–1037. [PubMed: 23702518]
21. DeCastro R, Sambuco D, Ubel PA, Stewart A, Jaggi R. Mentor Networks in Academic Medicine: Moving Beyond a Dyadic Conception of Mentoring for Junior Faculty Researchers. *Acad Med.* 2013; 88(4)
22. Mayer AP, Files JA, Ko MG, Blair JE. Academic Advancement of Women in Medicine: Do Socialized Gender Differences Have a Role in Mentoring? *Mayo Clin Proc.* 2008; 83(2):204–207. [PubMed: 18241630]
23. Koopman RJ, Thiedke CC. Views of family medicine department Chairs about mentoring junior faculty. *Med Teach.* 2005; 27(8):734–737. [PubMed: 16451897]
24. Ragins BR, Cotton JL, Miller JS. Marginal mentoring: The effects of type of mentor, quality of relationship, and program design on work and career attitudes. *Acad Manage J.* 2000; 43(6):1177–1194.
25. Allen TD, Eby LT, Poteet ML, Lentz E, Lima L. Career Benefits Associated With Mentoring for Proteges: A Meta-Analysis. *J Appl Psychol.* 2004; 89(1):127. [PubMed: 14769125]
26. Jackson VA, Palepu A, Szalacha L, Caswell C, Carr PL, Inui T. “Having the right chemistry”: a qualitative study of mentoring in academic medicine. *Acad Med J Assoc Am Med Coll.* 2003; 78(3):328–334.
27. Hauer KE, Teherani A, Dechet A, Aagaard EM. Medical students' perceptions of mentoring: a focus-group analysis. *Med Teach.* 2005; 27(8):732–734. [PubMed: 16451896]
28. Rabatin JS, Lipkin M, Rubin AS, Schachter A, Nathan M, Kalet A. A year of mentoring in academic medicine. *J Gen Intern Med.* 2004; 19(5p2):569–573. [PubMed: 15109327]
29. Straus SE, Chatur F, Taylor M. Issues in the mentor–mentee relationship in academic medicine: a qualitative study. *Acad Med.* 2009; 84(1):135–139. [PubMed: 19116493]
30. Sambunjak D, Straus SE, Marusic A. A systematic review of qualitative research on the meaning and characteristics of mentoring in academic medicine. *J Gen Intern Med.* 2010; 25(1):72–78. [PubMed: 19924490]

31. Files JA, Blair JE, Mayer AP, Ko MG. Facilitated peer mentorship: a pilot program for academic advancement of female medical faculty. *J Womens Health* 2002. 2008; 17(6):1009–1015.
32. Okurame DE. Mentoring and preferences: a diagnostic survey for equal mentoring opportunity. *Equal Oppor Int*. 2008; 27(6):519–536.
33. Ortiz-Walters R, Gilson LL. Mentoring in academia: An examination of the experiences of protégés of color. *J Vocat Behav*. 2005; 67(3):459–475.
34. Byrne D. Interpersonal attraction as a function of affiliation need and attitude similarity. *Hum Relat*. 1961; 14(3):283–289.
35. de Eby LTT, Allen TD, Hoffman BJ, et al. An interdisciplinary meta-analysis of the potential antecedents, correlates, and consequences of protégé perceptions of mentoring. *Psychol Bull*. 2013; 139(2):441. [PubMed: 22800296]
36. Harrison DA, Price KH, Bell MP. Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Acad Manage J*. 1998; 41(1):96–107.
37. Zellmer-Bruhn ME, Maloney MM, Bhappu AD, Salvador R. When and how do differences matter? An exploration of perceived similarity in teams. *Organ Behav Hum Decis Process*. 2008; 107(1): 41–59.
38. Warner ET, Carapinha R, Weber GM, Hill EV, Reede JY. Considering Context in Academic Medicine: Differences in Demographic and Professional Characteristics and in Research Productivity and Advancement Metrics Across Seven Clinical Departments. *Acad Med J Assoc Am Med Coll*. 2015
39. Hill EV, Wake M, Carapinha R, Normand S, Wolf RE, Norris K, Reede JY. Rationale and Design of the Women and Inclusion in Academic Medicine Study. *Ethnicity and Disease*. Spring;2016 26(2):245–254. [PubMed: 27103776]
40. Rubin DB. Multiple imputation after 18+ years. *J Am Stat Assoc*. 1996; 91(434):473–489.
41. Beech BM, Calles-Escandon J, Hairston KG, Langdon SE, Latham-Sadler BA, Bell RA. Mentoring programs for underrepresented minority faculty in academic medical centers: a systematic review of the literature. *Acad Med J Assoc Am Med Coll*. 2013; 88(4):541–549.
42. Tsui AS, O'Reilly CA. Beyond simple demographic effects: The importance of relational demography in superior-subordinate dyads. *Acad Manage J*. 1989; 32(2):402–423.
43. Coleman VH, Power ML, Williams S, Carpentieri A, Schulkin J. Continuing professional development: Racial and gender differences in obstetrics and gynecology residents' perceptions of mentoring. *J Contin Educ Health Prof*. 2005; 25(4):268–277. [PubMed: 16365902]
44. Hall, DT., Chandler, DE. *The Handbook of Mentoring at Work: Theory, Research, and Practice*. Sage Publications; 2007. Career cycles and mentoring; p. 471-497.
45. Sambunjak D. Understanding wider environmental influences on mentoring: Towards an ecological model of mentoring in academic medicine. *Acta Medica Acad*. 2015; 44(1):47.
46. Carr PL, Ash AS, Friedman RH, et al. Faculty perceptions of gender discrimination and sexual harassment in academic medicine. *Ann Intern Med*. 2000; 132(11):889–896. [PubMed: 10836916]
47. Baldwin RG, Lunceford CJ, Vanderlinden KE. Faculty in the middle years: Illuminating an overlooked phase of academic life. *Rev High Educ*. 2005; 29(1):97–118.
48. Leslie K, Lingard L, Whyte S. Junior faculty experiences with informal mentoring. *Med Teach*. 2005; 27(8):693–698. [PubMed: 16451889]
49. van Eck Peluchette J, Jeanquart S. Professionals' Use of Different Mentor Sources at Various Career Stages: Implications for Career Success. *J Soc Psychol*. 2000; 140(5):549–564. [PubMed: 11059201]
50. Palepu A, Friedman RH, Barnett RC, et al. Junior faculty members' mentoring relationships and their professional development in U.S. medical schools. *Acad Med J Assoc Am Med Coll*. 1998; 73(3):318–323.
51. Spector PE. Method Variance in Organizational Research: Truth or Urban Legend? *Organ Res Methods*. 2006; 9(2):221–232.

Table 1
Characteristics of Institutions Participating in the Women and Inclusion in Academic Medicine Study, 2012

Institution	Public or private	RCMI	Region
Case Western Reserve University of Medicine	Private	non-RCMI	Midwest
Charles R. Drew University of Medicine and Science	Private	RCMI	West
Duke University School of Medicine	Private	non-RCMI	South
Harvard Medical School	Private	non-RCMI	North East
Meharry Medical College	Private	RCMI	South
Morehouse School of Medicine	Private	RCMI	South
Icahn School of Medicine at Mount Sinai	Private	non-RCMI	North East
Stanford University School of Medicine	Private	non-RCMI	West
University of California, San Francisco	Public	non-RCMI	West
University of Connecticut School of Medicine	Public	non-RCMI	North East
University of Nebraska Medical Center College of Medicine	Public	non-RCMI	Midwest
University of New Mexico School of Medicine	Public	non-RCMI	West
University of Puerto Rico School of Medicine	Public	RCMI	US territory

Abbreviation: RCMI indicates Research Center in Minority Institution.

Table 2
 Career and Personal Characteristics, by Academic Rank, of Female Faculty from 13 Medical Schools Participating in the Women and Inclusion in Academic Medicine Study, 2012^a

Characteristic	Total	Professor	Associate professor	Assistant professor	Instructor	P value
Current and prior mentor status, no. (%)						< .0001
Have a mentor currently	1,170 (53.3)	102 (28.6)	222 (47.5)	543 (60.1)	303 (64.7)	
Had a mentor in past, but not currently	736 (33.5)	190 (53.2)	183 (39.2)	254 (28.1)	109 (23.3)	
Never had a mentor	290 (13.2)	65 (18.2)	62 (13.3)	107 (11.8)	56 (12)	
Total	2,196 (100)	357 (100)	467 (100)	904 (100)	468 (100)	
Degree type, no. (%)						< .0001
Medical	1,787 (59.5)	252 (54.7)	351 (56.0)	765 (62.4)	419 (60.6)	
Medical and doctorate	198 (6.6)	34 (7.4)	40 (6.4)	79 (6.4)	45 (6.5)	
Doctorate	978 (32.6)	175 (38.0)	230 (36.7)	366 (29.9)	207 (30.0)	
Masters/bachelors	42 (1.4)	0 (0)	6 (1.0)	16 (1.3)	20 (2.9)	
Total	3,005 (100)	461 (100)	627 (100)	1,226 (100)	691 (100)	
Primary appointing department type, no. (%)						< .0001
Clinical	2,566 (84.7)	368 (79.5)	515 (81.6)	1,086 (87.4)	597 (86.3)	
Basic	318 (10.5)	72 (15.6)	76 (12.0)	107 (8.6)	63 (9.1)	
Other	145 (4.8)	23 (4.9)	40 (6.3)	50 (4.0)	32 (4.6)	
Total	3,029 (100)	463 (100)	631 (100)	1,243 (100)	692 (100)	
Work status						< .0001
Full-time work status	2,559 (84.5)	438 (94.6)	552 (87.2)	1,038 (83.6)	531 (76.7)	
Part-time work status	409 (13.5)	19 (4.1)	73 (11.5)	188 (15.1)	129 (18.6)	
Other work status	62 (2.1)	6 (1.3)	8 (1.3)	16 (1.3)	32 (4.6)	
Total	3,030 (100)	463 (100)	633 (100)	1,242 (100)	692 (100)	
Racial/ethnic group, no. (%)						< .0001
Hispanic	148 (6.8)	28 (7.8)	28 (6.0)	64 (7.1)	28 (6.0)	
Non-Hispanic Asian	322 (14.7)	23 (6.4)	67 (14.4)	147 (16.4)	85 (18.3)	
Non-Hispanic black	109 (5.0)	10 (2.8)	26 (5.6)	52 (5.8)	21 (4.5)	
Non-Hispanic white	1,484 (67.8)	277 (76.7)	316 (68.0)	582 (65.0)	309 (66.5)	

Characteristic	Total	Professor	Associate professor	Assistant professor	Instructor	P value
Multiple races	36 (1.7)	5 (1.4)	7 (1.5)	16 (1.8)	8 (1.7)	
Other/decline to answer	89 (4.1)	18 (5.0)	21 (4.5)	36 (4.0)	14 (3.0)	
Total	2,188 (100)	361 (100)	465 (100)	897 (100)	465 (100)	<.0001
Foreign-born, no. (%)						
Foreign-born	558 (25.2)	58 (16.1)	119 (25.3)	240 (26.4)	141 (29.8)	
U.S.-born	1,656 (74.8)	303 (83.9)	352 (74.7)	668 (73.6)	333 (70.3)	
Total	2,214 (100)	361 (100)	471 (100)	908 (100)	474 (100)	<.0001
Care responsibilities for dependent child or children, no. (%)						
Yes, within last 2 years	1,220 (55.1)	166 (45.7)	275 (58.5)	535 (59.0)	244 (51.5)	
Yes, more than 2 years ago	362 (16.4)	97(26.7)	84 (17.9)	120 (13.2)	61 (12.9)	
No	632 (28.6)	100 (27.6)	111 (23.6)	252 (27.8)	169 (35.7)	
Total	2,214 (100)	363 (100)	470 (100)	907 (100)	474 (100)	<.0001
Age group, no. (%)						
44	1,045 (48.0)	8 (2.3)	122 (26.5)	563 (63.0)	352 (75.1)	
45–55	609 (28.0)	94 (26.4)	214 (46.5)	223 (24.9)	78 (16.6)	
>55	525 (24.0)	254 (71.4)	124 (27.0)	108 (12.1)	39 (8.3)	
Total	2,179 (100)	356 (100)	460 (100)	894 (100)	469 (100)	0.265
Disability, no. (%)						
Yes	57 (2.6)	15 (4.1)	14 (3.0)	19 (2.1)	9 (1.9)	
No	2,135 (96.3)	344 (94.3)	452 (96.4)	879 (96.9)	460 (96.8)	
Decline to answer	24 (1.1)	6 (1.6)	3 (0.6)	9 (1.0)	6 (1.3)	
Total	2,216 (100)	365 (100)	469 (100)	907 (100)	475 (100)	0.155
LGBT, no. (%)						
Yes	93 (4.2)	18 (4.9)	20 (4.3)	35 (3.9)	20 (4.2)	
No	2,086 (94.4)	338 (92.6)	443 (94.9)	861 (95.4)	444 (93.7)	
Decline to answer	30 (1.4)	9 (2.5)	4 (0.9)	7 (.8)	10 (2.1)	
Total	2,209 (100)	365 (100)	467 (100)	903 (100)	474 (100)	
Married/domestic partnership, no. (%)						
Yes	1,752 (79.2)	277 (76.5)	384 (81.9)	732 (80.8)	359 (75.6)	0.032

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Characteristic	Total	Professor	Associate professor	Assistant professor	Instructor	P value
No	460 (20.8)	85 (23.5)	85 (18.1)	174 (19.2)	116 (24.4)	
Total	2,212 (100)	362 (100)	469 (100)	906 (100)	475 (100)	

Abbreviation: LGBT indicates Lesbian, Gay, Bisexual, Transgender.

^gUnimputed survey data from the Women and Inclusion in Academic Medicine study, 2012, conducted by *Coverge: Building Inclusion in the Sciences*, the research and evaluation arm of the Harvard Medical School Office for Diversity Inclusion and Community Partnership, to examine the characteristics and interrelationships of institutional, individual, and sociocultural factors that influence the entry, progression, and persistence of women faculty in academic medicine.

Table 3

Characteristics, by Current and Prior Mentor Status and Race/Ethnicity, of Female Faculty from 13 Medical Schools Participating in the Women and Inclusion in Academic Medicine Study, 2012^a

Characteristic	Has a mentor currently		Had a mentor in past, but not currently		Never had a mentor		Total respondents indicating mentor status and race
	No. (%)		No. (%)		No. (%)		
Hispanic, no.	1,154 (53.5)	79	721 (33.4)	283 (13.1)	21		2,158 (100)
Row %		53.38		14.19			100
Column %		6.85		7.42			6.86
Non-Hispanic Asian, no.	207	82	26	26	315		
Row %	65.71	26.03	8.25	8.25	100		
Column %	17.94	11.37	9.19	9.19	14.6		
Non-Hispanic black, no.	65	35	11	11	111		
Row %	58.56	31.53	9.91	9.91	100		
Column %	5.63	4.85	3.89	3.89	5.14		
Non-Hispanic white, no.	743	513	206	206	1,462		
Row %	50.82	35.09	14.09	14.09	100		
Column %	64.38	71.15	72.79	72.79	67.75		
Multiple races, no.	22	10	2	2	34		
Row %	64.71	29.41	5.88	5.88	100		
Column %	1.91	1.39	0.71	0.71	1.58		
Other race/decline to answer, no.	38	33	17	17	88		
Row %	43.18	37.5	19.32	19.32	100		
Column %	3.29	4.58	6.01	6.01	4.08		
Currently have multiple mentors, no. (%)	805 (69.5)	N/A	N/A	N/A	N/A		N/A
Currently do not have multiple mentors, no. (%)	354 (30.5)	N/A	N/A	N/A	N/A		N/A
Currently have a mentor but no past mentoring, no. (%)	56 (4.8)	N/A	N/A	N/A	N/A		N/A
Current have a mentor and had past mentoring, no. (%)	1,119 (95.2)	N/A	N/A	N/A	N/A		N/A

^aUnimputed survey data from the Women and Inclusion in Academic Medicine study, 2012, conducted by *Converge: Building Inclusion in the Sciences*, the research and evaluation arm of the Harvard Medical School Office for Diversity Inclusion and Community Partnership, to examine the characteristics and interrelationships of institutional, individual, and sociocultural factors that influence the entry, progression, and persistence of women faculty in academic medicine.

Table 4

Average Importance of Mentor Similarity Characteristics, by Racial/Ethnic Group, as Rated by Female Faculty at 13 Medical Schools Participating in the Women and Inclusion in Academic Medicine Study, 2012^a

Mentor similarity characteristics (no. of responses)	Total, median rating (IQR) ^b	Hispanic, median rating (IQR) ^b	Asian, median rating (IQR) ^b	Black, median rating (IQR) ^b	White, median rating (IQR) ^b
Same institution (n = 2,181)	4 (2)	4 (2)	4 (2)	3 (1)	4 (2)
Same department (n = 2,142)	4 (2)	3 (2)	4 (2)	3 (2)	4 (2)
Same personal interests (n = 2,184)	2 (1)	2 (2)	2 (2)	2 (2)	2 (1)
Same career interests (n = 2,175)	3 (2)	3 (2)	3 (1)	3 (2)	3 (1)
Same gender (n = 2,194)	2 (2)	2 (2)	2 (2)	2 (2)	2 (2)
Same race/ethnicity (n = 2,183)	1 (1)	1 (1)	1 (1)	2 (2)	1 (0)

Abbreviations: IQR indicates interquartile range.

^aUnimputed survey data from the Women and Inclusion in Academic Medicine study, 2012, conducted by *Converge: Building Inclusion in the Sciences*, the research and evaluation arm of the Harvard Medical School Office for Diversity Inclusion and Community Partnership, to examine the characteristics and interrelationships of institutional, individual, and sociocultural factors that influence the entry, progression, and persistence of women faculty in academic medicine.

^bRespondents rated characteristics on a 5-point response scale ranging from “not at all important” (1) to “very important” (5).

Table 5
Importance of Mentor Similarity Characteristics and Their Association with Respondents' Mentor Status, Career, and Personal Characteristics for 3,100 Female Faculty from 13 Medical Schools Participating in the Women and Inclusion in Academic Medicine Study, 2012^a

	Same Institution			Same Department			Same Personal Interest			Same Career Interest			Same Gender			Same Race/Ethnicity		
	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI
Current and prior mentor status																		
Have a mentor currently	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	----	1.00	--	--
Had a mentor in past, but not currently	0.78 ^b	0.08	0.63–0.98	0.78 ^c	0.07	0.65–0.92	0.99	0.11	0.80–1.24	1.03	0.10	0.85–1.25	1.31 ^b	0.14	1.05–1.64	1.23	0.15	0.95–1.60
Never had a mentor	0.8	0.11	0.61–1.06	0.82	0.10	0.63–1.06	1.1	0.14	0.86–1.41	1.02	0.12	0.81–1.29	1.62 ^c	0.24	1.19–2.20	1.74 ^b	0.34	1.14–2.66
Career characteristics																		
Rank																		
Full professor	0.56 ^d	0.08	0.42–0.75	0.45 ^d	0.07	0.33–0.62	0.92	0.14	0.68–1.24	1.03	0.14	0.78–1.35	0.82	0.11	0.63–1.08	0.87	0.15	0.63–1.22
Associate professor	0.83	0.09	0.68–1.02	0.77 ^b	0.08	0.63–0.96	0.98	0.11	0.79–1.21	1.00	0.10	0.81–1.21	0.86	0.09	0.70–1.05	0.90	0.11	0.75–1.15
Assistant professor	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--
Instructor	0.92	0.12	0.70–1.22	1.09	0.13	0.85–1.36	1.14	0.12	0.92–1.41	0.93	0.13	0.70–1.23	1.36 ^c	0.15	1.09–1.68	0.99	0.14	0.75–1.31
Degree type																		
Medical	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--
Medical and doctorate	0.85	0.13	0.63–1.16	0.67 ^b	0.11	0.47–0.95	0.92	0.15	0.66–1.26	1.14	0.18	0.83–1.57	0.80	0.13	0.57–1.11	1.02	0.22	0.67–1.59
Doctorate	0.98	0.08	0.84–1.14	0.9	0.07	0.77–1.04	0.83	0.09	0.67–1.03	1.19 ^b	0.10	1.00–1.42	0.99	0.10	0.80–1.21	1.13	0.14	0.89–1.44
Masters/bachelors	1.29	0.41	0.69–2.41	1.01	0.31	0.56–1.84	0.69	0.23	0.36–1.33	1.18	0.50	0.47–2.96	1.17	0.38	0.62–2.22	1.14	0.49	0.48–2.75
Personal and demographic characteristics																		

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

	Same Institution				Same Department				Same Personal Interest				Same Career Interest				Same Gender				Same Race/Ethnicity				
	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	
Racial/ethnic group																									
<i>Hispanic</i>	0.89	0.15	0.63-1.25	0.79	0.11	0.59-1.04	1.32	0.26	0.87-1.99	1.09	0.23	0.70-1.71	1.19	0.18	0.88-1.59	2.53 ^d	0.48	1.73-3.72							
<i>Non-Hispanic Asian</i>	1.17	0.13	0.94-1.46	1.3 ^b	0.15	1.04-1.63	1.07	0.14	0.82-1.39	1.08	0.12	0.86-1.36	1.23	0.17	0.92-1.63	1.37 ^b	0.18	1.07-1.76							
<i>Non-Hispanic black</i>	0.68 ^b	0.12	0.48-0.95	0.78	0.13	0.56-1.08	1.14	0.28	0.68-1.91	0.75	0.14	0.52-1.10	1.50 ^b	0.28	1.03-2.19	5.44 ^d	1.22	3.42-8.65							
<i>Non-Hispanic white</i>	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--							
<i>Multiple races</i>	1.02	0.25	0.63-1.64	0.96	0.23	0.59-1.54	0.78	0.21	0.46-1.32	0.84	0.21	0.52-1.36	1.10	0.34	0.58-2.07	1.78	0.54	0.98-3.25							
<i>Other/decline to answer</i>	0.81	0.15	0.55-1.18	0.82	0.15	0.58-1.17	1.19	0.27	0.73-1.93	0.89	0.20	0.56-1.41	1.30	0.26	0.85-1.95	1.52	0.48	0.75-3.08							
Foreign Born	1.13	0.13	0.90-1.42	1.21	0.13	0.91-1.34	0.89	0.11	0.69-1.16	0.94	0.12	0.70-1.25	1.12	0.13	0.87-1.45	1.00	0.12	0.79-1.26							
<i>US Born</i>	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--							
Age group																									
<i>44</i>	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--							
<i>45-55</i>	0.95	0.11	0.74-1.21	0.93	0.09	0.76-1.14	0.9	0.09	0.74-1.10	0.83 ^b	0.09	0.66-1.04	0.97	0.10	0.8-1.18	1.19	0.14	0.95-1.50							
<i>>55</i>	0.88	0.12	0.66-1.16	0.91	0.13	0.68-1.23	0.78 ^b	0.1	0.61-1.01	0.62 ^d	0.08	0.47-0.81	0.87	0.11	0.67-1.12	1.32	0.25	0.89-1.96							
Current/past care responsibilities for dependent child or children																									
<i>Yes, within last 2 years</i>	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--							
<i>Yes, more than 2 years ago</i>	1.21	0.13	0.97-1.51	1.16	0.13	0.93-1.44	1.07	0.11	0.87-1.30	1.04	0.13	0.81-1.33	0.83	0.09	0.68-1.01	0.96	0.14	0.71-1.29							
<i>No</i>	1.04	0.09	0.87-1.25	1.03	0.1	0.86-1.25	1.03	0.1	0.86-1.24	1.11	0.12	0.88-1.40	0.89	0.08	0.74-1.07	0.95	0.10	0.77-1.17							
Race/ethnicity*fo reign-born interaction effects																									
<i>Non-Hispanic white* US-born</i>	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--	1.00	--	--							

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

	Same Institution			Same Department			Same Personal Interest			Same Career Interest			Same Gender			Same Race/Ethnicity		
	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI	OR	SE	CI
<i>Non-Hispanic white* foreign-born</i>	1.19	0.17	0.88-1.61	1.07	0.16	0.79-1.45	1.05	0.15	0.80-1.39	1.10	0.17	0.79-1.54	0.94	0.14	0.69-1.29	1.14	0.18	0.83-1.56
<i>Hispanic* foreign-born</i>	0.91	0.20	0.59-1.40	0.78	0.19	0.48-1.27	1.38	0.37	0.79-2.40	1.10	0.27	0.67-1.81	0.92	0.20	0.59-1.41	2.05 ^c	0.48	1.29-3.24
<i>Hispanic* U.S.-born</i>	0.96	0.20	0.64-1.46	0.85	0.17	0.57-1.26	1.36	0.35	0.78-2.37	1.14	0.26	0.71-1.83	1.34	0.25	0.93-1.93	3.08 ^d	0.77	1.84-5.15
<i>Non-Hispanic Asian* foreign-born</i>	1.33	0.20	0.97-1.81	1.47 ^c	0.19	1.14-1.90	1.24	0.17	0.94-1.63	1.24	0.23	0.84-1.84	1.16	0.15	0.91-1.49	1.51 ^c	0.24	1.10-2.06
<i>Non-Hispanic Asian* U.S.-born</i>	1.19	0.21	0.83-1.70	1.26	0.23	0.87-1.83	1.01	0.18	0.69-1.46	0.99	0.14	0.74-1.32	1.15	0.22	0.76-1.75	1.26	0.24	0.87-1.84
<i>Non-Hispanic black* foreign-born</i>	0.67	0.22	0.35-1.27	1.05	0.33	0.57-1.93	1.33	0.55	0.56-3.15	0.81	0.28	0.40-1.62	1.21	0.44	0.59-2.50	4.04 ^d	1.35	2.09-7.80
<i>Non-Hispanic black* U.S.-born</i>	0.71	0.14	0.48-1.05	0.73	0.15	0.49-1.09	1.12	0.28	0.67-1.89	0.76	0.15	0.50-1.13	1.55 ^b	0.31	1.04-2.31	6.06 ^d	1.49	3.63-10.11

Abbreviations: OR indicates odds ratio; SE, standard error; CI, confidence interval.

^aImputed survey data from the Women and Inclusion in Academic Medicine study, 2012, conducted by *Converge: Building Inclusion in the Sciences*, the research and evaluation arm of the Harvard Medical School Office for Diversity Inclusion and Community Partnership, to examine the characteristics and interrelationships of institutional, individual, and sociocultural factors that influence the entry, progression, and persistence of women faculty in academic medicine.

^b $P < .05$

^c $P < .01$

^d $P < .001$