

outcomes. Additional studies are needed to determine how this finding relates to hormonal changes in the menopausal and postmenopausal status of women in this age group, and how we assess this

difference using current approaches to home-based testing for SDB (11–13). In the meantime, focusing on fitness in conjunction with weight loss would be a prudent approach for anyone with REM-

related SDB, and, as these data suggest, especially women. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

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Bye-Bye Gender Bias? The Promise of a New Generation

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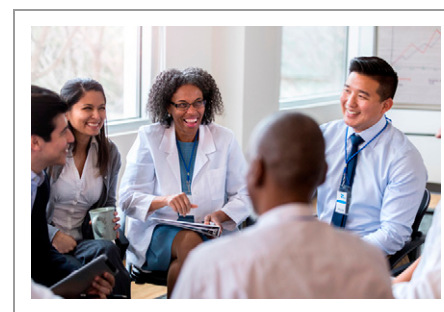
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“In conclusion, I recommend Dr. Smith, an ambitious researcher with seven first-authored papers and an excellent communicator, without reservation.”

“In conclusion, I recommend Dr. Smith, a hard-working and compassionate physician, without reservation.”

The first recommendation is longer and emphasizes abilities, whereas the second emphasizes effort and communal traits. Which fictional Dr. Smith is male

and which is female? Although these statements lack *explicit* gender cues, they are representative of the widespread *implicit* gender bias that plagues academic medicine. It has been shown that recommendation letters for men are longer and more likely to have descriptions of assertive, self-oriented behaviors, whereas the letters for women are more likely to reference personal life and describe communal behaviors (1, 2). Gendered differences in the way we evaluate and reward performance extend beyond letters of reference. A recent study showed that women are less likely than men to be invited as Grand Rounds speakers (3), and introductions of female Grand Rounds speakers by male faculty were less likely to include a professional title (4). After being shown identical curriculum vitae, both



male and female science faculty were less likely to hire a female as a lab manager than a male, and would offer her a lower salary (5).

In the past, these gender differences either went unnoticed or were dismissed as harmless. However, these biases contribute

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to a larger problem, the persistence of gender disparity in Medicine. They affect both the hiring and promotion of women (5), such that women account for less than a quarter of full professors and only 18% of department chairs in Medicine (6). Men win more awards from professional societies than women (7), and male physicians receive higher Medicare reimbursements than female physicians (8).

Despite decades of gender parity in medical school classes and heightened awareness, an implicit gender bias lingers on. A recent study showed that both male and female surgeons were more likely to associate males with surgery and females with family medicine on an Implicit Association Test (IAT) (9). Paradoxically, awareness of a high prevalence of stereotypical beliefs appears to increase, not decrease, actions based on these implicit biases, and increases antipathy toward counterstereotypical gendered behavior (10). This may be because the belief that “everyone” shares these biases normalizes them as a socially acceptable attitude.

These data are disheartening for all genders. They suggest that this problem, resulting from a lifetime steeped in cultural stereotypes, may be immutable. Indeed, one of us recently scored very high on gender-stereotypical career associations on an IAT (<https://implicit.harvard.edu/implicit/takeatest.html>), despite having two physician daughters and directing a majority-female fellowship program. However, the study by Heath and colleagues (pp. 621–626) in this issue of *AnnalsATS* provides some basis for hope (11). The authors performed a detailed content analysis of more than 1,200 teaching evaluations of pulmonary and critical care faculty by medical students, residents, and fellows at one academic center. They

identified five main themes from these evaluations: teaching skills, clinical skills, supervision, interpersonal and communication skills, and leadership skills. As expressed in the evaluations, there were no gender differences among the five main themes. The authors postulate that this gender parity may be due to the hierarchy that exists in these evaluations, that is, a trainee appraising a superior. In contrast, job evaluation or recommendation letters, which often do show gender differences, are appraisals from the vantage of a peer or superior.

We suggest a more optimistic speculation that the difference is generational. The evaluations were written by trainees during the 2015–2016 academic year. These trainees represent a generation that is attuned to the gender gap and graduated from medical school classes that were likely half female—a group for whom it seems the IAT is becoming as commonplace during orientations as modules on needle sticks and fire safety. Many medical centers mandate implicit bias training, and a number of interventions have shown promise for reducing implicit gender bias (12–14). This generation has seen the rise of women to positions of authority and the recognition of more than two genders. Members of this generation have grown up steeped in a different set of social norms, which can be more powerful than point-in-time bias reduction training. They provide hope that gender parity will occur, eventually, throughout Medicine.

However, we must temper our idealism with some realism. The authors do report some gender differences in subthemes, specifically with regard to the clinical learning environment, humor, motivating the trainee for patient care,

and learner autonomy. Negative comments about autonomy (a subtheme of supervision) more frequently appeared in evaluations of female faculty. Based on the representative quotation, it seems this was a perceived lack of autonomy (“I wasn’t allowed to make independent decisions...before discussing them on rounds.”). Male faculty received fewer such negative comments. Perhaps when trainees work with male attendings, they interpret their lack of autonomy as the attending providing leadership, as it has been shown that there is a preference for male leaders (15). In contrast, women leaders are viewed negatively when they exhibit qualities that may be perceived as more masculine and counterstereotypical (16). We can also only hope that the more egalitarian attitudes of this generation will move the culture of Medicine toward gender parity as it ascends in academia, rather than the converse.

We agree with the authors that we need more research, as well as more progress, in this area. We must understand why gender differences are plentiful in some written forms (i.e., letters of recommendation) and scarce in others, such as the trainee evaluations studied by the authors. Simultaneously, we need to be aware of gender bias, both implicit and explicit, and continue to train not just this new generation but all generations on awareness and implications of gender bias. We cannot yet bid goodbye to gender bias, but Heath and colleagues do give us some hope that we may ultimately outgrow it—hopefully, sooner rather than later. ■

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