

Sexual Harassment in Academic Anesthesiology: A Survey of Prevalence, Sources, Impact, and Recommendations

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BACKGROUND: A report by the American Association of Medical Colleges (AAMC) showed that academic anesthesiology has the highest prevalence of sexual harassment among specialties for both men and women. We aimed to explore the prevalence, sources, and impact of sexual harassment on anesthesiologists in academic centers in the United States and Canada. We also sought recommendations for its mitigation.

METHODS: An anonymous online survey instrument was designed based on a previously published report, yielding 39 questions, including demographic and 4 open-ended questions. The survey was sent via email to Association of University Anesthesiologists (AUA) members, who were encouraged to share across academic anesthesiology departments in the United States and Canada.

RESULTS: A total of 626 responses were received; after exclusion of incomplete and nonfaculty responses, 484 complete survey responses were analyzed. 52.9% of respondents identified as men and 45.9% as women; 3 respondents (0.6%) identified as nonbinary, and 3 respondents (0.6%) preferred not to answer. 43.6% of respondents perceived there is sexual harassment in academic anesthesiology. Significantly more women than men reported presence of sexual harassment in academic medicine (65.3% vs 38.3%, $P < .001$), in academic anesthesiology (59.5% vs 30.1%, $P < .001$), and in their place of work (37.8% vs 18.3%, $P < .001$). 14.5% of men and 43.2% of women had experienced sexual harassment at least once in the past 12 months ($P < .001$). 43.7% of women reported ever experiencing unwanted physical contact in the workplace compared to 16.8% of men; 74.3% of women reported ever experiencing verbal or nonverbal conduct in the workplace related to gender that caused embarrassment, distress, or offense compared to 24.6% of men ($P < .001$). 8.2% of men reported feeling their clinical ability doubted, compared to 87.8% of women ($P < .001$). Experiences of sexual harassment were most consistent with verbal and nonverbal behaviors that convey hostility, objectification, or exclusion of members of one gender. Colleagues from anesthesiology were most likely to be reported as the source of sexual harassment (44.6% of unwanted physical contact, 59% of verbal or nonverbal conduct). The impact was described along 4 themes: emotional, cognitive, behavioral, and professional. Participants made recommendations for eliminating sexual harassment by raising awareness, providing education, establishing reporting, offering support, and ensuring accountability.

CONCLUSIONS: This survey confirms the high prevalence of sexual harassment in academic anesthesiology. The most common sources are anesthesiology colleagues. The recommendations for leaders and institutions include creating a professional environment free from harassment with support for targets and accountability for instigators. (Anesth Analg 2025;XXX:00–00)

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KEY POINTS

- **Question:** what is the prevalence of sexual harassment in academic anesthesiology, its sources, and impact?
- **Findings:** Women in academic anesthesiology reported experiences of sexual harassment more frequently than men, most commonly manifesting as verbal and nonverbal conduct that conveys hostility, objectification, exclusion, or second-class status about members of one gender. These incidents were most frequently instigated by colleagues in anesthesiology.
- **Meaning:** The high prevalence of sexual harassment in academic anesthesiology results in a wide range of negative impact on targets and could be mitigated by leadership's adoption of deliberate approaches.

Sexual harassment is a problem in academic medicine.¹⁻³ In a survey of physicians in the UK, 91% of women respondents had experienced a form of sexual harassment in the workplace.¹ A recent report of the American Association of Medical Colleges (AAMC) revealed that the prevalence of sexual harassment in academic anesthesiology is highest among 27 clinical and scientific specialties for both men and women.⁴ In that survey of US faculty, approximately 1 in 5 men and 1 in 2 women in anesthesiology reported having experienced a form of sexual harassment in the workplace. These findings are consistent with an earlier AAMC report in which 24% of women anesthesiologists described being disrespected because of their gender.⁵

Defining sexual harassment can be challenging. In a frequently adopted definition, categories of sexual harassment include "(1) gender harassment (verbal and nonverbal behaviors that convey hostility, objectification, exclusion, or second-class status about members of one gender), (2) unwanted sexual attention (verbal or physical unwelcome sexual advances, which can include assault), and (3) sexual coercion (when favorable professional or educational treatment is conditioned on sexual activity)," with gender harassment as the most common form of sexual harassment.^{3,4}

The AAMC report, which was focused on broad patterns in academic medicine, left gaps in knowledge regarding sexual harassment in academic anesthesiology. To address unanswered questions that will be critical for informed recommendations, the Association of University Anesthesiologists (AUA) identified as a next step the need to "gather more information and then act."⁶ In particular, identifying the sources of sexual harassment would allow leaders to appropriately address the problem. In addition, the impact of experiencing any form of sexual harassment in the workplace is associated with a negative impact on psychological well-being and professional advancement.^{1,7} Accordingly, we adapted a previously published survey¹ to explore the prevalence and manifestations of sexual harassment in academic anesthesiology. We sought to investigate how harassment differed for men versus women and identify the

sources of harassment as well as its implications on career-related outcomes. We also aimed to seek participants' recommendations for effectively addressing sexual harassment.

METHODS

This was a mixed methods observational study that was approved and provided exempt status by the Institutional Review Board of the University of Michigan. The study uses a convergent parallel design in which quantitative and qualitative data were obtained simultaneously to explore different aspects of sexual harassment experiences in anesthesiology. This article adheres to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) and the Standards for Reporting Qualitative Research (SRQR) guidelines. The adopted survey design process was described in detail elsewhere⁸ and as follows:

Phase I

The sample population was defined as anesthesiologists currently affiliated with academic centers. Five domains were identified related to sexual harassment in academic anesthesiology in the past 12 months: prevalence, sources, impact, reporting, and recommendations. The domains were based on the previously published survey and on consensus among authors.

Phase II

The 5 domains were further defined based on review of the available literature and on expert opinion. Members of the Leadership Advisory Board of the AUA were invited to refine the domains based on their expertise in leadership, advocacy, qualitative assessments, research, and professional development programs. The domains, their definitions, as well as sample survey questions are listed in Supplemental Digital Content 1, Supplemental Table 1, <http://links.lww.com/AA/F189>.

Phase III

Survey items were based on a previously published survey on sexual harassment.¹ Additional items were generated based on authors' consensus. Other

questions included demographic and professional details. A total of 40 items were generated including 9 demographic questions and 3 open-ended questions.

Phase IV

Content-based validation of the survey instrument was performed through expert review of the proposed items, as previously described.⁹ Members of the Leadership Advisory Board of the AUA were asked to rate the proposed items for relevance to the construct, language clarity, and succinctness. A second round of item discussion and validation was conducted through which items were consolidated or removed. Additional items were adopted only when consensus was achieved, resulting in a survey instrument with 39 total items, of which 4 were open-ended comments. In addition, the introduction of the survey provided respondents with the categorization of sexual harassment as previously described.^{3,4}

Phase V

A link to the anonymous online survey (Qualtrics) was sent via email to the 1100 registered members of the AUA and invited to share with faculty in academic centers in the United States and Canada. In addition, through personal communications, academic department chairs were encouraged to share the survey with their faculty members. The survey was open between March 1 and March 20, 2023. Survey responses were collected anonymously with no personal identifiers of the respondents.

Statistical Analysis

Descriptive statistics were calculated for categorical items; distributional properties were examined with means, standard deviations, and other descriptive statistics as appropriate. Additionally, separate Fisher exact tests were used to compare the difference in proportion of respondents who had personally experienced and/or witnessed harassment by gender, professorial ranks (Instructor, Assistant Professor, Associate Professor, Professor, Professor Emeritus/Retired, or Other), self-reported attainment of a leadership positions (yes versus no), and age group (25–35, 36–45, 46–55, 56–65, 66–75, or > 75 years). Fisher exact tests were used to compare differences between genders regarding the impact of personal and witnessed experiences, the reporting patterns, and the sources of harassment. *P*-values <0.05 were considered significant; *p*-values were not adjusted for multiple comparisons across distinct categories. No calculation of statistical power was performed before this study. Incomplete survey responses were not included in the analysis. No imputation for missing responses was performed.

Thematic content analysis of the comments was performed in 2 stages. In the preparatory stage,

participants' comments were uploaded to Dedoose (a web-based platform for mixed method and qualitative analysis) as individual entries. Each response was coded separately. In a first stage, after familiarization with the data set and open-ended responses, emerging codes were extracted from each entry. We performed deductive coding, whereby a set of initial codes was used corresponding to the research questions: sexual harassment descriptions—gender harassment, unwanted sexual attention, and sexual coercion; impact; source; and recommendations. We also used inductive coding, whereby existing codes were expanded or adjusted as needed. Inductive coding was used for comments pertaining to recommendations, generating new codes as the data were reviewed. In a second stage, patterns were noted and central themes for each category were identified and summarized in narrative format. Coding was primarily performed by author M.J.H.; codes and themes were reviewed by A.M. and G.A.M. to establish consensus.

To increase trustworthiness of this mixed methods study, triangulation was achieved by the parallel use of qualitative and quantitative methods to explore the topic. The qualitative analysis of the comments served to illustrate and thereby confirm the results of the survey related to perceptions about sexual impact and its impact on one's career.

Survey data analysis was conducted using SPSS (V 29; IBM Corp) and R version 4.2.1 (June 23, 2022); qualitative analysis was performed on Dedoose (V 9.0.107; SocioCultural Research Consultants).

Research Reflexivity Statement

The research was led by engaged members in academic anesthesiology who are committed to fostering supportive work environments. Most of the authors are, or have been, in major positions of departmental, institutional, and societal leadership with broad experience with sexual harassment. Data were analyzed and results confirmed by researchers trained in qualitative (M.J.H.) and quantitative methodologies (M.J.H., A.M., V.R., and G.A.M.).

RESULTS

A total of 626 responses were received. Of those, 139 incomplete survey responses were eliminated (122 were less than 90% completed, and 17 had more than 5 unanswered questions). In addition, 3 responses from non-faculty members were excluded. A total of 484 complete survey responses were included in the final analyses.

Quantitative Analysis

Demographics and Professional Characteristics. 256 respondents (52.9 %) identified as men and 222 respondents (45.9%) identified as women. Three

Table 1. Demographic and Professional Characteristics of Survey Respondents

	Men (N = 256)	Women (N = 222)	Nonbinary (N = 3)	Other (N = 3)	P value
Age					
25–35	3 (1.2%)	19 (8.6%)	-		.25
36–45	71 (27.7%)	88 (39.6%)	1 (33.3%)		
46–55	84 (32.8%)	55 (24.8%)	1 (33.3%)		
56–65	71 (27.7%)	44 (19.8%)	1 (33.3%)	2 (66.7%)	
66–75	25 (9.8%)	14 (6.35)	-	1 (33.3%)	
>75	2 (0.8%)	2 (0.9%)	-		
Country of practice					
United States	161 (62.9%)	158 (71.2%)	3 (100%)	2 (66.7%)	.51
Canada	94 (36.7%)	63 (28.4%)		1 (33.3%)	
Other	1 (0.4%)	1 (0.5%)			
Currently in a leadership position	156 (60.9%)	142 (63.9%)	2 (66.7%)	1 (33.3%)	.51
Professorial rank					
Instructor	11 (4.3%)	19 (8.6%)			.32
Assistant	95 (37.1%)	91 (41%)			
Associate	61 (23.8%)	61 (27.5%)	1 (33.3%)	1 (33.3%)	
Professor	80 (31.3%)	45 (20.3%)	2 (66.7%)	2 (66.7%)	
Emeritus or retired	5 (2.0%)	3 (1.4%)			
Other	4 (1.6%)	3 (1.4%)			
Sexual orientation					
Heterosexual	236 (92.2%)	206 (92.8%)	1 (33.3%)	-	<.001
Bisexual	2 (0.8%)	8 (3.6%)	-	-	
Gay or Lesbian	7 (2.7%)	3 (1.4%)	1 (33.3%)	-	
Prefer not to say	11 (4.3%)	5 (2.3%)	1 (33.3%)	3 (100%)	
Race and ethnicity					
Latinx or Hispanic	11 (4.3%)	14 (6.4%)	2 (66.7%)	-	.63
White	203 (79.3%)	169 (76.1%)	2 (66.7%)	1 (33.3%)	
Black or African American	4 (1.6%)	4 (1.8%)	1 (33.3%)	1 (33.3%)	
Asian or Asian American	21 (8.2)	29 (13.1%)			
American Indian or Alaska native	1 (0.4%)	1 (0.5%)			
Native Hawaiian or Pacific Islander	1 (0.4%)	-			
Other	27 (10.5%)	19 (8.6%)		1 (33.3%)	

respondents (0.6%) identified as nonbinary and 3 (0.6%) preferred not to report their gender. These 6 individuals were not included in quantitative analyses based on gender due to small count values. 62.2% (n = 301) of respondents reported holding a leadership position (Table 1).

Prevalence of Sexual Harassment. Overall, 50.6% of respondents (n = 245) perceived there is sexual harassment in academic medicine; 43.6% of respondents (n = 211) perceived there is sexual harassment in academic anesthesiology. Significantly more women than men perceived the presence of sexual harassment in academic medicine (65.3% vs 38.3%, $P < .001$; odds ratio [OR] 3.0, 95% confidence interval [CI], 2.1–4.5), in academic anesthesiology (59.5% vs 30.1%, $P < .001$, OR 3.4, 95% CI, 2.3–5.1), and in their place of work (37.8% vs 18.3%, $P < .001$, OR 2.7, 95% CI, 1.8–4.2) as detailed in Table 2.

Sexual harassment was a recent experience for many respondents. Within the past 12 months, 27.9% (n = 135) reported personally experiencing sexual harassment. Women personally experienced harassment significantly more frequently than men. 31.1% of women (n = 69) reported experiencing sexual harassment “once or a few times” in the past 12 months compared with 12.1% of men (n = 31, $P < .001$, OR 3.3, 95%

CI, 2.0–5.4). 12.2% of women (n = 27) indicated they had been sexually harassed “at least monthly” compared with 2.3% of men (n = 6, $P < .001$, OR 5.8, 95% CI, 2.3–17.4). There were no significant associations between experiencing sexual harassment and professorial rank ($P = .39$) or having a leadership position ($P = .21$). There was a significant association with the age range of respondents ($P = .018$). 35% of respondents who are 45 years and younger had experienced sexual harassment at least once in the past 12 months, compared to 28% of respondents aged 46 to 55, and 20% of those older than 56 years.

Overall, 42.4% of respondents witnessed sexual harassment of others within the past 12 months (55.7% [n = 123] women and 32.2% [n = 82] men). Women witnessed sexual harassment more frequently than men. 36.7% of women (n = 81) witnessed sexual harassment at least once in the last month, compared with 27.1% of men (n = 69, $P = .33$, OR 1.6, 95% CI, 1.0–2.3). 19.0% of women (n = 42) witnessed harassment at least monthly, compared with 5.1% of men (n = 13, $P < .001$, OR 4.4, 95% CI, 2.2–9.1). Respondents’ professorial rank ($P = .43$), leadership roles ($P = .38$), and age ($P = .12$) were not significantly associated with the frequency of witnessing sexual harassment of others.

Many respondents reported they had experienced unwanted physical contact or verbal comments in

Table 2. Perceptions, Personal Experience, and Witness of Sexual Harassment According to Gender

	Women n = 222 (%, 95% CI)	Men n = 256 (%, 95% CI)	Nonbinary n = 3 (%, 95% CI)	Other n = 3 (%, 95% CI)	OR (95% CI)	P value ^a
Believes there is an issue of sexual harassment in						
Academic medicine	145 (65.3, 59.1–71.6)	98 (38.3, 32.3–44.2)	2 (66.7, 13.3–100)	0	3.0 (2.1–4.5)	<.001
Academic	132 (59.5, 53.0–65.9)	77 (30.1, 24.5–35.7)	2 (66.7, 13.3–100)	0	3.4 (2.3–5.1)	<.001
Anesthesiology						
Place of work	84 (37.8, 31.5–44.2)	47 (18.3, 13.6–23.1)	2 (66.7, 13.3–100)	0	2.7 (1.8–4.2)	<.001
Personally experienced sexual harassment, in past 12 mo						
Never	126 (56.8, 50.2–63.3)	219 (85.5, 81.2–89.9)	1 (33.3, 0–86.7)	3 (100, 100–100)	0.22 (0.1–0.3)	<.001
Once or a few times	69 (31.1, 25.0–37.2)	31 (12.1, 8.1–16.1)	2 (66.7, 13.3–100)	-	3.3 (2.0–5.4)	<.001
At least monthly	27 (12.2, 7.9–16.5)	6 (2.3, 0.5–4.2)	-	-	5.8 (2.3–17.4)	<.001
Witnessed sexual harassment, in past 12 mo ^b						
Never	98 (44.3, 37.8–50.9)	173 (67.8, 62.1–73.6)	1 (33.3, 0–86.7)	2 (66.7, 13.3–100)	0.38 (0.3–0.6)	<.001
Once or a few times	81 (36.7, 30.3–43.0)	69 (27.1, 21.6–32.5)	1 (33.3, 0–86.7)	1 (33.3, 0–86.7)	1.6 (1.0–2.3)	.03
At least monthly	42 (19.0, 13.8–24.2)	13 (5.1, 2.4–7.8)	1 (33.3, 0–86.7)	-	4.4 (2.2–9.1)	<.001
Personally experienced unwanted physical contact, EVER						
Yes	96 (43.2, 36.7–49.8)	43 (16.8, 12.2–21.4)	-	-	3.8 (2.4–5.9)	<.001
Personally experienced unwanted verbal comments, EVER						
Yes	165 (74.3, 68.6–80.1)	64 (25.0, 19.7–30.3)	2 (66.7, 13.3–100)	-	8.6 (5.6–13.4)	<.001

Abbreviations: CI, confidence interval; n, number; OR, odds ratio.

^aOR and P values from Fisher exact testing of differences between men versus women. Given small counts, respondents who identified as nonbinary or preferred to not report gender were not included in hypothesis testing.

^bOne man and one woman did not deny or affirm whether they had witnessed sexual harassment in the past 12 mo (corresponding survey question was left blank).

the workplace that caused embarrassment, distress, or offense at least once during their career (Table 2). Women experienced these events significantly more frequently than men. 43.2% of women (n = 96) reported experiencing unwanted physical contact at some point in their career, compared to 16.8% of men (n = 43, P < .001, OR 3.8, 95% CI, 2.4–5.9). 74.3% of women (n = 165) reported experiencing verbal or nonverbal conduct in the workplace related to gender that caused embarrassment, distress, or offense, compared to 25.0% of men (n = 64, P < .001, OR 8.6, 95% CI, 5.6–13.4).

Sources of Sexual Harassment. Unwanted physical contact in the workplace was reported by 139 respondents (43 men and 96 women). Unwanted physical contact was initiated by colleagues in anesthesiology in 44.6% of cases (62 of 139), and by colleagues from another specialty in 38.8% (54 of 139) of occurrences. Unwanted verbal or nonverbal conduct, reported by 229 participants (64 men and 165 women) was caused by colleagues in anesthesiology in 59% of cases (135 of 229), and by colleagues from another specialty in 57.2% (131 of 229; Figure 1).

Men and women experienced harassment from significantly different sources (Table 3). Compared to men, women reported significantly more physical harassment from anesthesiologists (52.1% compared to 27.9%, P = .01, OR 2.8, 95% CI, 1.2–6.7) and from other physicians (49% compared to 16.3%, P < .001, OR 4.9, 95% CI, 1.9–14.3), and less from nursing staff (15.6% compared to 65%, P < .001, OR 0.10, 95% CI, 0.04–0.25). Compared to men, women reported significant more verbal harassment from anesthesiology colleagues (65.4% compared to 42.2%, P = .002,

OR 2.6, 95% CI, 1.4–4.9) and from nonanesthesiology physicians (67.9% compared to 29.7%, P < .001, OR 5.0, 95% CI, 2.6–9.9), and less from nursing staff (23% compared to 40.6%, P = .01, OR 0.44, 95% CI, 0.2–0.9).

Impact of Sexual Harassment. The impact of sexual harassment on career-related outcomes was different for men versus women. 70% of women (n = 155) and 41% of men (n = 105) considered that sexual harassment acts as a barrier to career progression of individuals (P < .001, OR 3.3, 95% CI, 2.2–4.9). Additionally, 61.3% of women (n = 136) and 12.5% of men (n = 32) felt their gender had a negative impact on their own career progression (P < .001, OR 11, 95% CI, 6.9–18.1; Figure 2). Respondents who had experienced any form of sexual harassment were more likely to report that their career was negatively impacted by their gender. Participants who experienced unwanted physical contact were more likely to report a negative impact on their career based on their gender, compared to those who did not (56.1%, 78 of 139 vs 26%, 87 of 335, P < .001, OR 3.6, 95% CI, 2.3–5.6). Participants who experienced unwanted verbal and nonverbal contact were more likely to report that their career was negatively impacted by their gender compared to those who did not have that experience (60.5%, 138 of 229 vs 11.9%, 27 of 227, P < .001, OR 11.2, 95% CI, 6.8–18.9).

Moreover, 45% of women (n = 100) felt they had fewer opportunities for advanced training than colleagues of a different gender, compared to 11.7% of men (n = 30; P < .001, OR 6.1, 95% CI, 3.8–10.2). Conversely, 4% of women (n = 9) and 20% of men (n = 52) felt they had more opportunities for advanced

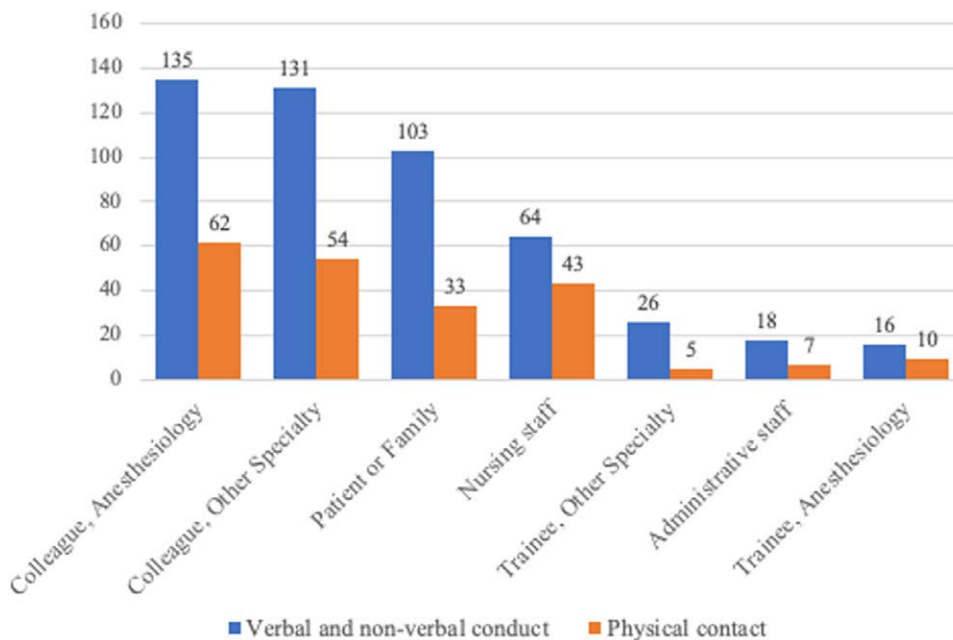


Figure 1. Sources of unwanted physical contact or unwanted verbal or nonverbal conduct that caused embarrassment, distress, or offense.

training than their colleagues of a different gender ($P < .001$, OR 0.2, 95% CI, 0.07–0.3). Participants were also asked about their perception of support to seek leadership or senior roles. 31.5% of women ($n = 70$) and 44.5% of men ($n = 114$) felt they received support and encouragement ($P = .004$, OR 0.6, 95% CI, 0.4–0.8), while 24.3% of women ($n = 54$) and 8.2% of men ($n = 21$) felt they were actively discouraged from pursuing leadership ($P < .001$, OR 3.6, 95% CI, 2.0–6.5).

14% of men ($n = 36$) and 68.9% of women ($n = 153$) reported feeling treated less favorably than their colleagues of a different gender ($P < .001$, OR 13.5, 95% CI, 8.4–21.9). 8.2% of men ($n = 21$) reported feeling their clinical ability doubted, compared to 87.8% of women ($n = 195$, $P < .001$, OR 79.5, 95% CI, 42.7–154.5,

Figure 3). Clinical abilities of women respondents were most frequently doubted by colleagues from other specialties (156 counts out of 195 responses, or 80% of times).

44.9% men ($n = 115$) and 54.1% women ($n = 120$) reported their intent to leave their current place of work ($P = .99$, OR 1.4, 95% CI, 0.9–2.1). Among those reporting their intent to leave, the work environment was indicated as one of the causes for leaving by 60% of men ($n = 69$) and by 68.3% of women ($n = 82$).

Reporting. Of those witnessing or experiencing sexual harassment, 28.8% men and 35% women reported the issue ($P = .49$). Most common causes for not reporting an issue were the belief that no action will be taken (56%), fear of negative impact on relations with

Table 3. Sources of Physical and Verbal Harassment, Among Men and Women

Source of harassment ^a	Total n (%)	Women n (%), 95% CI	Men n (%), 95% CI	OR (95% CI)	P value ^b
Physical—harassment	139	n = 96	n = 43		
Colleague—anesthesiology	62 (44.6)	50 (52.1, 42.1–62.1)	12 (27.9, 14.5–41.3)	2.8 (1.2–6.7)	.01
Colleague—different specialty	54 (38.8)	47 (49.0, 39.0–59.0)	7 (16.3, 5.2–27.3)	4.9 (1.9–14.3)	<.001
Patient or family	33 (23.7)	26 (27.1, 18.2–36.0)	7 (16.3, 5.2–27.3)	1.9 (0.7–5.7)	.20
Nursing staff	43 (30.9)	15 (15.6, 8.4–22.9)	28 (65.1, 50.9–79.4)	0.10 (0.04–0.25)	<.001
Trainee—nonanesthesiology	5 (3.6)	4 (4.2, 0.2–8.2)	1 (2.3, 0–6.8)	1.8 (0.2–92.0)	1.0
Trainee—anesthesiology	10 (7.2)	6 (6.3, 1.4–11.1)	4 (9.3, 0.6–18.0)	0.65 (0.14–3.3)	.50
Administrative staff	7 (5)	4 (4.2, 0.2–8.2)	3 (7.0, 0–14.6)	0.58 (0.09–4.2)	.68
Verbal harassment	229	N = 165	N = 64		
Colleague—anesthesiology	135 (59)	108 (65.4, 58.2–72.7)	27 (42.2, 30.1–54.3)	2.6 (1.4–4.9)	.002
Colleague—different specialty	131 (57.2)	112 (67.9, 60.8–75.0)	19 (29.7, 18.5–40.9)	5.0 (2.6–9.9)	<.001
Patient or family	103 (45)	80 (48.5, 40.9–56.1)	23 (35.9, 24.2–47.7)	1.7 (0.9–3.2)	.10
Nursing staff	64 (27.9)	38 (23.0, 16.6–29.5)	26 (40.6, 28.6–52.7)	0.44 (0.2–0.9)	.01
Trainee—nonanesthesiology	26 (11.3)	21 (12.7, 7.6–17.8)	5 (7.8, 1.2–14.4)	1.7 (0.6–6.1)	.36
Trainee—anesthesiology	16 (7)	10 (6.1, 2.4–9.7)	6 (9.4, 2.2–16.5)	0.63 (0.2–2.2)	.39
Administrative staff	18 (7.9)	13 (7.9, 3.8–12.0)	5 (7.8, 1.2–14.4)	1.0 (0.3–3.8)	1.0

Abbreviations: CI, confidence interval; n, number; OR, odds ratio.

^aRespondents were able to identify multiple sources of harassment.

^bOR and P values from Fisher exact testing of differences between men versus women.

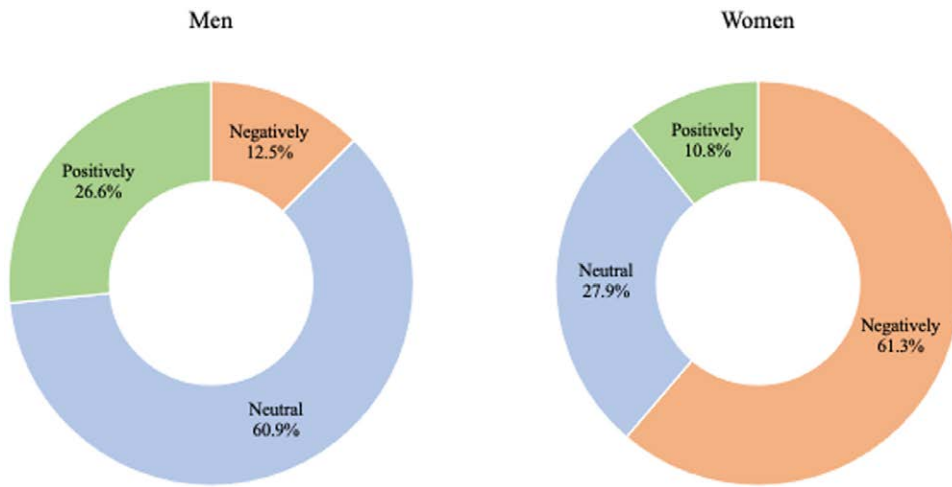


Figure 2. Perceptions of the impact of one's gender on their career progression.

colleagues (40.7%) and fear of negative impact on one's own career (37.2%).

Qualitative Analysis

The findings of the qualitative analysis are presented thematically with representative verbatim quotes. In addition, representative excerpts are shared in Supplemental Appendices A, B, and C, illustrating the various experiences of sexual harassment, their impact, and recommendations for its management, respectively.

Experiences of Sexual Harassment. First-pass coding of the comments related to experiences of sexual harassment used the described categories of sexual harassment and are detailed in Supplemental Digital Content 2, Supplemental Appendix A, <http://links.lww.com/AA/F190>.

Most commonly described experiences of sexual harassment reported by women participants included being treated with "condescension" or "disrespect" because of their gender. Women participants noted that often these experiences are "insidious"

and "subtle" often manifesting "in comments in the OR and dismissive behaviors at meeting." The comments frequently described being talked over at meetings or being mistaken for nursing or ancillary staff. In addition, incidents of objectification were reported by women participants manifesting as inappropriate comments on one's physical appearance, unwanted sexual advances, or physical contact. Finally, doubting of clinical abilities was described and not being taken seriously by colleagues, trainees, or surgical peers. "Benevolent misogyny" was mentioned by a participant and described by a few women participants where they were denied professional opportunities by well-intentioned leaders to avoid burdening them.

One participant summarized the various experiences as follows:

"I feel like sexual harassment and discrimination toward women in anesthesia is a big problem no one talks about. I have had staff sneak up behind me to stroke my pregnant belly, patients grab me, make suggestions involving me, male surgeons wanting to know the details of my breastfeeding and how

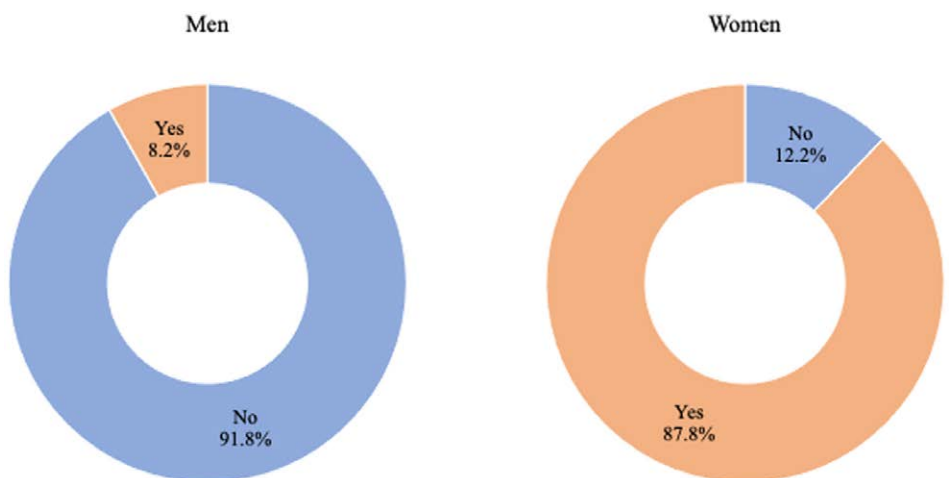


Figure 3. Have you ever felt your clinical ability has been doubted or taken less seriously because of your gender?

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many babies I plan to have in operation, scream at me for my clinical decision making, pressure me to keep a fast turnover despite having to pump in the bathroom while I try to pressure eat lunch, had my pay reduced, been instructed to tell my chief the moment I knew I was pregnant (before my family and friends) so he could plan, came back early from a scheduled 12 week [maternity] leave for staff shortage. Countless times I've been called a nurse, physio, a technician, dietician despite clearly introducing myself as doctor. Sexism is alive and well in perioperative medicine."

The experiences of men participants included having their sexuality questioned, unwanted sexual advances, and perceived unfairness in scheduling accommodations for pregnant women.

Impact of Sexual Harassment. Participants who reported experiencing or witnessing sexual harassment described its impact along 4 main areas: emotional burden, cognitive load, corresponding behavioral changes, and professional and career impact (Supplemental Digital Content 3, Supplemental Appendix B, <http://links.lww.com/AA/F191>).

Emotional. Exposure to incidents of sexual harassment led to a range of feelings including self-doubt ("This was very hard on my self-esteem, and took me a long time to bounce back from, realize my worth, and move forward"), hopelessness ("Sometimes I feel so unsupported in my department, and sad and betrayed that leadership will not grant visibility to these issues, and I have no one to talk to about it."), stress ("Throughout my career, I have certainly had stress around this issue and in general, it has made me more reluctant to speak up"), anxiety ("I don't feel psychologically safe at meetings, virtual, in person, local, or national/international or when in any sort of room with this person"), depression or burnout ("attending who would frequently belittle and mock me on call. [...] It contributed to a depressive episode I experienced"), lack of trust in leadership and "disillusionment," and lack of safety ("I am less likely to be honest about my gender identity/ sexual orientation").

These experiences were more challenging when the reports were not believed and when no actions were taken in response. One participant describes her experience as follows:

"It was completely demoralizing. I felt objectified, dirty, and disrespected. It was horrible. It caught me completely off-guard the first time, and the second time it happened (more egregiously and with the same offender), I was so rattled I had to go straight to my division chief (at the time). She minimized it and said, 'That's just X. That's how he is, don't think anything more of it.' I went to a second person (another

senior woman in my department), who again minimized it. I finally went to our Vice Chair (a man) who then took my statement and took me seriously. After the offender was investigated, it turned out he had years of harassing behavior, especially with trainees and young female attendings. He was asked to leave. I still feel guilty about my role and saddened by the lack of female support/receptivity, which has led to some disillusionment with my workplace."

Even when sexual harassment is witnessed and not experienced it can lead to an emotional burden, including men in leadership positions: "while not a victim of harassment, as a leader I feel responsible for healing the culture and influencing the individuals that create these harms. I struggle to protect my colleagues in these toxic environments. I do not mean to complain about being a secondary victim, but it does cause me harm to know that my colleagues are hurting and I am not able to change things."

For some participants, exposure to sexual harassment was viewed constructively: "it has made me stronger, and more vocal in my opposition to sexual harassment." Other participants described the resulting acquired resilience leading them to "develop a tough skin," "speaking up against bad behavior," and "joining a DEI committee and work towards improving workplace culture and environment."

Cognitive Load. Experiencing sexual harassment was described as "mentally taxing and distracting from clinical care and academic work." Another participant noted that "whenever a clinician feels that they are being discriminated against or harassed and starts thinking about this, this takes their mind off of what they should be thinking about—how to best care for their patients." In addition, "even exposure to rudeness and lateral violence decreases physician performance on diagnostic and procedural tasks. For a specialty where we engage in high-stakes cognition and task performance, we need to stop thinking about harassment as a problem for 'uptight ladies who can't take a joke' and see it for what it really is—a major patient safety risk and a major wellbeing issue."

Behavioral Changes. Participants felt that the expectations of women and of women in leadership were different from those of men: "Can be tough to be a female leader vs male leader. We must be very diplomatic and thankful and more accommodating, esp. with nurses," or "I have to constantly remind myself to modulate my tone of voice so that sounds more high pitched and pleasing." Women report the need to modulate their behavior when giving feedback to colleagues ("I cannot give constructive feedback lest they complain I am 'mean'") or during patient care ("it is a direct threat to patient safety that I

cannot communicate in a direct manner about urgent issues.”) Likewise, because of what is perceived as increased scrutiny, 1 participant said she would “feel hesitant/uncomfortable calling [in] sick even when my child is sick and needs me.” Finally, to avoid threatening scenarios, a participant changed her clinical approach: “I do however always put myself between the patient and the door to the room if possible.”

A male participant described “As a resident, my attending sexually harassed me including asking for my physical exam of an injury to his/her buttock. The experience has carried with me as (strangely) an embarrassment to me more than the perpetrator. Further, the experience has left me somewhat shy and impoverished in the way I engage with trainees, with a fear lest I somehow accidentally make them feel uncomfortable by a misconstrued gesture of support.”

Professional and Career Impact. Experiencing and witnessing sexual harassment are both perceived to have a negative impact on one’s career: “sexual harassment of me and my vulnerable colleagues directly impacted choices that I made about my career... However, I think under-recognized is how much sexual harassment of other people has impacted my career.” Another participant notes: “The whole specialty is so anti-woman I wish I had done something else.”

Participants may turn down opportunities to avoid interacting with instigators or even to consider changing career paths: “led to me considering quitting residency,” or “[sexual harassment incident] has made me very angry and I had issue shaking it off. The last event was instrumental in finally pushing me to retire.”

In addition, opportunities may have been withheld from participants based on their gender, delaying promotions. One participant reported being told: “I didn’t think you would be interested in the position. You’re a mother, how could you have time.”

Finally, 2 men participants reported they were denied promotions because of their gender “It is frustrating to be told that you are not eligible for leadership roles because there are too many white men in leadership.”

Recommendations. The participants described recommendations for tackling sexual harassment along 5 main themes: awareness, education, reporting, support, and accountability. The codes and the corresponding excerpts are presented in Supplemental Digital Content 4, Supplemental Appendix C, <http://links.lww.com/AA/F192>. The following is a description of the identified themes.

Awareness. Participants described the need to “acknowledge” that the problem exists, “to believe” submitted reports, and to “recognize” when incidents are consistent with sexual harassment. This includes having “a true, unbiased and impartial ‘open door’ to complaints.”

Education. Participants describe the importance of defining norms of conduct in the workplace so to “make clear what is unacceptable,” establish “standards of behaviors.” This measure helps provide guard rails when “people aren’t good at using their judgment” or because of existing “engrained” beliefs and “unconscious bias.” Reports of harassment are sometimes erroneously dismissed by seeking to clarify intent and by minimizing impact of the incidents. Education is needed to separate the intent of a perpetrator from the “perception” of the target, even for what may be considered as “subtle acts of harassment.” Leaders are recommended to act as “role models,” and to help “create psychological safety.”

Reporting. Reporting systems should adopt a “clear” and “confidential process” for “anonymous reporting” with no repercussions for those submitting the reports. “Increase transparency” is thought to promote confidence in the process. Reporting systems should be designed to ensure confidentiality while preventing the risk of retaliation toward those reporting.

Support. Providing support for those who come forward by “developing psychologically safe workplaces,” creating “support groups” with more “robust legal support and better access to mental health.” An important measure of support is to take accounts seriously and to investigate reports promptly and impartially.

Accountability. It is suggested that some “bad apples” are “tolerated” because of the generated revenue or because of their positions of “power.” This leads to perceptions of “sweeping complaints under the rug” when the perpetrators are in positions of influence in a department. Instead, having a “zero tolerance policy” to sexual harassment was frequently and independently cited by participants. The zero-tolerance policy included “taking all complaints seriously,” and taking actions toward perpetrators such as administrative and professional sanctions, to not be “promoted,” or “allow [instigators] to remain in leadership” positions. In particular, it was felt that “no strategy will be effective as long as leaders (chairs) are allowed to lead unchecked and retaliate.” However, as 1 participant described, in some instances, those

in positions of power are instigators leading to a situation of the “fox guarding the chicken coop.”

Further, several participants expressed the need for fairness in the approach to avoid “overreacting,” to examine the situation from all facets, to “avoid fear culture,” and to steer away from “cancel culture” which is counterproductive. Recommendations also included to “reduce the vilification of perpetrators,” and to “investigate with an attitude of innocent until proven guilty.”

Finally, several participants cautioned against existing training programs “The people who sexually harass others at my workplace don’t believe they are doing anything wrong. Training doesn’t change them, for this reason. Until we can get rid of serial harassers, the problem will persist.”

DISCUSSION

The results of this survey of anesthesiologists in academic centers in the United States and Canada substantiate and extend the findings of the recent AAMC report on sexual harassment.⁴ According to the self-report of our survey participants, sexual harassment in academic anesthesiology is prevalent and impacts women disproportionately to men in frequency and detriment to career progression. Women are more likely than men to have personally experienced a form of sexual harassment, most commonly gender harassment or unwanted verbal or physical contact. More men reported witnessing sexual harassment than experiencing it, confirming the women’s lived experiences. Leadership positions and professorial rank do not seem to confer protection from experiencing sexual harassment. This is congruent with other reports where women physician leaders described experiences of bullying throughout their careers, the “most significant of which were as faculty in leadership positions.”¹⁰ However, younger faculty may be at increased risk of experiencing sexual harassment compared to older faculty members.¹ In addition, and consistent with prior reports, we found that the most common form of sexual harassment is gender harassment, manifesting as condescension, disrespect, and doubting one’s abilities.^{3,5} The source of sexual harassment in anesthesiology was previously unreported. Participants in this survey indicated that the instigators of unwanted physical contact and verbal and nonverbal conduct were most commonly colleagues from within our specialty.

This report provides additional details about characteristics of sexual harassment in academic anesthesiology, its sources, and impact. Most women respondents (87.8%) reported that their clinical abilities were doubted in the workplace, most often by colleagues from other specialties, compared to 8.2% of men. The impact these experiences have on personal

wellbeing and professional development were evident in our survey, consistent with prior reports. Significant association between experiences of sexual harassment and symptoms of burnout have been described among women in medicine.^{11,12} Experiences of sexual harassment were also associated with “increased turnover intentions” regardless of one’s gender,⁷ which can result in significant financial burden for the institution. Moreover, a physician’s experience of sexual harassment may detract from patient care, creating a detrimental impact on patient safety and health outcomes.¹³ Similar findings were reported in semistructured interviews with 30 women physicians in positions of leadership in academic medicine who had reported gender-based bullying in the workplace. The women reported that those experiences had “substantial negative effects,” including “career derailment,” loss of motivation, and “strains on personal life.”¹⁰

This report provides insights that help explain the persistence of sexual harassment and the difficulty of its eradication. First, colleagues from one’s specialty and from other specialties are the most frequent instigators of sexual harassment, whether unwanted physical contact or verbal and nonverbal behaviors. It may be disturbing to realize that colleagues in the same department are the source of harassment causing embarrassment and distress. However, this knowledge represents an opportunity for department leaders and chairs to improve the work environment for all members of their department.

Second, the current widely adopted approach to managing gender harassment relies on annual training programs, which are often designed to satisfy the required legal compliance.¹⁴ Despite the ubiquitous and often mandatory nature of such training programs, participants commented on their ineffectiveness in addressing the problem, confirming prior reports.¹⁴ Instead, recommendations by the survey respondents were made for a 5-step approach: raise awareness, provide education, establish reporting systems, offer support, and ensure accountability. Such endeavors start during recruitment and onboarding processes to share departmental and institutional values, clarify definitions of sexual harassment, explain the reporting mechanisms, and detail the consequences of any violation.

Third, most of those who experienced or witnessed sexual harassment did not report the incidents, largely because they did not trust the subsequent actions. Although fair, confidential, and robust reporting systems are a prerequisite, the willingness to take the reports seriously and to act on the findings is seen to be lacking. Department chairs can play a central role in leading culture change, enacting norms of conducts, creating psychological safety for those

reporting sexual harassment, and having the moral courage to respond to incidents appropriately.

Fourth, “wide-spread misogyny” in academic medicine, as described by a survey participant, leads to minimizing some behaviors, justifying their intent, and allowing perpetrators to move across institutions and cities unburdened.² In a recent report, 40% of faculty members who were accused of sexual misconduct successfully moved to other academic institutions, despite having faced a range of disciplinary actions including termination from their first institution.¹⁵ Currently, in the United States, disclosure of allegations of sexual harassment is not permissible by law, extending protection to accused individuals.

Fifth, the AAMC report was based on survey data collected between 2019 and 2021, potentially reflecting the impact of the pandemic on workplace dynamics.⁴ The report showed highest rates of sexual harassment in anesthesiology and emergency medicine, which were both at the frontline of the pandemic-related patient care. The current report shows persistence of sexual harassment in anesthesiology despite absence of acute pandemic stressors and against unfounded attempts at its justification.

Lastly, the recommended approach details institutional and departmental approaches to mitigate sexual harassment. The roles of societies and regulating agencies was not discussed by participants. However, medical societies have a role in shaping the expectations of the specialty, empowering those in leadership, raising awareness to the ongoing problem, and providing support for its members.^{6,16} In addition, other reports describe strategies that individuals and targets of sexual harassment can utilize to effectively address these incidents, and to further raise awareness,^{17,18} such as deescalation techniques through verbal redirection. Depending on the situations, direct confrontation and enlisting allies may also be appropriate.¹⁹

There are several limitations to this study. First, the survey explored the perceptions of anesthesiologists in academic practice. The work environment in private practice may be different, limiting generalizability of the results. In addition, the workforce in private practice settings may have different gender distribution and different regulations or expectations. Further, the anonymous distribution of our survey may have resulted in additional sampling bias, with overrepresentation of the professionally successful members of the AUA, with possible underestimation of prevalence of sexual harassment. Second, the experiences of anesthesiology trainees and other providers should be included in future research. It can be hypothesized that the power differential may contribute to worse experiences for trainees or nonphysicians. Finally, the interaction of sexual identity, race, ethnicity, or

country of origin on experiences of sexual harassment was not explored in this report.

The continued presence of sexual harassment in the medical field is unacceptable.⁶ High stress environments are more likely to be associated with higher incidence of disruptive behaviors.¹⁹ However, a recent AAMC report confirms that “among both men and women, faculty in departments of anesthesiology reported experiencing gender harassment at higher rates than any other department,”²⁰ including other surgical specialties. Weak leadership and inadequate institutional structures and processes help perpetuate the problem through unclear standards of conduct and absence of consequences for perpetrators.² The importance of empathetic and courageous leadership is evident from participants’ experiences and prior reports. Systematic approaches to raising awareness and to ensuring accountability are needed to mitigate the problem. Medical societies can further influence the process by providing support and empowering leaders to do what is right. The AUA is committed to shedding past perceptions of exclusivity, to elucidating the facets of sexual harassment in academic anesthesiology, and to generating creative solutions to this pervasive problem, with the goal of fostering a welcoming work environment where everyone feels respected and included, regardless of their identity. ■

DISCLOSURES

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