

# #MedToo: A Large-Scale Examination of the Incidence and Impact of Sexual Harassment of Physicians and Other Faculty at an Academic Medical Center

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## Abstract

**Background:** A landmark National Academies report highlighted the need for rigorous evaluation of sexual harassment in medicine. We examined the prevalence and impact of sexual harassment using the Sexual Experiences Questionnaire, the standard for measurement of sexual harassment, but which has not been previously applied within academic medicine.

**Materials and Methods:** A 20-minute online survey was administered to all faculty who had been working at University of Michigan Medical School for at least 1 year ( $n=2723$ ). We assessed sexual harassment within the past year from insiders (*i.e.*, from staff, students, and faculty) and from patients and patients' families. We also evaluated mental health, job satisfaction, sense of safety at work, and turnover intentions.

**Results:** In the final sample ( $n=705$ ; which included 25.9% of the originally targeted population), most respondents, 82.5% of women and 65.1% of men, reported at least one incident of sexual harassment from insiders in the past year; 64.4% of women and 44.1% of men reported harassment from patients and patients' families. The most frequently experienced dimension of sexual harassment for women and men was sexist gender harassment. Increased experiences of harassment were independently associated with lower mental health, job satisfaction, and sense of safety at work, as well as increased turnover intentions, with no significant interactions by gender.

**Conclusions:** Sexual harassment against medical faculty is alarmingly common at an institution that is not expected to be atypical. Interventions must address sexual harassment, which affects mental health and career outcomes of male and female physicians.

**Keywords:** sexual harassment, academic medical faculty, mental health, career outcomes

## Introduction

IN THE WAKE of the #MeToo and #TimesUp movements, scholars and media have brought national attention to experiences of sexual harassment within the context of academic medicine.<sup>1-4</sup> A recent report from the National Academies of Sciences, Engineering, and Medicine (NASEM) found that female medical students were 220% more likely

than students from non-science, technology, engineering, and mathematics (STEM) disciplines to have faced sexual harassment from faculty or staff. That report, after extensive review of the social scientific and legal literature, defined sexual harassment as consisting of three components: gender harassment, unwanted sexual attention, and sexual coercion. It further noted that many features of the medical profession, including its historical male dominance, strong hierarchies, and culture that

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often tolerates mistreatment, are ones that increase the risk of sexual harassment in the workplace more generally.<sup>2</sup>

Limited empirical evidence exists regarding the rates or impact of sexual harassment within academic medicine specifically. Some studies have focused on physicians-in-training<sup>5,6</sup> and the few foundational studies seeking to evaluate prevalence in faculty samples have suggested that the rates of sexual harassment are substantial.<sup>7–11</sup> For instance, a recent study found that 30% of women clinician-researchers reported sexual harassment from colleagues or superiors during their careers.<sup>10</sup> In addition, there is a small body of research pointing to patients and patients' families as another source of sexual harassment in medicine.<sup>12,13</sup>

While these studies are valuable, many rely on outdated, incomplete, or subjective conceptualizations of sexual harassment.<sup>14</sup> Therefore, it has been difficult to accurately assess the rates of sexual harassment within academic medicine today. Organizational psychologists have developed extensively validated, behaviorally based survey instruments that capture all three dimensions of sexual harassment (gender harassment, unwanted sexual attention, and sexual coercion).<sup>15–17</sup> Research using such measures is urgently needed to gain an accurate and complete picture of sexual harassment in the medical profession.

Therefore, we sought to systematically examine the prevalence of recent sexual harassment among a large sample of faculty currently practicing in an academic medical center, using scientifically validated measures. Furthermore, we expand the scant existing body of literature on sexual harassment of medical faculty by considering multiple sources of harassment (*i.e.*, from institutional insiders—including staff, students, and faculty, and from patients and patients' families) and links between sexual harassment and physician mental health, job satisfaction, turnover intentions, and sense of safety at work.

## Methods

### *Study sample and survey administration*

After formal designation as exempt from ongoing institutional review board oversight, in June 2018 we invited via email all faculty at the University of Michigan Medical School (UMMS) who had been working at the organization for at least 1 year to complete a 20-minute online survey about “experiences with civility and respect in our institution.” No specific mention of sexual harassment or other forms of recruitment were utilized. Reminder emails were sent every week for 3 weeks to incomplete and nonrespondents.

### *Measures*

A 174-item questionnaire was developed following best practices in questionnaire design.<sup>18</sup> Previously validated instruments were utilized wherever possible to measure constructs of interest, with minor adaptations as needed to reflect the unique environment of academic medical centers, as described below. Pilot testing with academic medical faculty at other institutions was used to evaluate the final instrument before administration.

**Sexual harassment.** We measured experiences of sexual harassment using 20 items adapted from the Sexual Experi-

ences Questionnaire (SEQ).<sup>19,20</sup> This behaviorally based instrument assesses three different types of sexual harassment: gender harassment, unwanted sexual attention, and sexual coercion. Participants were instructed—and reminded multiple times throughout—to only respond about “UNWANTED behaviors SINCE JUNE 2017.” Gender harassment items assessed “verbal and nonverbal behaviors that convey hostility to, objectification of, exclusion of, or second-class status about members of one gender”.<sup>2(p.14)</sup> Unwanted sexual attention items assessed unwanted sexual advances, including unwanted touches or attempts to establish a sexual relationship despite discouragement. Sexual coercion items assessed attempts to coerce compliance with sexual demands by making job-related threats or promising job-related benefits.

**SEQ-insider.** We first measured participants' experiences of sexual harassment via unwanted behaviors from UMMS staff, students, and faculty (“institutional insiders”), both on and off campus. To do this, participants responded to all 20 items of the SEQ to indicate how often (0=never, 1=once or twice, 2=sometimes, 3=often, 4=many times) they experienced the “UNWANTED behaviors SINCE JUNE 2017.” Two of the 20 items were dropped because 100% of the sample indicated never experiencing those behaviors [“Exposed or sent pictures of their genitals to you” (unwanted sexual attention) and “Offered you something you wanted at work in exchange for doing something sexual” (sexual coercion)]. Therefore, the final scale contained 18 items which were reliable for our sample ( $\alpha=0.79$ ), and were averaged such that higher scores indicated more sexual harassment ( $M=0.20$ , standard deviation [SD]=0.24).

**SEQ-patient.** We also measured participants' experience of sexual harassment in their interactions with patients and patients' families (patients/families). In the interest of time, participants who indicated that they worked with patients were given eight items of the SEQ, and indicated on the same scale how often they experienced these “UNWANTED behaviors” from patients and patients' families “SINCE JUNE 2017.” One of the eight items was dropped because 100% of the sample indicated never experiencing that behavior from patients or their families [“Made you worry you might be treated badly if you did not do something sexual” (sexual coercion)]. Therefore, the final scale included seven items, which were reliable for our sample ( $\alpha=0.74$ ), and were averaged such that higher scores indicated more sexual harassment ( $M=0.24$ , SD=0.34) (Table 2).

**Mental health.** The Mental Health Index-5 is a widely used, well-validated screening instrument containing items from the Medical Outcomes Study 36-Item Short Form Health Survey.<sup>21,22</sup> Participants indicated on a five-point scale (1=never, 5=always) the extent to which they agreed with five statements about symptoms of depression (*e.g.*, “felt downhearted and blue”) and anxiety (“been a very nervous person”). Items were scored and averaged such that higher values indicated better mental health.

**Job satisfaction.** We measured job satisfaction using three items from the Michigan Organizational Assessment Questionnaire (C. Cammann, M. Fichman, D. Jenkins, J. Klesh, unpublished data).<sup>23</sup> Participants indicated on a five-

point scale (1 = strongly disagree, 5 = strongly agree) the extent to which they agreed with five statements about their job. An example item is “All in all, I am satisfied with my job.” Items were scored and averaged such that higher values indicate more job satisfaction ( $M = 4.05$ ,  $SD = 0.80$ ;  $\alpha = 0.88$ ).

**Sense of safety at work.** We assessed participants’ subjective sense of safety on the job with one item, adapted from Clancy et al. “I feel safe at Michigan Medicine.”<sup>24</sup> Participants responded on a five-point scale (1 = strongly disagree, 5 = strongly agree;  $M = 4.28$ ,  $SD = 0.87$ ).

**Turnover intentions.** We measured participants’ intentions to quit their job using four items. We drew the first item from the Turnover Intentions subscale of Balfour and Weschler’s questionnaire on workplace commitment: “I often think about quitting this job” (1 = strongly disagree, 5 = strongly agree).<sup>25</sup> We developed three additional items designed to assess turnover intentions in the unique context of academic medicine (e.g., “How often have you thought about changing your area of specialty?”; 1 = never, 5 = always). All items were standardized ( $z$ -scored) and averaged such that higher values indicated greater turnover intentions ( $\alpha = 0.74$ ).

### Analyses

After removing from the analytic sample those who failed either of two attention-check questions or had a significant amount of incomplete data, we compared respondents to the target population based on known characteristics. We then described the incidence of harassment by binary-scoring the SEQ-insider, SEQ-patient, and each of their subdimensions (1 = experiencing at least one behavior in the past year, 0 = no experiences of any behavior in the past year). Next, we conducted chi-square analyses to assess whether incidence rates differed as a function of gender (grouped as women or men) and department (grouped as basic science; medical; care of women, children, or families; surgical; or hospital-based as in prior work).<sup>26</sup> Finally, we constructed a series of multivariable linear regression models to examine how sexual harassment was associated with physician mental health, job satisfaction, sense of safety at work, and turnover intentions. All predictor variables (participant gender, seniority at UMMS [senior status: associate professor, full professor,  $n = 341$ , 48.4%; junior status: assistant professors, lecturers, etc.,  $n = 364$ , 51.6%], and sexual harassment from insiders and patients) were theoretically prespecified. All analyses were run in IBM SPSS (V.23).

### Results

Of the 2723 faculty who were invited to participate, 918 initiated surveys (33.7%). Of these, 705 (25.9%) passed two attention-check questions and provided complete data on all items analyzed in the current study; this constituted the analytic sample. The vast majority (76.6%) of the faculty sample were physicians holding MD or equivalent degrees. The analytic sample differed slightly from the overall demographics of the faculty at UMMS in terms of race, gender, department, and faculty track. Specifically, it modestly overrepresented white faculty and underrepresented Asian faculty: whereas our sample was 78.3% ( $n = 537$ ) white and 12.4% ( $n = 85$ ) Asian/Asian American/Pacific Islander, the

target population is 69.4% white ( $n = 1890$ ) and 23.3% ( $n = 633$ ) Asian/Asian American/Pacific Islander ( $p < 0.001$ ). Our sample modestly overrepresented women (48.3%,  $n = 336$ ; compared to 43.2%,  $n = 1,177$ ;  $p = 0.014$ ) and faculty in the care of women, children, or families subspecialties (25.2%,  $n = 175$ ; compared to 15.8%,  $n = 430$ ;  $p < 0.001$ ), and underrepresented research faculty (9.2%  $n = 64$ ; compared to 13.2%  $n = 359$ ;  $p = 0.021$ ). Table 1 describes the demographic characteristics of respondents.

TABLE 1. DEMOGRAPHICS OF SEVEN HUNDRED FIVE FACULTY RESPONDENTS TO A SURVEY CONDUCTED AT AN ACADEMIC MEDICAL CENTER

Demographic variables	N (%)
Department	
Basic science	70 (10.1)
Medical	225 (32.4)
Women, children, or families	175 (25.2)
Surgical	101 (14.6)
Hospital based	123 (17.7)
Faculty track	
Instructional (tenure track)	235 (33.7)
Clinical	390 (56.0)
Research	64 (9.2)
Other/don't know	8 (1.1)
Work location (select multiple)	
Inpatient wards or units	405 (57.4)
Outpatient clinics	446 (63.3)
Laboratory	214 (30.4)
Interact with patients	
Yes	550 (78.3)
No	152 (21.7)
Gender	
Women	336 (48.3)
Men	358 (51.5)
Neither category	1 (0.1)
Race	
White	537 (78.3)
Asian/Asian American/Pacific Islander	85 (12.4)
Hispanic/Latina(o)	16 (2.3)
Multiracial/Multiethnic	16 (2.3)
Black/African American	12 (1.7)
Middle Eastern	11 (1.6)
Native American/American Indian	1 (0.1)
None of these categories	8 (1.2)
Socioeconomic status (when growing up)	
Very poor, not enough to get by	2 (0.3)
Barely had enough to get by	33 (4.7)
Had enough to get by, but no extras	237 (33.9)
Had more than enough to get by	267 (38.2)
Well off	154 (22.0)
Very wealthy	6 (0.9)
Sexual orientation	
Heterosexual	663 (97.5)
Lesbian	5 (0.7)
Gay	5 (0.7)
Bisexual	4 (0.7)
Asexual	1 (0.1)
None of these categories	1 (0.1)
Age (years)	$M$ (48.30), $SD$ (10.72)

SD, standard deviation.

### Incidence of sexual harassment

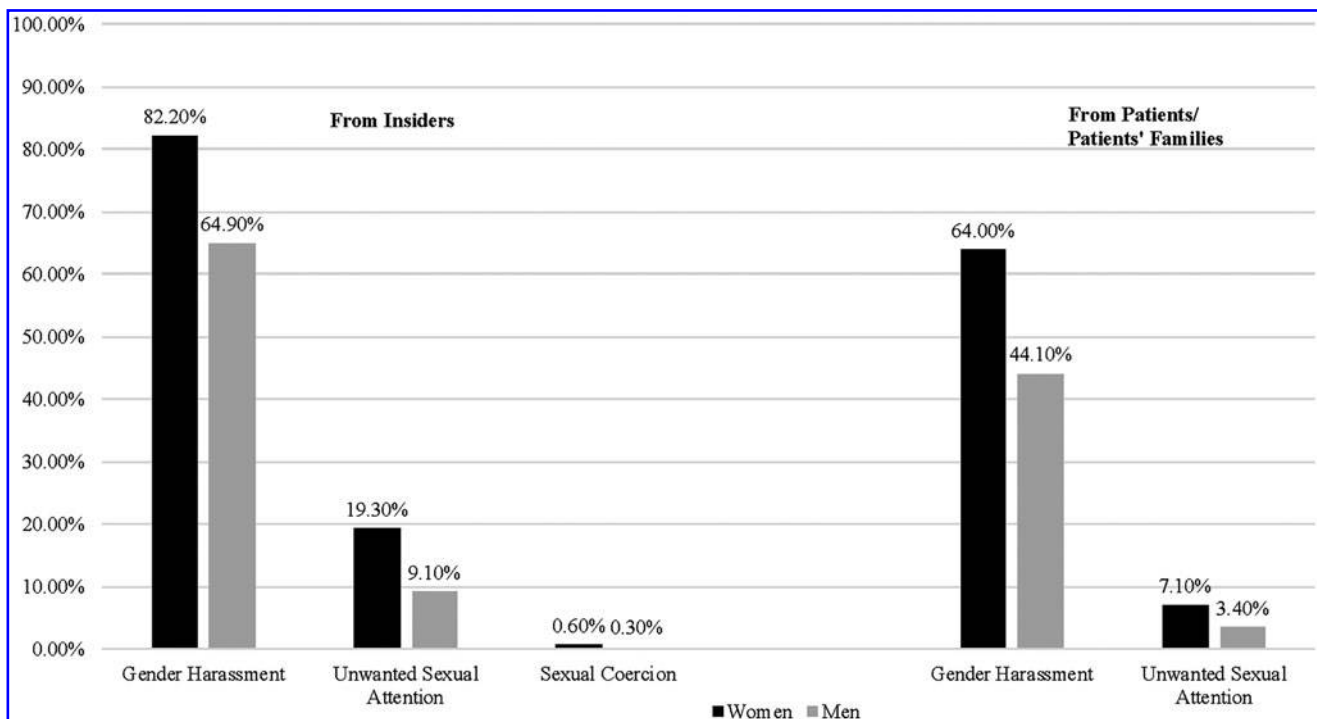
The majority of women ( $n=273$ , 82.5%) and men ( $n=228$ , 65.1%) indicated experiencing at least one incident of sexual harassment from institutional insiders—staff, students, and faculty at UMMS—and 64.4% ( $n=172$ ) of women and 44.1% ( $n=115$ ) of men who interacted with patients indicated experiencing sexual harassment from patients and patients' families within the previous year. The most frequently experienced form of sexual harassment was gender harassment. Among women, 82.2% reported gender harassment from institutional insiders, and 64.0% reported gender harassment from patients/families. Among men, 64.9% reported gender harassment from institutional insiders, and 44.1% reported gender harassment from patients/families. The least frequently experienced dimension was sexual coercion: 2 women and 1 man reported coercion from institutional insiders and 0 reported it from patients/families. Due to these low rates, we did not conduct further analyses on sexual coercion. Figure 1 depicts all observed rates.

Table 2 depicts all behaviors assessed. Although we repeatedly instructed participants to only respond about “UNWANTED behaviors,” it is possible that some participants' responses included times when they perceived the behavior as humorous or enjoyable (*i.e.*, “displayed or distributed sexually explicit stories, pictures, or pornography,” “told sexual stories or dirty jokes,” and “tried to get you into a conversation about sex”). Thus, we recomputed the incidence rate of gender harassment without these three items

and found similar results for gender harassment by institutional insiders among women (79.8%) and a still substantial rate among men (50.9%). We also recomputed the overall incidence rate for sexual harassment by institutional insiders removing these three items, and the incidence rate was again largely unchanged for women (80.4%) and remained substantial among men (51.7%). Thus, even by conservative estimates, more than half of the men and women in our study had experienced some form of sexual harassment from institutional insiders within the past year. All subsequent analyses used the full gender harassment measure, including these three items.

As shown in Figure 1, women had 2.50 (95% confidence interval [CI]: 1.75–3.57,  $p < 0.001$ ) times greater odds of experiencing gender harassment from institutional insiders and 2.38 (95% CI: 1.51–3.75,  $p < 0.001$ ) times the odds of experiencing unwanted sexual attention from insiders than men. Women also had 2.26 (95% CI: 1.59–3.21,  $p < 0.001$ ) times the odds of experiencing gender harassment from patients/families and 2.15 (95% CI: 0.95–4.83,  $p = 0.045$ ) times the odds of experiencing unwanted sexual attention from patients/families than men.

Rates of gender harassment from patients/families also varied significantly across departments ( $p = 0.038$ ). Specifically, as depicted in Figure 2, examination of the adjusted residuals suggests that this effect is largely driven by disproportionately high rates of gender harassment from patients/families in internal medicine (adjusted residual = 2.6), and disproportionately low rates in surgery (adjusted residual = -2.3).



**FIG. 1.** Sexual harassment of faculty from insiders and patient and patients' families by faculty gender. This figure depicts rates with which 705 faculty respondents to a survey at a single academic medical institution endorsed at least one experience in each category within the past year. Insiders are defined as other institutional staff, students, and faculty, both on and off campus. SEQ is the validated Sexual Experiences Questionnaire that was modified for use to measure sexual harassment in the current study.

TABLE 2. SEXUAL HARASSMENT ITEMS USED IN SURVEY OF FACULTY WORKING AT AN ACADEMIC MEDICAL CENTER

Items
Gender harassment
1. Mistreated, slighted, or ignored you because you are a [woman/man]?
2. Made offensive sexist remarks (for example, suggesting that people of your sex are not suited for the kind of work you do)? (PF)
3. Put you down or been condescending to you because of your sex? (PF)
4. Displayed or distributed stories, pictures, or words that insult or disrespect women generally?
5. Displayed or distributed sexually explicit stories, pictures, or pornography?
6. Told sexual stories or dirty jokes? (PF)
7. Tried to get you in a conversation about sex?
8. Made offensive remarks about your appearance, body, or sexual activities? (PF)
9. Made gestures or used body language of sexual nature that embarrassed or offended you?
Unwanted sexual attention
10. Tried to start a romantic relationship with you after you told the person that you didn't want the relationship?
11. Continued to ask you for dates, drinks, dinner, etc., even though you said "no"? (PF)
12. Stared or looked at you in a sexual way?
13. Intentionally touched in any way your thigh, breast, butt, or genitals? (PF)
14. Touched another part of your body in a way that suggests sexual interest? (PF)
15. Tried to touch, fondle, kiss, or grope you?
16. Exposed or sent pictures of their genitals to you? <sup>a</sup>
Sexual coercion
17. Offered you something you wanted at work in exchange for doing something sexual? <sup>a</sup>
18. Implied that you would receive a professional reward if you did something sexual?
19. Made you worry that you might be treated badly if you did not do something sexual? (PF) <sup>b</sup>
20. Treated you badly for refusing to do something sexual?

All items were presented to assess sexual harassment from institutional insiders (*i.e.*, students, staff, or faculty). Items labeled with PF were also presented to faculty who interacted with patients and patients' families to assess sexual harassment from patients/families.

<sup>a</sup>Item was dropped from the SEQ-Insider scale computation due to zero reported experiences.

<sup>b</sup>Item was dropped from the SEQ-Patient scale computation due to zero reported experience.

SEQ, Sexual Experiences Questionnaire; PF, patients/patients' families.

### Outcomes of sexual harassment

As shown in Table 3, our multivariable analyses revealed a consistent pattern of results: after adjusting for the effect of participant gender and seniority at UMMS, increased experiences of institutional insider and patient/family sexual harassment were independently associated with lower mental health, job satisfaction, and sense of safety at work, as well as increased turnover intentions. Across models, the interaction of participant gender with insider and patient/family sexual

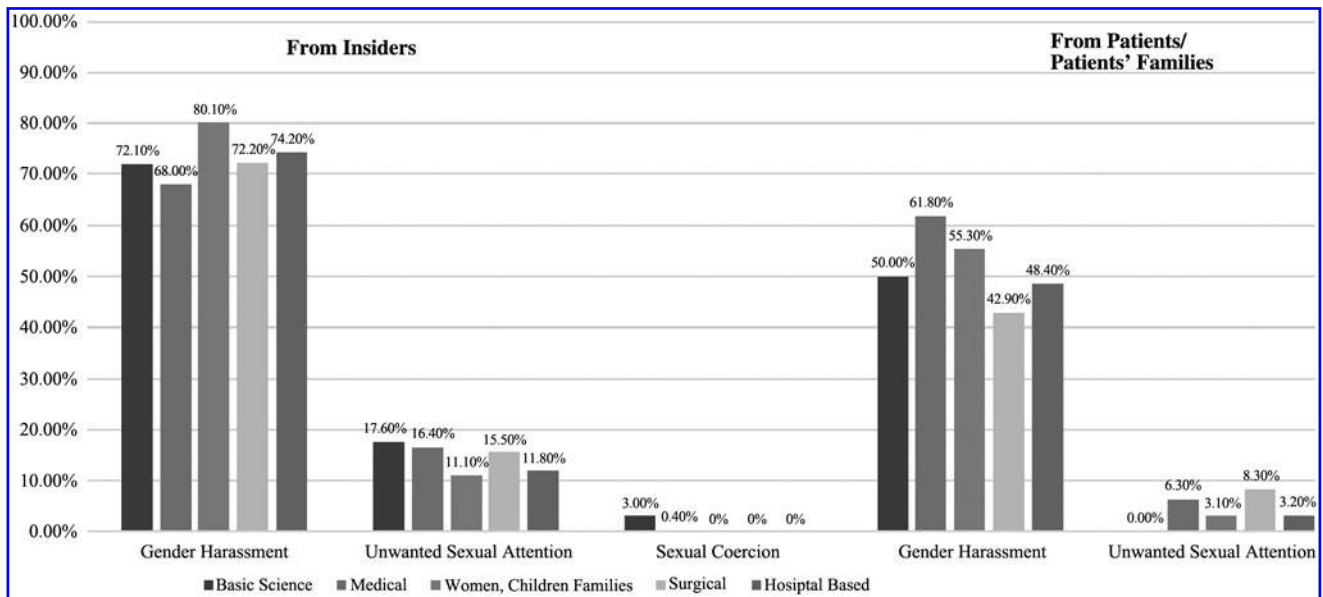
harassment was not significant, indicating that the strength of the association between experiencing sexual harassment and negative outcomes was similar for both women and men. In addition, seniority at UMMS predicted increased job satisfaction and decreased turnover intentions in the models with insider sexual harassment as well as patient/family sexual harassment; seniority also predicted better mental health in the model with insider sexual harassment. Participant gender predicted job satisfaction and sense of safety at work in the model with insider sexual harassment.

### Discussion

In this large sample of academic medical faculty surveyed using a validated instrument with detailed behavioral questions, strikingly high proportions of both women and men report having experienced at least one form of sexual harassment in their interactions with other faculty, students, and staff, along with patients and patients' families within the past year. These findings suggest that the actual prevalence of sexual harassment among faculty at this academic medical center is higher than estimated in earlier studies, and affects the majority of women as well as men. The overall rates of sexual harassment observed in this study are higher in comparison not only to most prior studies in medicine but also to studies in other fields using similar measures.<sup>27</sup> However, these higher estimates, particularly for men are similar to those found in a recently published report on rates of sexual harassment against physicians in Germany.<sup>28</sup>

Consistent with studies in other work settings, the most prevalent form of harassment was gender harassment.<sup>29</sup> In particular, women frequently reported being mistreated, slighted or ignored on the basis of their sex, by institutional insiders. Although lacking the sexually predatory aspect of unwanted sexual attention or sexual coercion, social science has firmly established that gender harassment of this sort can have as detrimental an impact on well-being.<sup>30</sup> Moreover, nearly one in five women reported experiences of unwanted sexual attention from insiders, demonstrating that in the aftermath of #MeToo, this form of harassment is still present in academic medical contexts. Together, these rates of sexual harassment have major implications for the recruitment and retention of women in academic medicine—a field that is traditionally male-dominated.

Although women respondents were significantly more likely to report gender harassment and unwanted sexual attention than men, the finding that most men had also experienced at least one form of sexual harassment in the prior year is noteworthy, challenging the common notion that sexual harassment only rarely affects men. Within gender harassment, men frequently reported being told sexual stories or dirty jokes that were unwanted. Three of the gender harassment items from the SEQ include behaviors that some might argue could be humorous or enjoyable (*i.e.*, "displayed or distributed sexually explicit stories, pictures, or pornography," "told sexual stories or dirty jokes," and "tried to get you into a conversation about sex"). However, we repeatedly instructed participants that they were only to respond about unwanted behaviors, and we observed substantial rates of gender harassment, regardless of whether such behaviors were included. Our observation that men's rates of gender harassment were even higher when such incidents were



**FIG. 2.** Sexual harassment from insiders and patients/patients' families by department. This figure depicts rates with which 705 faculty respondents to a survey at a single academic medical institution endorsed at least one experience in each category within the past year, by department. Insiders are defined as other institutional staff, students, and faculty, both on and off campus. SEQ is the validated Sexual Experiences Questionnaire that was modified for use to measure sexual harassment in the current study.

included warrants further investigation in other samples. Indeed, men frequently reported being told sexual stories or dirty jokes that were unwanted, and we believe this suggests not that the SEQ overestimates harassment but rather that sexual banter, which some may assume is not bothersome to men, can be unwelcome regardless of the sex of the individual who experiences the behavior. Our findings in general, including those for men, may be due to increased sensitivity to all forms of sexual harassment following #MeToo. However, it is important to note that even if sensitivity to unwanted comments and behaviors has increased, the negative

associations between these unwanted experiences and mental health and career outcomes remain strong.

Specifically, our results demonstrate that more frequent experiences of sexual harassment are associated with decreased mental health for both men and women. Research has demonstrated that the regular job demands associated with being a medical faculty member can undermine mental health, and it is possible that working in a climate that permits sexual harassment exacerbates this effect regardless of one's gender.<sup>31</sup> Furthermore, research has established a clear link between mental and physical health, and poorer

**TABLE 3.** REGRESSION RESULTS PREDICTING MENTAL HEALTH, JOB SATISFACTION, SENSE OF SAFETY, AND TURNOVER INTENTIONS AMONG FACULTY FROM A SURVEY WITH SEVEN HUNDRED FIVE FACULTY RESPONDENTS WORKING AT AN ACADEMIC MEDICAL CENTER

	<i>Mental health</i>		<i>Job satisfaction</i>		<i>Safety</i>		<i>Turnover intentions</i>	
	b ( $\beta$ )	p	b ( $\beta$ )	p	b ( $\beta$ )	p	b ( $\beta$ )	p
<b>Institutional insider</b>								
Intercept	3.75	<0.001	4.05	<0.001	4.30	<0.001	0.05	0.11
Seniority	0.06 (0.11)	0.007	0.14 (0.17)	<0.001	0.02 (0.02)	0.566	-0.10 (-0.13)	0.001
Male gender	0.03 (0.05)	0.231	0.08 (0.10)	0.009	0.09 (0.11)	0.008	-0.06 (-0.07)	0.063
SEQ-insider	-0.31 (-0.12)	0.004	-0.89 (-.26)	<0.001	-1.25 (-0.35)	<0.001	0.87 (0.27)	<0.001
SEQ-insider $\times$ gender	-0.10 (-0.04)	0.329	-0.05 (-0.01)	0.725	-0.02 (-0.01)	0.883	0.11 (0.03)	0.398
<b>Patients and families</b>								
Intercept	3.74	<0.001	4.07	<0.001	4.29	<0.001	0.02	0.550
Seniority	0.03 (0.06)	0.233	0.12 (0.16)	<0.001	-0.03 (-0.04)	0.372	-0.07 (-0.10)	0.037
Male gender	0.01 (0.02)	0.731	0.06 (0.08)	0.079	0.05 (0.07)	0.172	-0.04 (-0.06)	0.202
SEQ-patient	-0.25 (-0.14)	0.009	-0.36 (-0.16)	0.002	-0.52 (-0.22)	<0.001	0.50 (0.24)	<0.001
SEQ-patient $\times$ gender	.08 (0.05)	0.375	0.15 (0.07)	0.200	0.18 (0.07)	0.153	-0.10 (-0.05)	0.371

SEQ-insider, SEQ-patient, and their interactions with gender were grand-mean centered. Seniority = seniority at University of Michigan Medical School.

mental health may have negative consequences on faculty's overall well-being.<sup>32</sup>

Importantly our results demonstrate that sexual harassment has deleterious effects on career outcomes, including decreased job satisfaction, sense of safety, and increased turnover intentions. Turnover of medical professionals has large fiscal costs to health care organizations, including paying the direct (*e.g.*, interviewing, recruitment, administrative, training) and indirect (*e.g.*, time) costs of hiring replacements.<sup>33</sup> In addition, decreased job satisfaction among physicians is related to increased absenteeism and job burnout, and even riskier prescribing profiles, which could put patients at risk.<sup>34</sup> Furthermore, sexual harassment has been associated with performance declines in other professions, and future research should examine how sexual harassment experiences are associated with costly performance outcomes in medicine, with the possible risk of jeopardizing patient safety or quality of care.<sup>35</sup>

We did not detect substantial differences in the prevalence of harassment by specialty, except for the observation of disproportionately high rates of harassment from patients in internal medicine, and disproportionately low rates from patients in surgery. Explanations for these findings may include differences in the duration, location, or urgency of interactions with patients in internal medicine versus surgical contexts. Further research is warranted that focuses on the nature of harassment in specific subsettings.

Taken together, the high rates of sexual harassment observed in the current study point to larger systemic issues of sexism and sexual degradation within this academic context. When this harassment becomes severe or pervasive enough to alter the conditions of employment, it can potentially violate Title VII of the Civil Rights Act of 1964. Sexual harassment lawsuits pose both a financial and reputational burden on institutions. It is imperative for academic administrators to create respectful environments and implement strong anti-harassment policies and programs.

The current study yields new information about the associations between the full range of sexual harassment within a large cohort of physicians and other medical faculty and their well-being; however, our data are limited to one institution and one point in time, and in any observational study correlations may not be causal. Other organizations need to systematically investigate sexual harassment to understand the true extent and impact of sexual harassment in academic medicine. Selection bias due to nonresponse is always possible in a survey study, and while our study respondents were not substantially dissimilar to the overall population targeted, our sample did modestly overrepresent faculty who were white, women, and from women, children, or families' subspecialties. Even if rates were much lower among nonrespondents, the overall incidence of harassment in the underlying population would remain high enough to merit intervention, given the extremely high rates among those who did respond.

It is possible that this institution is an outlier; however, it is, on the whole, not remarkably different from many other large academic medical schools and teaching hospitals, so we anticipate that the rates of harassment in other institutions will mirror those we found. In the current study, we followed the best practices of behavioral science by asking only about behaviorally specific sexual harassment experiences from the

recent past (*i.e.*, past year). It would be helpful to examine the rates of sexual harassment within one context over time. Researchers should also test how the implementation of different policies impacts the rates of sexual harassment over the long-term, to inform continuing improvement in this setting.

## Conclusions

This study demonstrates remarkably high rates of sexual harassment in a sample of current academic medical faculty and convincingly demonstrates an impact of harassment—including gender harassment—on faculty well-being. This detailed information extends our understanding of the perpetrators, targets, nature, and consequences of sexual harassment of academic medical faculty in ways that are essential to inform targeted interventions to address this serious problem.

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