

Prevalence and Correlates of Harassment Among US Women Physicians

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Background: Despite concerns about its prevalence and ramifications, harassment has not been well quantified among physicians. Previous published studies have been small, have surveyed only 1 site or a convenience sample, and have suffered from selection bias.

Methods: Our database is the Women Physicians' Health Study, a large (4501 respondents; response rate, 59%), nationally distributed questionnaire study. We analyzed responses concerning gender-based and sexual harassment.

Results: Overall, 47.7% of women physicians reported ever experiencing gender-based harassment, and 36.9% reported sexual harassment. Harassment was more common while in medical school (31% for gender-based and 20% for sexual harassment) or during internship, residency, or fellowship (29% for gender-based and 19% for sexual harassment) than in practice (25% for gender-based and 11% for sexual harassment). Respondents more likely to report gender-based harassment were physicians who were now divorced or separated and those specializing in historically male specialties, whereas those of Asian and other (nonwhite, nonblack, non-Asian, non-

Hispanic) ethnicity, those living in the East, and those self-characterized as politically very conservative were less likely to report gender-based harassment. Being younger, born in the United States, or divorced or separated were correlated with reporting ever experiencing sexual harassment; those who were Asian or who were currently working in group or government settings were less likely to report it. Those who felt in control of their work environments, were satisfied with their careers, and would choose again to become physicians reported lower prevalences of ever experiencing harassment. Those with histories of depression or suicide attempts were more likely to report ever having been harassed.

Conclusions: Women physicians commonly perceive that they have been harassed. Experiences of and sensitivity to harassment differ among individuals, and there may be substantial professional and personal consequences of harassment. Since reported rates of sexual harassment are higher among younger physicians, the situation may not be improving.

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EVEN AS WOMEN enter medicine in larger numbers, they may still encounter impediments, including harassment. It may occur in forms that are shared with men, harassment based on ethnicity or lifestyle. Or, it may take forms that are more frequently experienced by women,¹ such as gender-based or sexual harassment.

It is acknowledged in thought, policy, and statute that harassment is an exercise of power that may produce a variety of ill effects, including reduced productivity, morale, and job satisfaction.¹ However, despite these serious negative potential outcomes, harassment prevalence has never been well studied among physicians. The few published studies²⁻¹⁰ have been small (N<250) and have surveyed only 1 site,^{3-6,8,10} a convenience sample,⁷ or only medical students.^{2,3,8-10} Previous studies also have suffered from potential response bias because the survey only asked about harassment and abuse^{2-4,8,10} or sex-related issues,⁵⁻⁷ and may therefore have encouraged preferential response by the harassed.

We intended to portray more representatively the prevalence and correlates of harassment experiences among US women physicians. Specifically, we explored self-characterized gender-based and sexual harassment. This distinction between harassment types was drawn after pilot testing indicated that, whereas some women physicians denied being harassed in a manner they characterized as sexual, they nonetheless may have felt harassed simply because of events specific to being female in a male-dominated culture. Our database is the Women Physicians' Health Study, a large (4501 respondents), nationally distributed questionnaire study. The harassment question was placed on an inside page of a 716-item questionnaire, thereby reducing preferential response by those most concerned with harassment.

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SUBJECTS AND METHODS

The design of the Women Physicians' Health Study has been more fully described elsewhere.¹¹ The study surveyed a stratified random sample of US women MDs; its sampling frame is based on the Physician Masterfile of the American Medical Association, a database intended to record all MDs residing in the United States and its possessions. Using a sampling scheme stratified by decade of graduation from medical school, we randomly selected 2500 women from each graduating class of the last 4 decades (1950 through 1989). We oversampled older physicians, a population that would otherwise have been sparsely represented by proportional allocation because of the recent increase in numbers of women physicians. We included active, part-time, professionally inactive, and retired physicians, aged from 30 to 70 years, who were not in residency training programs in September 1993, when the sampling frame was constructed. In that month, the first of 4 mailings was sent out; each mailing contained a cover letter and a self-administered, 4-page questionnaire. Enrollment was closed in October 1994 (final N=4501).

Of the potential respondents, an estimated 23% were ineligible to participate because their addresses were wrong or they were men, deceased, living out of the country, interns, or residents. Our response rate was 59% of physicians eligible to participate. We compared outcomes of respondents and nonrespondents for a large number of key variables in the following 3 ways: a telephone survey (comparing our telephone-surveyed random sample of 200 nonrespondents with all the written survey respondents), the Physician Masterfile (contrasting all respondents with all nonrespondents), and an examination of survey mailing waves (all respondents, from wave 1 through 4) to contrast respondents' and nonrespondents' outcomes for a large number of key variables. From these 3 investigations, we found that nonrespondents were less likely than respondents to be board certified. However, respondents and nonrespondents did not consistently or substantively differ on other tested measures, including age, ethnicity, marital status, number of children, alcohol consumption, fat intake, exercise, smoking status, hours worked per week, frequency of being a primary care practitioner, personal income, or percentage actively practicing medicine.

Based on these findings, we weighted the data by decade of graduation (to adjust for our stratified sampling scheme) and by decade-specific response rate and board-certification status (to adjust for our identified response bias). The analysis weights (within decade) are 3.4 and 5.5 (1950s), 9.3 and 17.7 (1960s), 17.9 and 36.5 (1970s), and 28.3 and 63.9 (1980s), for board-certified and non-board-certified respondents, respectively. Using these weights allows us to infer to the entire population of women physi-

cians who graduated from medical school from 1950 to 1989.

Harassment was queried using an abridged version of the definition of the American Medical Association.¹² Specifically, we asked the following:

Have you ever been harassed in a medical setting (ie, received unwanted physical or verbal attention, propositions, hostilities, or threats)? If yes, mark all situations that apply . . . This occurred: before medical school; during medical school; while an intern/resident/fellow; while in practice. This harassment was: (mark all that apply) gender-based but non-sexual; sexual; lifestyle based; ethnically-based.

Gender-based and sexual harassment were not further defined after pilot and focus-group testing indicated differences between these categories in prevalence and qualitative interpretation. In focus-group testing, sexual harassment was generally interpreted as meaning harassment with a sexual or physical component. Gender-based harassment was generally interpreted as related to being female in a traditionally male environment, without having a sexual or physical component. Severity was queried with the following: "Would you characterize the worst episode of this harassment as mild, moderate, or severe?" This response also could have pertained to the worst episode of lifestyle-based or ethnically based harassment, but prevalences of ever experiencing these conditions were low in this predominantly white, heterosexual population (2%-7% prevalence of lifestyle-based or ethnically based harassment in any setting queried).

Commercially available software (SUDAAN, Research Triangle Institute, Research Triangle Park, NC) was used to estimate prevalence of harassment stratified by personal and professional characteristics and to perform χ^2 tests to determine if harassment was related to these characteristics. Logistic regression was used to model harassment at different periods (ever; before medical school; during medical school; during internship, residency, or fellowship; and during medical practice) as a function of several personal and professional characteristics. A modified method of backwards selection for logistic regression was used, including goodness of fit tests for the final models with a modification of the Hosmer and Lemeshow technique.¹³

All analyses were weighted to infer to the entire population, and SEs and significance testing were performed using SUDAAN analyses that recognized the sample design. A significance level of $P < .01$ was used for assessing relationships of harassment with individual characteristics. To determine which variables remained in the final logistics regression model, the criterion was $P < .10$ for the multiple *df* variable or $P < .05$ for at least 1 of the regression coefficients for that variable. A 95% confidence interval (CI) on the odds ratio (OR) is given for any regression coefficient that has $P < .05$.

RESULTS

Table 1 estimates prevalence of reporting ever experiencing self-described gender-based or sexual harassment during medical school; internship, residency, fellowship; or practice. Findings were similar for both harassment types; physicians who were younger, white or black, born in the United States, currently separated or divorced, and politically nonconservative had significantly higher prevalences. (Findings are only presented in the text of our "Results" section if they achieved a statistical signifi-

cance of $P < .01$.) Women in a historically male-dominated specialty (defined in footnote) or employed by a medical school reported a higher prevalence, and women in a government setting reported a lower prevalence of sexual harassment. Fewer women living in the territories reported gender-based harassment. Higher lifetime prevalences were reported for gender-based than for sexual harassment (47.7% vs 36.9%, respectively). Many women reported being harassed at more than 1 of the 4 professional stages queried (not shown). For gender-based and sexual harassment, 52% and

Table 1. Prevalence of Previous Harassment by Personal and Professional Characteristics*

Characteristics (No. of Respondents)	Harassment Prevalence, %	
	Gender-Based	Sexual
All (4357)	47.7	36.9
Age, y		
30-39 (1105)	48.0†	40.4‡
40-49 (1326)	48.5	38.3
50-59 (996)	47.3	27.3
60-70 (930)	40.3	24.3
Ethnicity		
Asian (681)	32.5‡	15.8‡
Black (125)	56.6	36.3
Hispanic (169)	37.5	25.4
White (3192)	51.0	41.8
Other (121)	32.8	25.2
Born in the United States		
Yes (2807)	51.3‡	42.6‡
No (1176)	36.8	21.3
Current relationship status		
Single or widowed (616)	49.6†	39.2†
Part of couple (3169)	46.5	35.4
Separated or divorced (469)	56.2	46.1
Sexual orientation		
Heterosexual (4116)	47.4	36.9
Gay or bisexual (171)	55.5	42.0
Current region§		
US territories (44)	34.4†	25.3
East coast (2002)	45.0	34.4
East central (770)	51.5	36.5
West central (542)	45.3	38.7
Pacific or mountain (999)	52.0	41.7
Specialty type||		
Less male (2744)	45.8	34.9†
More male (1563)	50.7	40.0
Practice site		
Solo (863)	50.2	34.1‡
Group (1201)	47.0	36.9
Hospital (882)	46.5	39.0
Government (414)	44.4	27.4
Medical school (443)	51.0	47.0
Inactive or other (496)	50.1	35.3
Religious intensity		
Some (3860)	47.1	36.4
None (451)	53.4	41.1
Political self-characterization		
Very conservative (264)	33.6‡	26.0‡
Fairly conservative (927)	44.7	32.1
Moderate (1598)	47.8	35.7
Fairly liberal (1180)	51.9	41.3
Very liberal (362)	50.4	46.8

*Unweighted sample sizes are provided for each characteristic.

† $P < .01$, χ^2 test between groups.

‡ $P < .001$, χ^2 test between groups.

§Regions were defined by collapsing categories from the Centers for Disease Control and Prevention regional reporting areas, as published weekly in *Morbidity and Mortality Weekly Report*.

||Specialty type is defined as more or less historically predominantly male. Historically predominantly male specialties were defined as being those specialties (10 of our 18 specialty categories) that had no more than 5% women in 1970, no more than 10% women in 1980, and no more than 15% women in 1988, according to American Medical Association data.^{14,15}

63%, respectively, were not harassed at any one of these stages, 19% and 21%, respectively, were harassed at only 1 stage; 13% and 9%, respectively, at 2 stages; and 9% and 4%, respectively, at 3 stages. Seven percent and

2%, respectively, reported being harassed at all 4 stages. Most women characterized their worst episode of harassment of any type (not shown) as mild (37.4%) or moderate (40.7%); only 21.9% characterized their worst episode as severe.

Table 2 indicates that surgeons reported the highest prevalences of both types of harassment during internship, residency, or fellowship. Emergency physicians reported more gender-based harassment, and emergency physicians and radiologists reported more sexual harassment while in medical practice. Prevalence in a medical setting before medical school (not shown) was only 14.6% for gender-based harassment, and 11.2% for sexual harassment. We found (not shown) that both gender-based and sexual harassment were significantly ($P < .001$) more common in training (medical school, internship, residency, and fellowship) than in practice (40.2% vs 20.5% for gender-based and 29.8% vs 11.4% for sexual harassment in training vs practice, respectively). This was true even in analyses excluding those graduating after 1979 (ie, those with limited potential time for exposure to harassment in practice). Findings in **Table 3** did not achieve statistical significance.

Our logistic regression models (**Table 4**) simultaneously considered multiple harassment correlates. Physicians who were Asian or nonwhite, nonblack, non-Asian, and non-Hispanic (hereafter referred to as other) ethnicity or politically very conservative, or resided in the East were less likely to report ever having been harassed on the basis of gender; divorced or separated physicians and physicians in historically predominantly male specialties were more likely to report gender-based harassment. Physicians who were older, Asian, currently employed in groups or by the government, or politically conservative were less likely, whereas those who were divorced or separated or born in the United States were more likely to report sexual harassment. The only significant correlate of experiencing gender-based harassment before medical school (not shown) was being born in the United States (OR, 1.81; 95% CI, 1.31-2.52; $P < .001$). Reporting sexual harassment before medical school was correlated significantly with being born in the United States (OR, 1.96; 95% CI, 1.29-2.96; $P = .002$), divorced or separated vs married (OR, 1.70; 95% CI, 1.12-2.58; $P < .01$), or politically conservative vs liberal (OR, 0.27; 95% CI, 0.11-0.69; $P = .007$).

As shown in **Table 4**, the most consistent significant correlates of reporting gender-based harassment in training or in practice were ethnicity (Asian and other ethnicity less likely), marital status (separated or divorced more likely), and being in a historically male specialty. The most consistent significant correlates of reporting sexual harassment in these settings were ethnicity (Asian or Hispanic less likely), marital status (divorced or separated more likely), and age (older less likely). Other variables were less consistently predictive, but some (such as the effect of current region on perceived harassment while in medical school) still had very strong relationships with harassment at particular stages in professional development. All final models provided a good fit for the data, with Hosmer and Lemeshow goodness-of-fit P values ranging from .10 to .90.

Figure 1 and **Figure 2** display relationships between harassment prevalence and the following 2 do-

Table 2. Prevalence of Harassment at Different Professional Stages by Specialty Type*

Characteristic (No. of Respondents)	Prevalence, %					
	In Medical School		During Internship, Residency, or Fellowship		In Medical Practice	
	Gender-Based	Sexual	Gender-Based	Sexual	Gender-Based	Sexual
All (4357)	31.0	20.0	28.7	18.9	25.0	11.4
Specialty type§						
Less male (2744)	30.2	20.2	26.3†	17.7	23.2‡	9.9‡
More male (1563)	32.1	19.6	32.5	20.8	27.8	13.8
Specialty						
Anesthesiology (269)	30.8	17.3	29.0†	19.0†	31.0†	16.6†
Dermatology (94)	32.8	21.9	30.7	19.9	22.3	16.9
Emergency medicine (85)	31.0	33.3	35.6	26.2	45.3	21.1
Family medicine (337)	33.4	20.5	27.2	20.9	26.9	15.9
General practice (146)	26.6	9.2	13.9	8.2	19.7	10.6
General medicine (453)	31.4	21.2	26.0	17.6	30.1	11.3
Subspecialized medicine (330)	29.4	19.2	34.2	22.3	24.7	13.2
Neurology (61)	28.6	23.2	25.0	14.0	31.5	2.7
Ophthalmology (90)	29.0	24.0	34.0	25.9	27.8	12.3
Obstetrics and/or gynecology (300)	34.1	19.8	35.1	23.6	21.9	6.6
Pathology (222)	23.1	20.6	20.8	19.9	27.7	13.9
Pediatrics (782)	26.8	17.1	21.4	12.0	15.9	6.1
Public health (76)	30.5	12.1	21.9	9.3	16.1	5.7
Psychiatry (548)	32.8	26.3	27.6	21.3	23.0	11.3
Radiology (157)	42.3	15.2	35.7	16.5	25.7	22.8
General surgery (42)	40.5	20.9	63.1	33.0	27.0	13.9
Subspecialized surgery (91)	28.7	21.3	48.4	32.0	33.2	11.4

*Unweighted sample sizes are provided for each characteristic.

† $P < .001$, χ^2 test between groups.

‡ $P < .01$, χ^2 test between groups.

§Defined in the footnote to Table 1.

Table 3. Prevalence of Ever Having Been Harassed in Practice by Current Practice Site*

Site (No. of Respondents)	Prevalence, %	
	Gender-Based	Sexual
In solo practice (863)	26.3	10.7
In group (1201)	23.7	11.4
Hospital (882)	25.8	12.7
Government (414)	23.0	8.1
Medical school (443)	28.2	13.5
Inactive/other (496)	24.6	10.7

*Significance was tested using χ^2 test for differences between groups; $P = .63$ for gender-based and $P = .31$ for sexual harassment.

mains: career status and mental health indicators. Figure 1 shows significant ($P < .01$ using χ^2 tests) relationships between reporting gender-based or sexual harassment and feeling less control of one's work environment, feeling less satisfaction with one's career, and not wanting again to become a physician if reliving one's life. Physicians were also significantly more likely to report gender-based harassment if they were less inclined to choose the same specialty if reliving their lives. Figure 2 shows a strong relationship between histories of depression or suicide attempts and harassment of both types; there was no significant ($P \geq .10$) relationship between a history of alcohol abuse and harassment of either type.

We also found (not shown) that those reporting more severe harassment of any type also reported having less

work control ($P = .001$ for a χ^2 test of the overall effect of harassment severity), less current career satisfaction ($P < .001$), less desire to become a physician again ($P < .001$), and less desire to choose their same specialty again ($P < .001$). Harassment severity of any type was also related to a history of depression ($P < .001$) and of suicide attempts ($P = .002$). Those reporting severe harassment were 2 times as likely to report a history of depression and 4 times as likely to report a history of suicide attempts as those reporting only mild harassment.

COMMENT

Nearly half of women physicians reported having been harassed on the basis of gender, and more than one third reported having been sexually harassed. Reported prevalences of harassment differed considerably between groups, and there may be substantial professional and personal consequences of harassment.

Women physicians are significantly more likely to report being harassed while in training (medical school, internship, residency, or fellowship) than in practice. This is true although far more person-years are spent in practice than in training, with therefore theoretically far more opportunities for harassment. Sexual harassment is most commonly reported by the most recent medical school graduates (ie, the youngest women). Some may believe that problems of harassment will disappear in time, that they are simply a function of older, sexist physicians still being in practice. However, our data suggest that this is not the

Table 4. Final Multiple Logistic Regressions: Factors That Affect Likelihood of a History of Harassment*

Factors	Overall		Medical School		Intern,
	Gender-Based	Sexual	Gender-Based	Sexual	Gender-Based
Older age†	...	0.98 (0.97-0.99)‡	...	0.98 (0.97-0.99)‡	...
Ethnicity					
Asian vs white	0.59 (0.44-0.79)‡	0.43 (0.30-0.62)‡	0.54 (0.37-0.78)||	0.30 (0.20-0.44)‡	0.57 (0.44-0.75)‡
Black vs white	...	...	...	...	...
Hispanic vs white	...	...	...	0.25 (0.11-0.55)‡	...
Other vs white	0.58 (0.35-0.96)§	...	...	...	0.52 (0.29-0.94)§
Born in the United States	...	1.68 (1.27-2.21)‡	1.81 (1.36-2.42)‡	...	...
Relationship status					
Divorced vs married	1.36 (1.04-1.78)§	1.53 (1.15-2.04)||	...	1.47 (1.08-2.00)§	1.34 (1.02-1.76)§
Single vs married	...	...	...	...	...
Heterosexual vs other	...	...	0.60 (0.39-0.90)§	...	...
In male-dominated specialty¶	1.20 (1.02-1.41)§	...	...	...	1.34 (1.13-1.59)‡
Practice site					
Solo vs medical school	...	...	...	...	...
Group vs medical school	...	0.65 (0.48-0.87)||	...	...	...
Hospital vs medical school	...	...	...	...	...
Government vs medical school	...	0.53 (0.35-0.79)||	...	...	...
Other vs medical school	...	...	...	...	...
Region					
US territory vs mountain or Pacific	...	...	0.17 (0.03-0.82)§	0.02 (0.01-0.05)‡	...
Eastern vs mountain or Pacific	0.80 (0.65-0.98)§	...	0.64 (0.52-0.80)‡	...	...
Western central vs mountain or Pacific	...	...	0.67 (0.49-0.90)||	...	...
Eastern central vs mountain or Pacific	...	...	...	...	...
Less religious fervor	...	...	...	...	...
Political type					
Fairly vs very liberal	...	...	...	0.69 (0.50-0.97)§	...
Moderate vs very liberal	...	...	...	0.60 (0.43-0.84)||	...
Fairly conservative vs very liberal	...	0.65 (0.46-0.91)§	...	0.45 (0.31-0.66)‡	0.71 (0.51-0.99)§
Very conservative vs very liberal	0.55 (0.35-0.86)||	0.54 (0.33-0.88)§	...	...	0.58 (0.36-0.92)§

* Includes factors chosen that affect likelihood of a history of harassment overall; in medical school; as an intern, resident, or fellow; and in practice. The first step in model building was to fit the full model using all independent variables (IVs) listed in Table 1. Each IV was parameterized as shown in Table 1, with the exception of age (modeled as a continuous variable). For step 2, each IV with Wald F-test $P > .30$ was removed from the model, and for step 3, each IV with Wald F-test $P > .10$ was removed. Data are shown as odds ratios (95% confidence intervals).

†Odds ratio is per year.

‡ $P < .001$.

§ $P < .05$.

|| $P < .01$.

¶Defined in the footnote to Table 1.

problem's only source, and that attrition is unlikely to solve it. Whereas our data may reflect younger women's greater sensitivity to harassment, they certainly do not suggest that the training milieu is improving; in fact, it may be getting worse, and we may be continuing to train physicians in an environment where harassment is common. Our concern about medical schools is echoed by findings that other forms of harassment and abuse are frequently experienced by medical students of both sexes.^{2,3,8,10} Our findings suggest that much of the harassment problem resides in an area theoretically immediately available for improvement: the training environment.

Our specialty-stratified data, especially those for women surgeons, may be of particular interest. Previous data⁷ and plentiful anecdotes support our finding that surgeons and other specialists in historically predominantly male specialties are more likely to be harassed in training. However, once surgeons are out of residency and in practice and therefore more independent, they are not markedly more likely to be harassed than are other women physicians.

Present thought characterizes sexual harassment as primarily a manifestation of power, rather than sexual at-

traction. The profession of medicine, particularly in academic settings, may be especially prone to harassment because of the importance of hierarchy. This may account for the higher prevalence of harassment found in training environments in our data and the somewhat lower prevalence experienced among women physicians once they are in practice, in a typically higher place in the hierarchy. This also may be a reason that women in surgery and emergency medicine reported a higher prevalence of harassment, as these fields may particularly tolerate or even value hierarchy and authority. Such historically more male-dominated and prestigious fields also have fewer women to demonstrate that being female is compatible with success in these fields.

Other authors have suggested that harassment may have serious physical and psychological sequelae, such as fatigue, depression, and feelings of anger, fear, alienation, and vulnerability.^{4,16-19} Our data show that women who were less satisfied with their careers and who felt less in control of their work environments were also more likely to report having experienced harassment, especially gender-based harassment. Like depression, harass-

Resident, or Fellow	In Medical Practice	
	Sexual	Gender-Based	Sexual
0.98 (0.97-0.99)‡	...	...
0.32 (0.22-0.48)‡	0.54 (0.41-0.70)‡	0.41 (0.26-0.63)‡
...
...	...	0.51 (0.28-0.95)§
...
1.71 (1.26-2.32)‡	1.49 (1.13-1.95)||	2.10 (1.51-2.92)‡
...
...	1.27 (1.07-1.51)||	1.47 (1.16-1.87)||
...
...
...
...	0.79 (0.64-0.98)§	...
...
0.67 (0.50-0.89)||	...	...
...
...
...
...

ment causes feelings of helplessness, worthlessness, and guilt in its recipients.^{16,20,21} Perhaps then it is not surprising that our physicians who reported a history of depression or suicide attempts were more likely to report having experienced sexual or gender-based harassment. The relationship between harassment and suicide attempts is especially concerning, given previously reported elevated suicide rates of US women physicians vs other US women (ORs ≤ 4 have been reported).²²⁻²⁴ Such reports, although based on small numbers and the subject of considerable controversy, are distinct from the minimal risk elevation that has been noted in US male physicians vs other US men (ORs < 1.0-1.2).^{22,24-26} If these professional and personal dissatisfactions are at all causally related to harassment experiences (a relationship we cannot determine), this has serious implications for improving the well-being and satisfaction of physicians.

Some caveats are needed to help interpret our data. First, these problems are not unique to women physicians. Thirty percent of women registered nurses (n=164) in a California county reported sexual propositions, sexual insults, or suggestive touching by physicians at least once

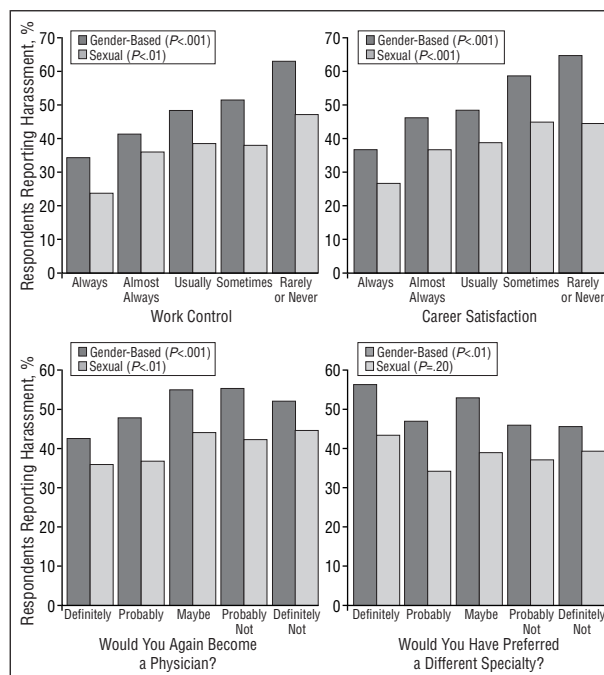


Figure 1. Prevalence of reported previous harassment by aspects of career satisfaction.

every 2 to 3 months.²⁷ A 1981 study of more than 20 000 government employees reported that 42% of women and 15% of men had received “some form of uninvited and unwanted sexual attention” at work in the past 2 years²¹; the study was repeated in 1987 with nearly identical results.²⁸

There are other caveats. As is the case with most studies of harassment, these are self-defined, self-reported, and therefore subjective experiences. Some of our differential results, such as our finding that specialists in historically more male-dominated specialties are more likely to have experienced gender-based harassment, may be most logically attributed to differences in actual frequency of exposure to harassment. Others, such as the influence of political self-characterization, may be primarily attributable to differences in perception or sensitivity (however, even politically very conservative women reported a 26.0% prevalence of sexual harassment and a 33.6% prevalence of gender-based harassment). However, other differentials, such as higher harassment rates reported by physicians who are now divorced or separated, and lower rates by Asians and those not born in the United States are more difficult to interpret. Such differences arguably could be attributed to differences in frequency of perpetration or in perception, and the fluidity of some of these variables further confounds interpretation. For example, it is difficult to know exactly why women who are currently divorced or separated would report having had more sexual harassment while in medical school than would women who are now married. Problems with obtaining objective measures are inherent to studies of this type; by examining differences among rates reported by different types of women, we do not mean to imply that some individuals overestimate or underestimate harassment. Alternatively, behaviors that are acceptable to some women may not, at least in retrospect, be to others.

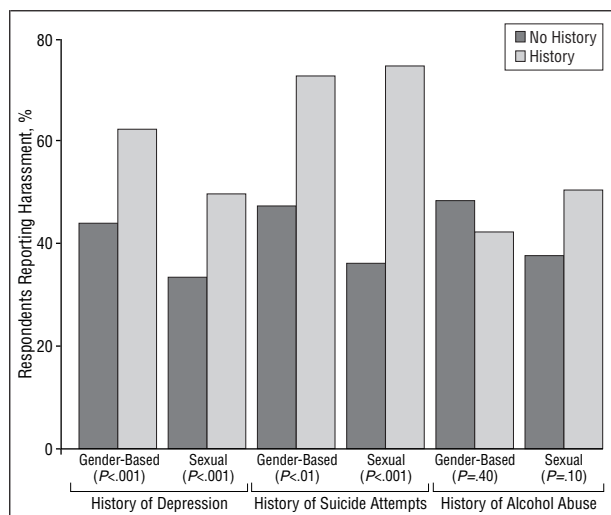


Figure 2. Prevalence of reported previous harassment by history of mental health indicators.

Some of our data raise questions for future study. Our differentiation between sexual and gender-based harassment is a relatively new approach to examining harassment, and our differential prevalence rates for both harassment types reinforce that these categories elicit different types of responses. Previous literature may be interpreted and subsequent studies structured somewhat differently in light of these findings. We also do not know the exact character of the harassment reported herein. Whereas our data show that most of it is self-categorized as mild to moderate, further explorations could be fruitful. Finally, our findings of higher prevalences in training could simply reflect a more negative recall of the more distant past. However, our data showing the lowest rates in the time before medical school suggest that this is not so, but this would also be interesting to explore in more narrative assessments.

Despite large and increasing numbers of women physicians in practice, experiences of sexual and gender-based harassment remain widespread. Much remains to be learned about the psychological, emotional, and physical effects of harassment; however, these effects may be substantial. Also difficult to measure, but found in our data and acknowledged in theory and in law, are the detrimental effects that harassment can have on the ability of women to focus their energies on education or work.²¹ Perhaps most troubling is our evidence that harassment rates are not decreasing. Despite strong statements against harassment and gender discrimination in the medical literature,²⁹ harassment experiences are still common in the training sites where the medical community's values are instilled. As physicians must update their understanding of appropriate practice for patient care, they must also update appropriate practice for professional interactions. Our data suggest that there has been and remains a substantial divide between what many women and some men consider acceptable professional interactions, and this could have considerable professional and human consequences.^{12,28,29}

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REFERENCES

- Schiffman M, Frank E. Harassment of women physicians. *J Am Med Womens Assoc.* 1995;50:207-211.
- Baldwin DC Jr, Daugherty SR, Eckenfels EJ. Student perceptions of mistreatment and harassment during medical school: a survey of ten United States schools. *West J Med.* 1991;155:140-145.
- Wolf TM, Randall HM, von Almen K, Tynes LL. Perceived mistreatment and attitude change by graduating medical students: a retrospective study. *Med Educ.* 1991;25:182-190.
- Lenhart SA, Evans CH. Sexual harassment and gender discrimination: a primer for women physicians. *J Am Med Womens Assoc.* 1991;46:77-82.
- Equal Employment Opportunity Commission. Guidelines on discrimination because of sex. *Fed Register.* 1980;45:74 676-74 677.
- Charney DA, Russell RC. An overview of sexual harassment. *Am J Psychiatry.* 1994;151:10-17.
- McCann ND, McGinn TA. *Harassed: 100 Women Define Inappropriate Behavior in the Workplace.* Homewood, Ill: Business One Irwin; 1992.
- Richman JA, Flaherty JA, Rospenda KM, Christensen ML. Mental health consequences and correlates of reported medical student abuse. *JAMA.* 1992;267:692-694.
- Bickel J, Ruffin A. Gender-associated differences in matriculating and graduating medical students. *Acad Med.* 1995;70:552-559.
- Lubitz RM, Dguyen DD. Medical students abuse during third-year clerkships. *JAMA.* 1996;275:414-416.
- Frank E. The Women Physicians' Health Study: background, objectives, and methods. *J Am Med Womens Assoc.* 1995;50:64-66.
- American Medical Association. *Guidelines for Establishing Sexual Harassment Prevention and Grievance Procedures.* Chicago, Ill: American Medical Association; 1990:3.
- Hosmer DW Jr, Lemeshow S. *Applied Logistic Regression.* New York, NY: John Wiley & Sons Inc; 1989.
- American Medical Association. *Women in Medicine: 1995 Data Source.* Chicago, Ill: American Medical Association; 1995.
- American Medical Association. *Women in Medicine in America: In the Mainstream.* Chicago, Ill: American Medical Association; 1991.
- Dziech BW, Weiner L. *Sexual Harassment on Campus.* Boston, Mass: Beacon Press; 1984:16-17.
- Phillips SP, Schneider MS. Sexual harassment of female doctors by patients. *N Engl J Med.* 1993;329:1936-1939.
- Shrier DK. Sexual harassment and discrimination: impact on physical and mental health. *N J Med.* 1990;87:105-107.
- Gutek BA, Koss MP. *Occupational Medicine: State of the Art Reviews.* Philadelphia, Pa: Hanley & Belfus Inc; 1993:807-819.
- Komaromy M, Bindman AB, Haber RJ, Sande MA. Sexual harassment in medical training. *N Engl J Med.* 1993;328:322-326.
- US Merit Systems Protection Board. *Sexual Harassment in the Federal Workplace: Is It a Problem?* Washington, DC: US Government Printing Office; 1981.
- Steppacher R, Mausner JS. Suicide in male and female physicians. *JAMA.* 1974;228:323-328.
- Pitts FN Jr, Schuller AB, Rich CL, Pitts AF. Suicide among US women physicians, 1967-1972. *Am J Psychiatry.* 1979;136:694-696.
- Roy A. Suicide in doctors. *Psychiatr Clin North Am.* 1985;8:377-387.
- Rose KD, Rosow I. Physicians who kill themselves. *Arch Gen Psychiatry.* 1973;29:800-805.
- Rich CL, Pitts FN Jr. Suicide by male physicians during a five-year period. *Am J Psychiatry.* 1979;136:1089-1090.
- Diaz AL. A definition and description of nurse abuse. *West J Nurs Res.* 1991;13:97-109.
- US Merit Systems Protection Board. *Sexual Harassment in the Federal Workplace: An Update.* Washington, DC: US Government Printing Office; 1988.
- Cotton P. Harassment hinders women's care and careers. *JAMA.* 1992;267:778-783.