

IS had a moderate positive correlation with Emotional Exhaustion ( $r = 0.4100$ ,  $P < .0001$ ) and Depersonalization ( $r = 0.3126$ ,  $P = .0005$ ), and a moderate negative correlation with Personal Accomplishment ( $r = -0.3355$ ,  $P = .0002$ ) (Table II).

This study has some limitations. The results may not be generalizable because approximately 10% of United States dermatology residents participated, and response bias may have contributed to our findings. This was a cross-sectional study, so we cannot determine causation or progression of these psychologic phenomena over time.

IS represented a significant concern among respondents. IS may underlie psychologic distress among residents and prevent them from seeking new or challenging opportunities due to lack of confidence or perceived competence. Strategies to address IS, such as a space to share and normalize common struggles with peers, strong professional mentorship, and feedback that acknowledges efforts and accomplishments, could be developed to help residents deal with feelings of self-doubt. This may contribute to improved well-being in dermatology residents.

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#### Income inequality between male and female clinical faculty at public academic dermatology departments



*To the Editor:* Over the past few decades, gender inequality has become an increasing concern in academic medicine.<sup>1,2</sup> A large study recently conducted by Jena et al<sup>3</sup> used publicly accessible databases to evaluate salaries of physicians employed by United States public medical institutions. Even after adjusting for numerous variables, female physicians were compensated \$19,878 (8.0%) less than their male counterparts. Using a similar model, we sought to quantify the difference between salaries of male and female dermatologists at public medical institutions.

Every public medical institution within a state subject to Freedom of Information laws was studied. We identified 26 public academic medical institutions, and publicly available salary databases were used to ascertain the salary of each dermatologist listed on the departmental website. Hospital websites were used to record demographic data, including sex, subspecialty (Mohs micrographic surgeon, dermatopathologist, and pediatric dermatologist), faculty rank, and departmental leadership role (chair, vice chair, and program director). To limit the effect of any part-time faculty members, only those with annual salaries exceeding \$175,000 were included in the study. Submitted Medicare charges and standardized Medicare payments were recorded using data published by the Centers for Medicare and Medicaid Services.<sup>4</sup> National Institutes of Health grant funding was determined by faculty members listed as primary investigators on the National

**Table I.** Characteristics of the population in the department of dermatology

Characteristic	Faculty			P value*
	All (N = 253)	Men (n = 128)	Women (n = 125)	
Salary, mean (SD), \$	361,067.54 (200,002.34)	401,370.62 (247,687.13)	319,797.2 (122,740.98)	.001
Salary category, \$, No. (%)				.096
<200,000	24 (9.5)	10 (7.8)	14 (11.2)	
200,000-249,999	45 (17.8)	19 (14.8)	26 (20.8)	
250,000-299,999	49 (19.4)	19 (14.8)	30 (24.0)	
300,000-349,999	38 (15.0)	21 (16.4)	17 (13.6)	
350,000-399,999	28 (11.1)	18 (14.1)	10 (8.0)	
≥400,000	69 (27.3)	41 (32.0)	28 (22.4)	
Census region, No. (%)				.85
West	116 (45.9)	61 (47.7)	55 (44.0)	
Midwest	34 (13.4)	15 (11.7)	19 (15.2)	
Southwest	56 (22.1)	27 (21.1)	29 (23.2)	
Southeast	30 (11.9)	15 (11.7)	15 (12.0)	
Northeast	17 (6.7)	10 (7.8)	7 (5.6)	
Faculty rank, No. (%)				.009
Instructor	3 (1.2)	2 (1.6)	1 (0.8)	
Assistant professor	100 (39.5)	38 (29.7)	62 (49.6)	
Associate professor	65 (25.7)	35 (27.3)	30 (24.0)	
Professor	85 (33.6)	53 (41.4)	32 (25.6)	
Subspecialties/fellowships				
General/dermatology	147 (58.1)	70 (54.7)	77 (61.6)	
Mohs micrographic surgery	44 (17.4)	30 (23.4)	14 (11.2)	.010
Pediatric dermatology	27 (10.7)	8 (6.3)	19 (15.2)	
Dermatopathology	35 (13.8)	20 (15.6)	15 (12.0)	
Years since residency, median (SD)	14 (12.2)	15 (12.6)	10 (11.8)	.03
≥1 NIH grants, No. (%)	57 (22.5)	42 (32.8)	15 (12.0)	<.001
No. of grants, median (SD)	2 (3.6)	3 (4.1)	1 (1.6)	.13
Medicare payments, No. (%)	215 (85.0)	117 (91.4)	98 (78.4)	.004
Total submitted charge, median (SD), \$	306,877 (648,245)	306,877 (720,104)	311,962 (549,317)	.82
Total Medicare standardized payment, median (SD), \$	57,981 (128,213)	56,441 (126,279)	60,049 (130,478)	.69
Residency program director, No. (%)	(n = 16)	(n = 8)	(n = 8)	
Program director	12 (4.7)	6 (4.7)	6 (4.8)	>.99
Assistant program director	4 (1.6)	2 (1.6)	2 (1.6)	
Administration rank, No. (%)	(n = 37)	(n = 26)	(n = 11)	.016
Chairperson	26 (10.3)	20 (15.6)	6 (4.8)	
Vice Chair	11 (4.4)	6 (4.7)	5 (4.0)	
Education degree, No. (%)				.059
MD	203 (80.2)	98 (76.6)	105 (84)	
MD/PhD	39 (15.4)	26 (20.3)	13 (10.4)	
MD + other degree	11 (4.3)	4 (3.1)	7 (5.6)	

NIH, National Institutes of Health; No., number; SD, standard deviation.

\*Wilcoxon test for continuous variables, Fisher exact test, or  $\chi^2$  test for categorical variables.

Institutions of Health Research Reporting website.<sup>5</sup> This study was exempted from Institutional Review Board approval.

Statistical differences between male and female dermatology faculty members were assessed with  $\chi^2$  and 2-sided *t* tests. Generalized linear mixed-effect models for compensation were used to assess the impact of variables at the faculty member and institutional levels. To assess the effect of reduced

full-time equivalent (FTE) faculty members, a random variable to mimic FTE faculty members was generated using Monte Carlo simulations.

We identified 253 physicians, 125 (49%) of whom were women. The mean salary was \$401,371 for male dermatologists and \$319,797 for female dermatologists (*P* = .001). Characteristics of the population are detailed in Table I. On multivariable analysis the adjust mean salary was \$322,945 for male

**Table II.** Univariate and multivariable analysis of factors associated with physician salary in dermatology departments after accounting for the potential correlations between faculties within each department

Variable	Unadjusted salary,* mean (95% CI), \$	Mean salary difference, %	P value	Adjusted salary, mean (95% CI), \$	Mean salary difference, %	P value
Sex						
Female	275,933 (223,536-340,611)	-25.8	<.0001	267,232 (208,776-342,056)	-17.2	.0005
Male	371,812 (304,383-454,178)	Ref	Ref	322,945 (254,296-410,128)	Ref	Ref
Census region						
West	396,422 (287,962-545,734)	24.4	.41			
Midwest	266,467 (170,338-416,843)	-16.4	.56			
Southwest	299,395 (202,454-442,753)	-6.0	.83			
Southeast/Northeast	318,610 (211,945-478,955)	Ref	Ref			
Faculty rank						
Instructor/assistant professor	264,500 (210,447-332,437)	-30.0	<.0001	268,405 (206,637-348,636)	-15.3	.11
Associate professor	342,689 (273,151-429,930)	-9.5	.18	298,029 (230,140-385,943)	-6.0	.39
Professor	378,778 (304,759-470,775)	Ref	Ref	316,940 (246,320-407,807)	Ref	Ref
Subspecialties/ fellowships						
General dermatology	275,203 (225,276-336,195)	-32.7	<.0001	251,117 (198,504-317,675)	-34.9	<.0001
Mohs micrographic surgery	425,171 (345,076-523,856)	4.0	.64	352,074 (273,740-452,823)	-8.8	.19
Pediatric dermatology	260,500 (195,598-346,937)	-36.3	.0007	218,313 (161,650-294,839)	-33.4	<.0001
Dermatopathology	408,776 (328,289-508,996)	Ref	Ref	385,874 (298,764-498,382)	Ref	Ref
Years since residency						
6	245,361 (188,002-320,219)	-32.5	.0003	266,563 (198,414-358,118)	-15.6	.18
6-13	268,428 (210,349-342,541)	-26.2	.0007	263,107 (202,278-342,229)	-16.7	.06
14-26	376,773 (302,058-469,970)	3.6	.64	336,211 (261,423-432,395)	6.4	.30
≥27	363,742 (290,622-455,259)	Ref	Ref	315,857 (245,300-406,710)	Ref	Ref
NIH grant						
None	333,814 (264,304-421,605)	18.4	.048	353,232 (280,712-444,487)	44.6	<.0001
≥1	282,028 (215,296-369,444)	Ref	Ref	244,319 (188,004-317,504)	Ref	Ref
Medicare payments						
Total submitted charge						
\$124,000	282,477 (226,028-353,022)	-36.4	<.0001			
\$124,000-\$307,000	261,832 (208,674-328,532)	-41.1	<.0001			
\$307,000-\$546,000	308,176 (249,205-381,102)	-30.6	<.0001			
\$546,000	444,179 (366,985-537,610)	Ref	Ref			
Total standardized payment						
\$28,000	274,314 (216,617-347,379)	-38.3	<.0001			
\$28,000-\$58,000	273,438 (216,878-344,748)	-38.5	<.0001			
\$58,000-\$102,000	285,938 (226,970-360,227)	-35.7	<.0001			
\$102,000	444,958 (363,187-545,141)	Ref	Ref			
Leadership						
None	294,695 (229,362-378,636)	-35.8	<.0001	250,939 (200,088-314,713)	-33.4	<.0001
Residency program director	246,462 (152,863-397,372)	-46.3	.006	251,512 (169,577-373,037)	-33.2	.03
Vice chair	415,612 (300,651-574,530)	-9.5	.44	313,254 (233,756-419,788)	-16.8	.09
Chair	459,182 (349,882-602,627)	Ref	Ref	376,714 (293,288-483,870)	Ref	Ref

CI, Confidence interval; NIH, National Institutes of Health; Ref, reference.

\*Factors not significant in the univariate analysis were not included in the multivariable model.

dermatologists compared with \$267,232 for female dermatologists ( $P = .0005$ ) (Table II).

Across 1000 Monte Carlo simulated data sets using a simulated random variable for FTE, the salary of men remained significantly higher than the salary of women (male dermatologists averaged a salary 1.22-times higher in our simulation). This suggests the gender salary disparity cannot be simply explained by differential FTE between men and women.

Limitations of this study included reliance on publicly reported databases with varying reporting practices. In addition, our methods had no ability to account for hours worked. However, submitted Medicare charges and standardized Medicare payments were used as a proxy for hours worked, and no statistical difference was found for either variable between men and women.

Even after adjusting for seniority, leadership rank, subspecialty, geographic distribution, and Medicare billing, female dermatologists were paid \$55,713 (17%) less than male dermatologists and were less likely to be full professors or chairs. Our study highlights the need for additional research to better understand the underlying causes for this disparity and calls for further efforts to close the gender gap in our field.

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## Impact of Camp Discovery volunteerism on provider burnout and empathy



*To the Editor:* Burnout is a major issue in the medical community.<sup>1</sup> Burnout rates among dermatologists increased from 32% in 2011 to 57% in 2014, reflecting the largest increase of any specialty.<sup>2</sup> Volunteerism is associated with positive effects on citizenship, physical health, and mental health.<sup>3,4</sup> This study evaluated the effect that volunteering at camps for chronically ill children has on provider burnout and empathy.

Camp Discovery is a 1-week residential camp for children with chronic skin conditions sponsored by the American Academy of Dermatology. In 2018, volunteers at the Connecticut location received an electronic survey 2 months after the camp session. The survey used Likert scale items to assess attitudes toward the camp experience and validated items from the Maslach Burnout Inventory (MBI)<sup>5</sup> to retrospectively assess providers' self-reported burnout before camp. Feelings of burnout after camp ended were not measured because the MBI is not validated to assess change in this context after a short period of time.

Participants reported how often they experienced emotional exhaustion, depersonalization, and personal accomplishment on a scale of 1 (never) to 7 (every day). Frequency was defined as low (1-2), moderate (3-5), or high (6-7). Analysis of variance was used to compare MBI item scores between volunteer groups, as outlined below.

The survey was completed by 37 of 39 volunteers (response rate, 95%). Participants included 9 attending dermatologists (24%), 6 residents (16%), 4 medical students (11%), 8 premedical students (22%), and 10 nonmedical volunteers (27%). All respondents agreed that camp participation increased their empathy for children with chronic dermatologic conditions. Most respondents felt more inspired about their work (81%) and less burned out (55%) after camp (Table I).