

## 26 Analysis of Gender, Effort, and Compensation in Emergency Medicine Residency Scholarly Tracks Faculty Workforce

Allison Beaulieu, Amy Mariorenzi, Angela Regina, Seth Lotterman, Vytas Karalius, Evelyn Porter, Emad Awad, Jaime Jordan, Arlene Chung

**Background:** In Academic Medicine, women are less likely to hold leadership positions and be promoted to a higher rank when compared to their male colleagues. Scholarly tracks are established pathways in residency education led by emergency medicine (EM) faculty with expertise in specific niches. The gender differences in effort, time, and compensation of faculty who lead these tracks is unknown.

**Objectives:** We sought to investigate the relationship between gender and faculty effort, and compensation for scholarly track leaders.

**Methods:** All EM residency programs with scholarly tracks were identified and faculty track leaders were contacted through program websites and coordinators. Participants completed an online survey assessing their attributes, efforts, and compensation. We performed a bivariate analysis to analyze gender differences.

**Results:** 112 of 276 faculty surveyed responded (M:63, F:47). Female track leaders were more likely to have completed fellowship training and hold a higher academic rank than their male counterparts (Table 1). Female track leaders spent more time on academic track activities per month compared to male track leaders, however, this difference was not statistically significant (Table 2). Female track leaders were significantly more likely to receive compensation for their role including time buydown, salary support, and other forms of compensation (Table 1).

**Table 1.** Bivariate association between gender and scholarly track leader attributes and compensation.

Variable	Percentage Male (n=63, 57.3%)	Percentage Female (n=47, 42.7%)	p value
Completed Fellowship	60.3%	68.1%	<0.001
<b>Academic Rank</b>			
Assistant Professor	50.8%	42.6%	<0.001
Associate Professor	39.7%	44.7%	
Professor	7.9%	8.5%	
Others	0.0%	4.3%	
<b>Regions</b>			
Midwest	12.7%	23.4%	<0.001
Northeast	31.7%	38.3%	
South	39.7%	19.1%	
West	15.9%	19.1%	
<b>Compensation</b>			
None	84.8%	85.8%	<0.001
Time Buydown	10.9%	21.1%	
Salary Stipend	2.7%	5.3%	
Others	2.7%	7.9%	

**Table 2.** Bivariate association between gender and scholarly track leader efforts.

Variable	Total cohort (n=110)	Male (n=63)	Female (n=47)	p value
		Mean or median or percentage	Mean or median or percentage	
No of years in role	4 (2-6)	4 (2-5.75)	5 (3.5-6)	0.24
No of residents supervised per year	3.6 ± 1.9	2.60 ± 1.0	2.57 ± 1.85	0.25
No of hours/month spent on scholarly track activities	7.6 (4-10.7)	6.50 (6-10)	8.5 (5-14.25)	0.42
Percentage of time spent on Administrative Work	12.5 (10-25)	20 (10-25)	11 (7-24)	0.28
Percentage of time spent on mentorship	29.1 (15-49)	33 (10-50)	30 (15-49)	0.30
Percentage of time spent on scholarly activities	20.8 (10-26)	11 (7.5-24)	31 (10-30)	0.39
Percentage of time spent on teaching activities	35 (15-49)	25 (15-40)	30 (16-49)	0.29

**Conclusion:** This study identified important gender differences in the scholarly track workforce. Further investigation is necessary to explore the relationship between gender, efforts, and compensation, while accounting for potential influencing factors. In the future, consensus guidelines could be developed to guide the expected attributes, efforts, and compensation for scholarly track leaders to promote equity.

## 27 Impact of cardiovascular exercise during shifts on emergency medicine resident neurocognitive function

Meriam Deeb, Peter Gould, Philip Salen, Jill Stoltzfus, Holly Stankewicz

**Objective:** To evaluate the impact of exercise on physician cognition as measured by typing speed and accuracy.

**Methods:** The prospective, IRB approved, single institution, experimental study design at an urban level 1 trauma center ED assessed a cohort of 35 emergency medicine resident (EMR) ED physicians' cognitive status reflected by typing speed and accuracy at 3-times of day: 0900-day, 1600-evening, and 0400-overnight shift before and after a cardiovascular exercise intervention, ascending and descending 2 flights of stairs twice. EMRs typed randomly generated prepared texts for 2-minutes before and after participating in the exercise intervention based on investigator availability. Characters typed and error rate were tabulated for pre- and post-exercise typing tasks. Data analysis utilizing Wilcoxon Signed Rank Test compared total number of pre-and post-exercise characters typed and error rate.

**Results:** Investigators screened 35 subjects, the entire cohort of EMRs, twice during day, evening, and overnight shifts. The difference in the general distribution of characters typed by EMRs demonstrates statistical significance with mean characters typed post-exercise 211 (104-506) compared to pre-exercise 190 (100-438; p < .001). Regarding typing accuracy, the difference in the general distribution post-and pre-exercise demonstrates statistical significance: percentage

incorrect post 0.68% (0-33.33%) compared to pre 1.30% (0-5.08%;  $p = .047$ ). The general distribution of post- and pre-exercise transcription errors based on the total number of characters typed achieved significance only for the day shift ( $p = .001$ ) with fewer transcription errors post-exercise than pre; the difference between post and pre was not significant for evening and overnight shifts (see Table 1).

**Conclusion:** Cardiovascular exercise during ED shifts can improve cognitive function of EMR physicians as reflected by improved typing output and improved transcription accuracy.

**Table 1.** Percentage of incorrect responses based on total number of characters typed (median, range) n=35.

Day Shift		Evening Shift		Overnight Shift	
Pre	Post	Pre	Post	Pre	Post
1.01% (0-4.58%)	0.408% (0-2.7%)	1.82% (0.39-5.08%)	0.913% (0-33.33%)	0.895 (0-4.14%)	1.28% (0-3.49%)
P = .001		p= .514		P = .466	

## 28 Effectiveness of near-peer instruction during emergency medicine clerkships on fourth-year student end-of-year eFAST performance

*Meghan Herbst, Drew Beaubian, Michael Taylor, James Grady, Ayesha Gittens, Jeremiah Ojha*

**Background:** Limited trained faculty is a barrier to successful incorporation of the extended Focused Assessment with Sonography in Trauma (eFAST) into undergraduate medical education (UME) ultrasound (US) curricula. Aligning resident skills with UME needs has the potential to be effective and sustainable.

**Objective:** To evaluate the effectiveness of a resident-led eFAST session administered to 4th-year medical students during their emergency medicine (EM) clerkship by measuring students' end-of-year eFAST performance and confidence.

**Methods:** This was a single-site cross-sectional study of all graduating medical students exposed to a required vertical US curriculum and enrolled in 4th-year clerkships from May 1, 2022 to April 30, 2023. Exclusion criteria were an excused absence or failure to consent. A 90-minute eFAST session (intervention) was added to students' 4th-year EM clerkship orientation in September 2022, taught by EM residents on their academic site rotation. End-of-year performance and confidence assessments were conducted prior to students' 2023 graduation, using a 20-point objective structured clinical examination (OSCE) and 5-point Likert

scale, respectively. The mean OSCE and confidence scores for control and intervention groups were compared using two-sample t-tests. An ANOVA was performed to control for unbalanced additional US experiences with Tukey-Kramer adjusted p-values.

**Results:** Of 113 anticipated students, 103 students participated; 48 in the control and 55 in the intervention group. The intervention group scored higher on the OSCE than the control,  $11.9 \pm 4.6$  vs  $9.9 \pm 5.1$ ,  $p = 0.04$ ; and reported higher confidence,  $3.2 \pm 1.0$  vs  $2.8 \pm 1.2$ ;  $p = 0.09$ . When controlling for additional US experience, results were similar ( $p = 0.004$  for OSCE and  $p = 0.007$  for confidence improvement).

**Conclusion:** Resident-taught eFAST instruction during UME EM clerkship orientation led to improved end-of-year 4th-year medical student eFAST performance and confidence.

## 29 The Effect of Excessive Use of Force on the Mental, Physical, and Social Health and Workplace Environment of Medical Professionals

*Thomas Medrano*

**Background:** Excessive use of force (EUOF) has been linked to several physical and mental health sequelae such as diabetes, hypertension, obesity, PTSD, and depression. The work of emergency physicians is interwoven with law enforcement as care is provided to patients who have encounters with police. However, the impact of EUOF on the physical and mental health of emergency room physicians has not been studied in depth.

**Objectives:** The objective of this study is to evaluate the effect of EUOF on the mental, social, and physical health of emergency medicine physicians.

**Methods:** This was an observational cross-sectional survey study. Links to the survey were emailed to designated points of contact at five Texas-based institutions to be then distributed to emergency medicine residents, fellows, and attendings in their emergency departments. Fisher's exact test or Wilcoxon rank sum test were used to assess the mental impact and work impact EUOF had on EM physicians.

**Results:** 65% of participants report being mentally impacted. Affected participants reported that "Any reminder brought back feeling about it" ( $p = 0.037$ ), "[They tried not to] to think about it" or "talk about it" ( $p = 0.04$ ,  $0.043$  respectively), "pictures popped into [their] mind[s]" ( $p = 0.045$ ) and "[they were] jumpy and easily startled" ( $p = 0.019$ ). 34% of participants interacted with police officers differently ( $p < 0.001$ ), while 25% of participants cared for patients differently ( $p < 0.001$ ). 54% of the participants who identified as Black became aware of EUOF by law enforcement in the last 24 months via experience with family members ( $p = 0.008$ ). Participants who identified as White