Gender Differences in Academic Metrics Among Radiology Fellowship Directors: Implications for Educational Development and Mentorship

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Introduction

- While gender disparities in academic medicine leadership have been previously documented, comprehensive analyses across all radiology subspecialty fellowship directors (FDs) remain limited.
- Understanding these patterns is crucial for developing effective educational strategies and mentorship programs.
- This study aims to evaluate potential gender-based differences in academic metrics among radiology FDs in the United States.

Methods

- We analyzed data from all ACGME-accredited radiology fellowship programs, consisting of pediatric, nuclear, musculoskeletal, abdominal, and neuroradiology.
- Academic metrics including citations, peer-reviewed publications, and h-index were retrieved from the Scopus database, while demographic data was sourced from healthgrades.com.
- Statistical analysis was performed using the Jamovi statistical package.

Results

Descriptives

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	Gender	N	Mean	Median	SD
Citations	F	63	769.1	309.00	1716.38
	M	124	801.1	384.00	1273.22
Peer-Reviewed Publications	F	63	32.2	19.00	43.34
	M	124	34.7	24.50	41.72
H-Index	F	63	10.5	8.00	9.82
	M	124	10.8	10.00	8.07

Figure 1. Descriptive Statistics for Citations, Publications, and H-Index by Gender

Independent Samples T-Test

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		Statistic	p
Citations	Mann-Whitney U	3586	0.360
Peer-Reviewed Publications	Mann-Whitney U	3473	0.216
H-Index	Mann-Whitney U	3623	0.419

Note. $H_a\ \mu_F \neq \mu_M$

Figure 2. Results of Mann-Whitney U Tests Comparing Citations, Publications, and H-Index by Gender

- The final analysis included 187 FDs (63 females, 124 males).
- Female FDs averaged 769.1 citations (SD=1716.38) compared to 801.1 (SD=1273.22) for males, with no significant difference (Mann-Whitney U=3586, p=0.360).
- Publication counts showed similar patterns, with females averaging 32.2 (SD=43.34) and males 34.7 (SD=41.72) publications (Mann-Whitney U=3473, p=0.216).
- H-index analysis revealed comparable results between females (mean=10.5, SD=9.82) and males (mean=10.8, SD=8.07), with no significant difference (Mann-Whitney U=3623, p=0.419).

Discussion/Conclusion

- This comprehensive analysis demonstrates no significant gender differences in academic productivity metrics across radiology fellowship directors.
- The findings suggest that at the fellowship leadership level, academic achievement opportunities are becoming more equitable.
- However, the overall gender distribution (34% females, 66% males) indicates persistent underrepresentation of females in leadership positions.
- These results suggest that implementing structured mentorship programs, leadership development curricula, and educational initiatives focused on gender equity could help address the underrepresentation of females in leadership positions.
- Future research should focus on identifying and addressing barriers to females achieving leadership roles in academic radiology, while maintaining the positive trajectory in academic productivity parity.