Authorship and Impact of Gender Specific Research in Radiology: A 5-Year Review of Publications in Radiology Journals
Authors

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Introduction

• There is a gender disparity in radiology\(^1\)
• How is radiology affected by this disparity?
• It may affect the field’s research output, as evidence suggests that women preferentially publish on women’s health in radiology\(^2\)
• To what extent do female radiologists preferentially investigate women’s health? Conversely, do male radiologists preferentially research men’s health?
• Finally, radiology plays a critical role in pathology surveillance for women’s and men’s health\(^3,4\). How does the impact of gender specific research compare to gender neutral research in radiology?
Purpose

Quantify the relationship between author gender and publication topic, as well as the impact (i.e. citations) of gender related research
Methods

• Reviewed all original research manuscripts in *Radiology, AJR, and Academic Radiology* from 2011-15
• Each manuscript categorized as Gender Neutral, Women’s Health, or Men’s Health
• Recorded the following:
  • gender of all authors
  • last author H-index, years in practice, and academic rank
  • total citations and citations/year
Results

• 1,934 Manuscripts
• 11,657 Authors
• 30% First Authors Female
• 25% Last Authors Female
• 28% Total Authors Female
Breakdown of Publication Topic

- Gender-Neutral (1,596 Manuscripts)
- Women's Health (276 Manuscripts)
- Men's Health (61 Manuscripts)
### Table 1: Association Between Author Gender and Gender Topic

<table>
<thead>
<tr>
<th>Women's Health Manuscripts Associated With:</th>
<th>Men's Health Manuscripts Associated With:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female First Author (OR=5.0, <em>p</em>&lt;0.001)</td>
<td>Male First Author (OR=2.6, <em>p</em>=0.004)</td>
</tr>
<tr>
<td>Female Last Author (OR=6.4, <em>p</em>&lt;0.001)</td>
<td>Male Last Author (OR=2.2, <em>p</em>=0.03)</td>
</tr>
<tr>
<td>Higher Mean Total Female Authors (male=1.4, female = 3.6, <em>p</em>&lt;0.001)</td>
<td></td>
</tr>
</tbody>
</table>
Table 2: Comparison of Last Authors (Mean ± SD)

<table>
<thead>
<tr>
<th></th>
<th>Female Last Author</th>
<th>Male Last Author</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H Index</strong></td>
<td>26.8 ± 18.5</td>
<td>33.5 ± 20.9</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td><strong>Years in Practice</strong></td>
<td>20.0 ± 8.6</td>
<td>22.2 ± 11.0</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td><strong>Academic Rank</strong></td>
<td></td>
<td></td>
<td>p = 0.05</td>
</tr>
<tr>
<td>Instructor</td>
<td>9.10%</td>
<td>6.60%</td>
<td></td>
</tr>
<tr>
<td>Assistant Professors</td>
<td>13.40%</td>
<td>10.10%</td>
<td></td>
</tr>
<tr>
<td>Associate Professor</td>
<td>21.60%</td>
<td>22.20%</td>
<td></td>
</tr>
<tr>
<td>Full Professor</td>
<td>55.90%</td>
<td>61.10%</td>
<td></td>
</tr>
</tbody>
</table>
Table 3: Impact of Gender Specific Research
(after controlling for last author academic rank, years in practice, and H-index)

<table>
<thead>
<tr>
<th></th>
<th>Mean Total Citations</th>
<th>Mean Article Citation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Neutral Manuscripts</td>
<td>21.9 ± 28.9</td>
<td>5.3 ± 7.0 citations/year</td>
</tr>
<tr>
<td>Women's Health Manuscripts</td>
<td>27.6 ± 37.5, p=0.008</td>
<td>6.8 ± 8.5 citations/year, p=0.004</td>
</tr>
<tr>
<td>Men's Health Manuscripts</td>
<td>43.5 ± 54.9, p&lt;0.001</td>
<td>10.6 ± 11.3 citations/year, p&lt;0.001</td>
</tr>
</tbody>
</table>

H-index was the only last author variable significantly associated with both the mean citations and citation rate (p<0.001 for both)
Conclusions

• Radiology researchers publish more often on topics related to their own gender
• Women’s and men’s health research generates more citations than gender neutral research
Citations


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