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Female Authorship Concordance in Academic Pediatrics

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Guggenmous, Roxana; Bettenhausen, Jessica L.; and Markham, Jessica L., "Female Authorship Concordance in Academic Pediatrics" (2023). *Research Days*. 12.
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Female Authorship Concordance in *Academic Pediatrics*

Guggenmos RA, Bettenhausen JL, Markham JL

BEST CHILDREN'S HOSPITALS U.S.News RANKED IN 10 SPECIALTIES 2022-23
MAGNET RECOGNIZED AMERICAN NURSES CREDENTIALING CENTER
UMKC School of Medicine
KU SCHOOL OF MEDICINE The University of Kansas
Children's Mercy KANSAS CITY | Research Institute

Background

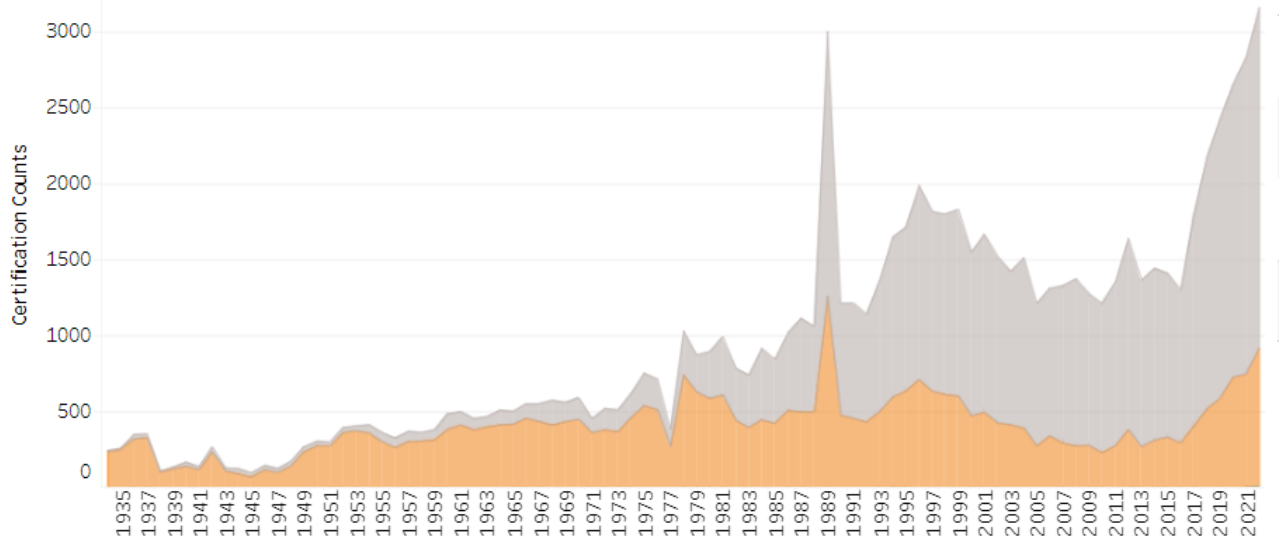
- Gender disparities in medicine and academia
- As of 2021, 73.6% of board-certified general pediatricians identify as female

Year: **1935**

	1935	
	Count	%
Female	**9**	**3.5%**
Male	**251**	**96.5%**
Total	260	100.0%

Year: **2021**

	2021	
	Count	%
Female	**2,090**	**73.6%**
Male	**748**	**26.3%**
Prefer not to answer, Non..	**3**	**0.1%**
Total	2,841	100.0%



Background (cont.)

- Growth of female workforce over time is not reflected in publication practices
- Gender based differences in scholarly achievement likely contribute to well-documented gender gap

Background (cont.)

- Little is known regarding gender distribution of first and senior authorship in pediatric journals

- *Academic Pediatrics* is one high-impact, general pediatrics journal focused on bolstering medical education and research of academic pediatricians

Objectives

In *Academic Pediatrics* to:

1. Identify gender distributions of first and senior authors
2. Explore changes in gender-based authorship over time
3. Assess gender concordance between first and senior authors

Methods: Study Design

- Retrospective cross-sectional study
- *Academic Pediatrics* publications from 2015-2021
- Included:
  - Original research
  - Educational research
  - Invited content (perspectives or commentaries)
  - Review articles (narrative or systematic)
  - Other articles (unclassified)
- Excluded:
  - Unable to identify gender (n=3)
  - PAS abstracts

Methods: Analysis

- Numbers, proportions, and types of articles authored by first and senior authors based on gender
- Changes in proportion over time using Cochran-Armitage test
- Gender concordance between first and senior authors
- P values <0.05 were considered statistically significant

Results

- Total 1,179 articles
  - 97 articles only had one author

- Top three article types included:
  - Original research (53.9%)
  - Education articles (19.3%)
  - Invited content (17.1%)

Table 1. Gender distribution of first and senior authors overall and by article type in *Academic Pediatrics*

	First Author		Senior Author	
	Female	Male	Female	Male
Overall (N=1179; Single Author N=97)	808 (68.5%)	371 (31.5%)	607 (56.1%)	475 (43.9%)
Original Research (N=635; Single Author N=4)	458 (72.1%)	177 (27.9%)	343 (54.4%)	288 (45.6%)
Educational Research (N=227; Single Author N=1)	159 (70.0%)	68 (30.0%)	142 (62.8%)	84 (37.2%)
Invited Content (N=202; Single Author N=72)	119 (58.9%)	83 (41.1%)	73 (56.2%)	57 (43.8%)
Review Articles (N=38; Single Author N=0)	20 (52.6%)	18 (47.4%)	23 (60.5%)	15 (39.5%)
Other Articles (N=77; Single Author N=20)	52 (67.5%)	25 (32.5%)	26 (45.6%)	31 (54.4%)

Figure 1. Changes in authorship in *Academic Pediatrics* by gender over time

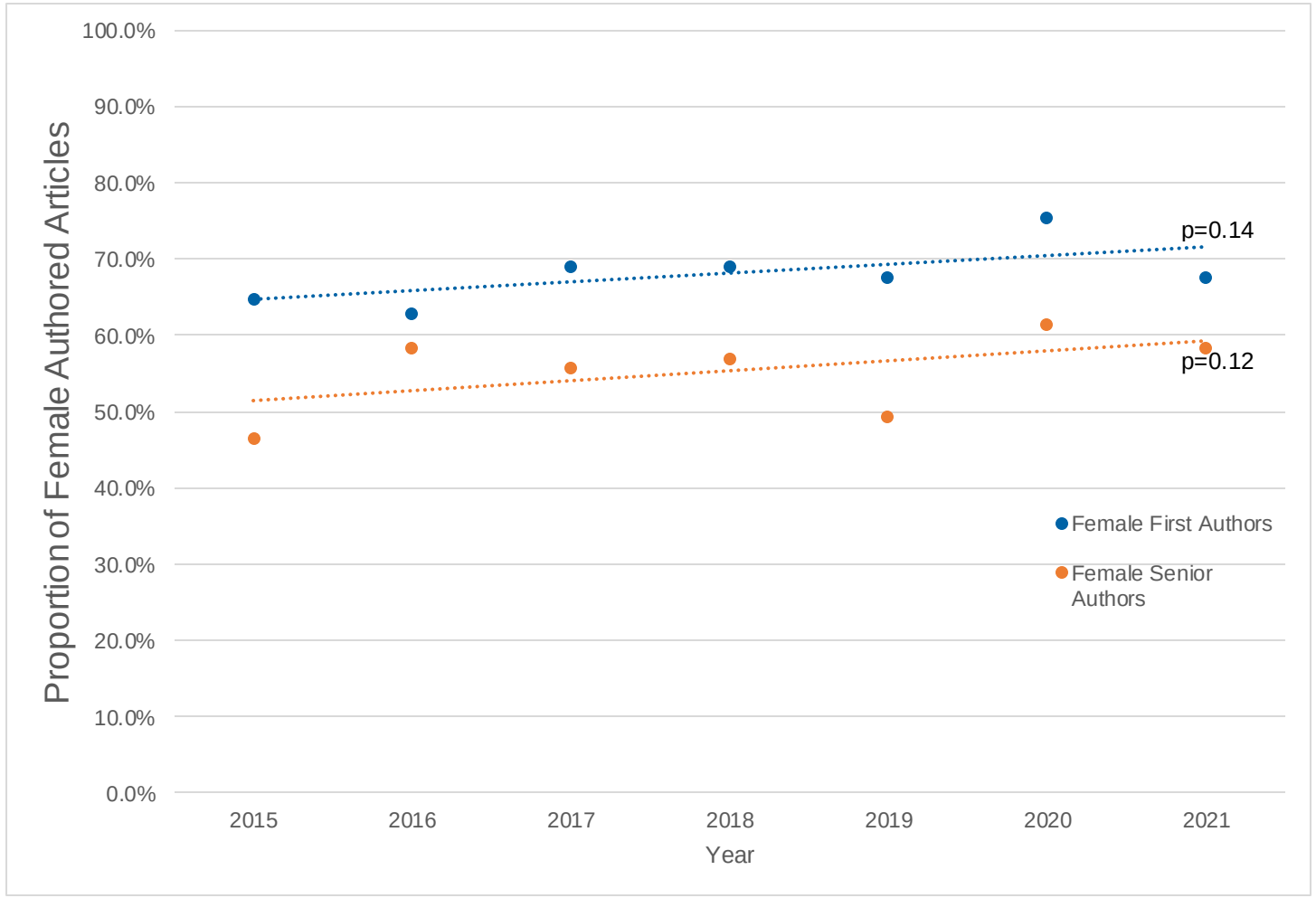


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Table 2. Gender concordance overall and by article type in *Academic Pediatrics*

	Gender Concordance	
	Female FA: Female SA	Female FA: Male SA
Overall (N=1082)	450 (41.6%)	302 (27.9%)
Original Research (N=631)	265 (42.0%)	190 (30.1%)
Educational Research (N=226)	105 (46.5%)	53 (23.4%)
Invited Content (N=130)	46 (35.4%)	31 (23.8%)
Review Articles (N=38)	12 (31.6%)	8 (21.1%)
Other Articles (N=57)	22 (38.6%)	20 (35.1%)

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Limitations

- Inadequate time to assess trends
- Challenges in classification of article types
- Rare instances of being unable to identify gender

Conclusions

- Female first authorship is well represented within *Academic Pediatrics*
- Women remain underrepresented in senior research roles
  - 56% of senior authors compared to 73.6% of workforce
- Overall, more publications authored by female first and senior authors over time

Conclusions (cont.)

- The role of gender concordance in senior mentorship
- Investing in career development of women may reduce gender disparities
- What barriers might exist?

Future Directions

- More support for the early researcher
- Efforts to recruit and retain female researchers may:
  - Reduce gender-based inequity in authorship and advancement opportunity
  - Improve diversity of research teams
  - Cultivate substantial improvement in career trajectory and leadership projections

Acknowledgments

- Jessica Markham, MD
- Jessica Bettenhausen, MD
- Special thanks to Leesa Brown from the Division of PHM who helped curate data for this project

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	Gender Concordance			
	Female FA: Female SA	Female FA: Male SA	Male FA: Male SA	Male FA: Female SA
Overall (N=1082)	450 (41.6%)	302 (27.9%)	173 (16.0%)	157 (14.5%)
Original Research (N=631)	265 (42.0%)	190 (30.1%)	98 (15.5%)	78 (12.4%)
Educational Research (N=226)	105 (46.5%)	53 (23.4%)	31 (13.7%)	37 (16.4%)
Invited Content (N=130)	46 (35.4%)	31 (23.8%)	26 (20.0%)	27 (20.8%)
Review Articles (N=38)	12 (31.6%)	8 (21.1%)	7 (18.4%)	11 (28.9%)
Other Articles (N=57)	22 (38.6%)	20 (35.1%)	11 (19.3%)	4 (7.0%)