



Trends in Female Authorship During the Breast Paper Session at Plastic Surgery: The Meeting, 2016 - 2020

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Introduction

Competitive surgical subspecialties expect candidates to possess robust research portfolios. Historically, research authorship positions have been male dominated. Initiatives supporting female researchers have led to increased female authorship, yet studies exploring these trends and if differences exist in authorship retention from abstract presentation to manuscript publication remain limited [1-3].

Objectives

To analyze gender differences in abstract presentations at the international research conference Plastic Surgery: The Meeting from 2016 to 2020 during the Breast Paper session and compare subsequent authorship retention on published manuscripts derived from presented abstracts.

Methods

A cross-sectional sample of all abstracts from 2016 to 2020 labeled as “Breast Paper” from Plastic Surgery: The Meeting were included in the analysis. Abstract characteristics including author position (first, second, and last), gender, and publication status were reviewed. Gender was determined through a search of public databases using the author’s full name. Abstracts with unclear first author gender were excluded, while abstracts with unidentified second or last authors were included. Published manuscripts derived from presented abstracts were reviewed for authorship retention. Data was analyzed with chi-square tests for categorical data and Mann-Whitney U for continuous data.

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References



Discussion/Conclusions

Females comprise a significant portion of first authored breast abstracts at Plastic Surgery: The Meeting from 2016-2020 despite an overall representation deficit compared to males. The lack of difference in manuscript publication rates between the genders suggests an increase in female representation. These factors, coupled with high female authorship retention rates compared to males (49% male vs 70% female first author retention; 75% male vs 84% female last author retention), supports an underlying trend towards gender equity in research. However, the observed pattern of males comprising the bulk of authorship replacements (Male first authored abstracts: 61% of first author replacements and 81% of last author replacements were different males. Female first authored abstracts: 85% of first author replacements and 57% of last author replacements were with males) on manuscripts suggests that male domination in research persists, albeit in a less obvious manner. Further study into causes of these discrepancies are necessary to uncover how systemically ingrained these patterns are in plastic surgery [1-3].

	Abstract Authors	Male	Female	p-value
	n(% total)	n(% total)	n(% total)	
	555 (100)	353 (64)	202 (36)	
Abstract Author Position				<0.001
First	194	110 (57)	84 (43)	
Second	174	101 (58)	73 (42)	
Last	187	142 (76)	45 (24)	

Table 1: Abstract author gender and position with final chi-square analysis result. Statistical significance defined as $p \leq 0.05$.

Abstract First Author	Male	Female	p-value
	n(% total)	n(% total)	
	110 (57)	84 (43)	
Second Author			
Male	63 (57)	38 (45)	0.025
Female	33 (30)	40 (48)	
Last Author			
Male	83 (75)	59 (70)	0.166
Female	21 (19)	24 (29)	
Manuscript Publication	64 (58)	43 (51)	0.34
First author retained on manuscript	31 (48)	30 (70)	0.029
Last author retained on manuscript	48 (75.00)	36 (84)	0.028

Table 2: Abstract first author gender chi-square analysis with other authorship positions. Manuscript authorship retainment on original male vs. female abstracts. Statistical significance defined as $p \leq 0.05$.

	Total Authors	2020	2019	2018	2017	2016
	n(%total)	n(%total)	n(%total)	n(%total)	n(%total)	n(%total)
Total Female first authored abstracts with manuscript	43 (100)	4 (9)	14 (33)	11 (26)	10 (23)	4 (9)
Manuscript first author						
Same author as abstract	30 (70)	4 (13)	12 (40.00)	5 (17)	6 (20.00)	3 (10.00)
Different author and still female	2 (4)	0 (0.00)	0 (0.00)	1 (50.00)	1 (50.00)	0 (0.00)
Different author and now male	11 (26)	0 (0.00)	2 (18)	5 (46)	3 (27)	1 (9)
Manuscript last author						
Same author as abstract	36 (84)	4 (11)	14 (39)	10 (28)	5 (14)	3 (8)
Different author and still female	3 (7)	0 (0.00)	0 (0.00)	0 (0.00)	3 (100.00)	0 (0.00)
Different author and now male	4 (9)	0 (0.00)	0 (0.00)	1 (25.00)	2 (50.00)	1 (25.00)

Table 3: Authorship characteristics on manuscript publications derived from breast abstracts with female first authors from 2016-2020.

	Total Authors	2020	2019	2018	2017	2016
	n(%total)	n(%total)	n(%total)	n(%total)	n(%total)	n(%total)
Total Male first authored abstracts with manuscript	64 (100)	2 (3)	22 (34)	17 (27)	10 (16)	13 (20)
Manuscript first author						
Same author as abstract	31 (49)	1 (3)	12 (39)	10 (32)	3 (10)	5 (16)
Different author and still male	20 (31)	0 (0.00)	6 (30.00)	3 (15.00)	5 (25.00)	6 (30.00)
Different author and now female	13 (20)	1 (8)	4 (31)	4 (31)	2 (15)	2 (15)
Manuscript last author						
Same author as abstract	48 (75)	1 (2)	17 (35)	15 (31)	5 (11)	10 (21)
Different author and still male	13 (20)	1 (8)	4 (31)	1 (8)	4 (31)	3 (22)
Different author and now female	3 (5)	0 (0.00)	1 (33.33)	1 (33.33)	1 (33.33)	0 (0.00)

Table 4: Authorship characteristics on manuscript publications derived from breast abstracts with male first authors from 2016-2020.