

A Gender Effect: Comparison of Gender Across Three Career Phases of a Neonatologist

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DISCLOSURES

Eric Horowitz and all co-authors have documented no financial relationships to disclose or Conflicts of Interest (COIs) to resolve.

UNAPPROVED OR OFF LABEL

Eric Horowitz has documented this presentation ***will not*** involve discussion of unapproved or off-label, experimental or investigational use.



BACKGROUND

- A smaller prior publication in 2018 with an n = 341 identified gender inequity among neonatologists with respect to leadership achievement, scholarly productivity, and compensation*.
- Validation of such differences in a larger current sample would demand greater efforts to **define root causes** that may allow **redress of inequities**.

*Horowitz, E., Randis, T., Samnaliev, M., and Savich, R.
Equity for Women in Medicine – Neonatologists Identify Issues. Journal of Perinatology
<https://rdcu.be/cbXZ8>



OBJECTIVE

- The objective of this study was to probe for gender inequity among neonatologists across three career phases:
 - Early Career: No more than 10 years from fellowship;
 - Mid-Career: 11 to 20 years from fellowship;
 - Later Career: Over 20 years from fellowship



HYPOTHESIS

- We hypothesized that gender differences exist with regards to:
 - Scholarly achievement,
 - Leadership positions, and
 - Professional compensation

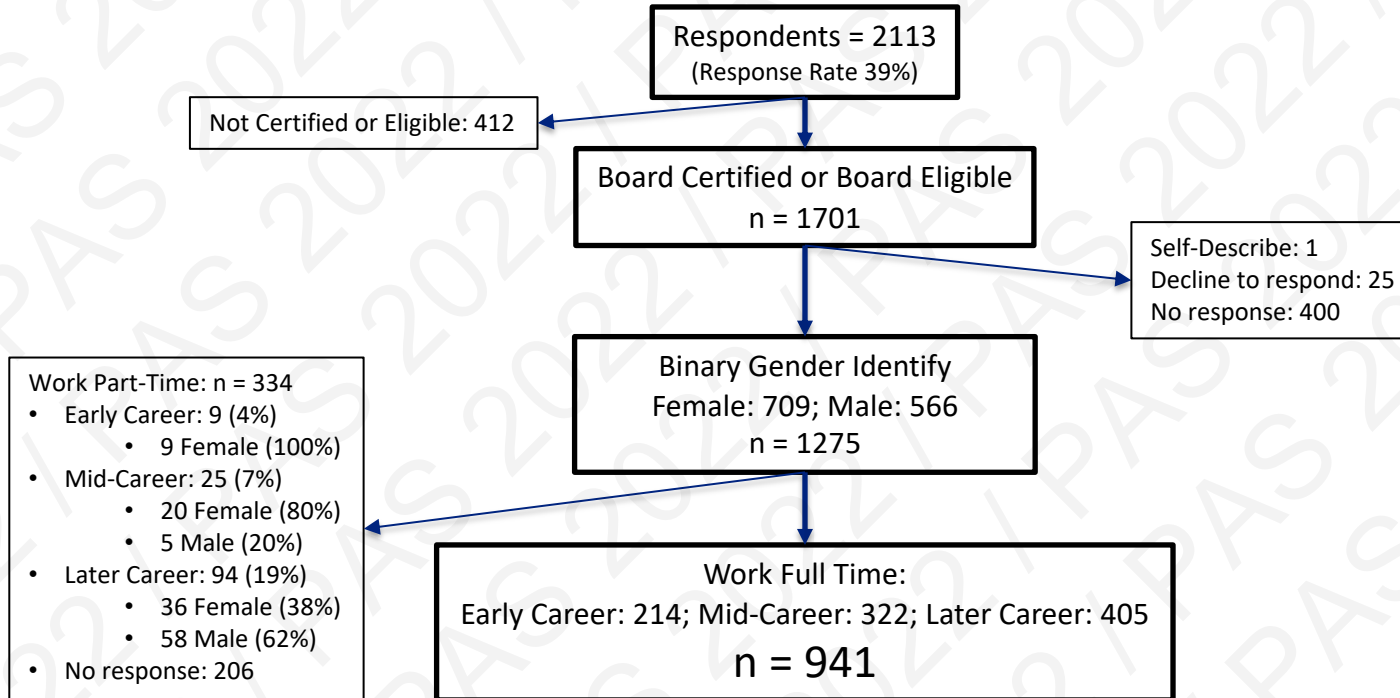


METHODS

- The AAP conducted a voluntary anonymous survey of all board-certified and board eligible United States neonatologists from July to November 2021.
- 2113 of surveyed neonatologists responded
 - Response rate: 30%
- Analysis included the subset of full-time respondents reporting gender identity and fellowship year.



Consort Diagram



METHODS

- The survey included questions about professional duties, social factors, and compensation.
- Statistical analyses were performed using JMP 16.1.0 by SAS (Cary, NC), and included:
 - t-test of means of normally distributed data
 - Wilcoxon test of medians of data with skewed distribution
 - Chi-square analysis for categorical data



RESPONDENT CHARACTERISTICS

	Survey of Sections	2020-2021 ABP Reference
Sample Size	941	
On Academic Track (Yes)	669 (71%)	
Gender Identity		
Male	387 (41%)	2386 (46%)
Female	554 (59%)	2809 (54%)
Ethnic and Racial Identity		
Hispanic/Latinx	66 (7%)	
Asian	165 (18%)	
Native Hawaiian/Pacific Islander	1 (0%)	
Black/African American	40 (4%)	
Middle Eastern/North African	22 (2%)	
American Indian/Alaska Native	2 (0%)	
White	664 (71%)	
Other	24 (3%)	
Declined	31 (3%)	
Sexual Identity		
Lesbian or gay	29 (3%)	
Straight, that is, not lesbian or gay	860 (92%)	
Bisexual	8 (1%)	
Something else	1 (0%)	
I don't know	2 (0%)	
Decline to respond	31 (3%)	
Age		
31-35	63 (7%)	143 (2%)
36-40	149 (16%)	792 (12%)
41-45	166 (18%)	880 (14%)
46-50	140 (15%)	754 (12%)
51-55	103 (11%)	675 (10%)
56-60	102 (11%)	676 (10%)
61-65	102 (11%)	822 (13%)
66-70	64 (7%)	913 (14%)
71 years or older	28 (3%)	808 (13%)

	Survey of Sections	2020-2021 ABP Reference
Medical School		
United States	722 (77%)	3301 (64%)
Canada	7 (1%)	
Caribbean	25 (3%)	1894 (36%)
Other	180 (19%)	
AAP Membership		
AAP only	95 (10%)	
Both AAP and SONPM	754 (80%)	
Neither the AAP nor SONPM	91 (10%)	
AAP District Location		
District I	61 (7%)	280 (5%)
District II	62 (7%)	341 (6%)
District III	109 (12%)	702 (13%)
District IV	96 (11%)	573 (11%)
District V	79 (9%)	437 (8%)
District VI	69 (8%)	703 (13%)
District VII	138 (15%)	683 (13%)
District VIII	109 (12%)	530 (10%)
District IX	100 (11%)	651 (12%)
District X	89 (10%)	529 (10%)



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COMPARISON OF CLINICAL DUTIES

	Early Career			Mid-Career			Later Career			
	Male	Female	p-value	Male	Female	p-value	Male	Female	p-value	
	n = 51 (24%)	n = 163 (76%)		n = 100 (31%)	n = 222 (69%)		n = 236 (58%)	n = 169 (42%)		
Clinical Work	Weekday (Monday through Friday)	75 (50 - 106)	90 (50 - 120)	NS	70 (28 - 110)	75 (50 - 100)	NS	70 (38.5 - 107.5)	75 (47.5 - 120)	NS
	Weeknight (night of Monday through Friday)	24 (20 - 40)	28 (16 - 40)	NS	25 (12 - 45)	25 (15 - 48)	NS	27 (10 - 50)	30 (15 - 52.25)	NS
	Weekend day (Saturday or Sunday)	24 (17 - 30)	24 (14.75 - 34)	NS	19 (12 - 34.25)	20 (12 - 26)	NS	21.5 (12 - 30)	24 (14 - 30)	NS
	Weekend nights† (night of Saturday or Sunday)	12 (10 - 20)	12 (10 - 20)	NS	12.5 (8 - 20)	12 (8 - 24)	NS	12 (4 - 23.5)	14 (10 - 25)	0.011
	Clinical Hours	1602 (988.5 - 2010)	1582 (1144 - 2304)	NS	1594 (754 - 2110)	1564 (989 - 2098.5)	NS	1325 (656 - 2037)	1376 (832 - 2163)	NS
	Average Daily Census									
	Critical Care	9 (5.5 - 10)	9.5 (5 - 12)	NS	8 (4.25 - 10)	8 (5 - 12)	NS	5 (3 - 10)	6 (4 - 10)	NS
	Intensive Care	10 (6 - 12)	10 (5 - 11)	NS	9 (5 - 12)	10 (5.25 - 12)	NS	9 (5 - 10)	10 (5 - 14.75)	NS
	Non-Critical Care	0 (0 - 5)	0 (0 - 3)	NS	0 (0 - 2)	0 (0 - 3)	NS	1 (0 - 5)	0 (0 - 5)	NS
	Normal Newborn	0 (0 - 0)	0 (0 - 1)	NS	0 (0 - 3)	0 (0 - 0)	NS	0 (0 - 4)	0 (0 - 3)	NS
	Total Rounding Census	20 (17.75 - 25)	20 (16 - 25)	NS	20 (15.75 - 28.25)	20 (16 - 25)	NS	20 (14 - 26)	20 (15 - 28.25)	NS
	Level nursery where most time spent									
	Level 4	25 (50%)	80 (50%)	NS	51 (51%)	104 (47%)	NS	100 (43%)	67 (41%)	NS
	Level 3	24 (48%)	72 (45%)	NS	43 (43%)	108 (49%)	NS	106 (46%)	78 (47%)	NS
	Level 2	1 (2%)	9 (6%)	NS	6 (6%)	8 (4%)	NS	23 (10%)	17 (10%)	NS
	Level 1	0 (0%)	0 (0%)	NS	0 (0%)	0 (0%)	NS	3 (1%)	3 (2%)	NS
	Have Outpatient Duties									
	Yes	12 (24%)	25 (16%)	NS	20 (21%)	46 (21%)	NS	41 (18%)	29 (18%)	NS
	Outpatient Days	15.5 (10 - 27.75)	22 (10 - 44.75)	NS	11 (5 - 23.75)	15.5 (6 - 37)	NS	12 (7 - 35)	29 (7.25 - 50)	NS



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COMPARISON OF SCHOLARLY ACHIEVEMENTS

	Early Career			Mid-Career			Later Career			
	Male n = 51 (24%)	Female n = 163 (76%)	p-value	Male n = 100 (31%)	Female n = 222 (69%)	p-value	Male n = 236 (58%)	Female n = 169 (42%)	p-value	
Scholarly Work	Engage in Research									
	Yes	31 (61%)	76 (48%)	NS	50 (50%)	125 (56%)	NS	105 (45%)	75 (46%)	NS
	Annual Funding	\$50,000 (\$0 - \$120,000)	\$0 (\$0 - \$50,000)	NS	\$0 (\$0 - \$150,000)	\$15,000 (\$0 - \$125,000)	NS	\$32,500 (\$0 - \$243,750)	\$20,000 (\$0 - \$300,000)	NS
	Scholarly Productivity									
	Paper submissions	3 (1 - 5.25)	2 (1 - 3)	NS	3 (2 - 6)	3 (2 - 5)	NS	3 (2 - 6)	3 (1 - 6)	NS
	Publications in Past Year	2 (1 - 4)	2 (1 - 3)	NS	3 (1 - 6.25)	2 (1 - 4.5)	NS	3 (2 - 6)	3 (1 - 5)	NS
	Principal Authorship	3.5 (1.75 - 9.25)	2 (1 - 5)	NS	5 (2 - 13)	3 (2 - 8)	NS	10 (2.75 - 30)	5 (2 - 20)	0.019
	Presentations	4 (3 - 8)	4 (2 - 6)	NS	4 (2 - 5)	4 (2 - 6)	NS	5 (2 - 10)	4 (2 - 8)	NS
	Academic Appointment									
	No	9 (18%)	42 (26%)	NS	24 (24%)	51 (23%)	NS	72 (31%)	53 (31%)	NS
	Yes (not tenure)	35 (69%)	103 (63%)		63 (63%)	141 (64%)		121 (51%)	88 (52%)	
	Yes (tenure track)	6 (12%)	13 (8%)		12 (12%)	26 (12%)		37 (16%)	24 (14%)	
	Academic Rank									
	Instructor	2 (5%)	11 (9%)	0.048	2 (3%)	9 (5%)	0.04	10 (6%)	6 (5%)	0.003
Assistant professor	30 (73%)	97 (84%)	24 (32%)		69 (41%)	21 (13%)		30 (27%)		
Associate professor	5 (12%)	5 (4%)	30 (40%)		71 (43%)	31 (20%)		35 (31%)		
Full professor	0 (0%)	0 (0%)	10 (13%)		9 (5%)	82 (52%)		38 (34%)		
Adjunct	4 (10%)	2 (2%)	6 (8%)		3 (2%)	10 (6%)		2 (2%)		



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COMPARISON OF ADMINISTRATIVE ROLES

		Early Career			Mid-Career			Later Career		
		Male n = 51 (24%)	Female n = 163 (76%)	p-value	Male n = 100 (31%)	Female n = 222 (69%)	p-value	Male n = 236 (58%)	Female n = 169 (42%)	p-value
Administration and Leadership	Administrative Time									
	Weeks	6 (2 - 15)	5 (2 - 12)	NS	8 (4 - 23.75)	7.5 (3.25 - 20)	NS	12 (5 - 30)	12 (5 - 25)	NS
	Internal Roles									
	Chair, Institutional Committee	1 (2%)	2 (1%)	NS	5 (5%)	8 (4%)	NS	32 (14%)	24 (14%)	NS
	Medical/Program Director	8 (16%)	29 (20%)	NS	43 (44%)	88 (41%)	NS	96 (41%)	75 (45%)	NS
	Division Chief	2 (4%)	0 (0%)	NS	8 (8%)	12 (6%)	NS	47 (20%)	24 (14%)	NS
	Department Chair	2 (4%)	4 (3%)	NS	1 (1%)	3 (1%)	NS	14 (6%)	13 (8%)	NS
	None	26 (52%)	80 (55%)	NS	31 (32%)	56 (26%)	NS	47 (20%)	39 (23%)	NS
	External Roles									
	State Committee Chair	0 (0%)	2 (1%)	NS	6 (6%)	3 (1%)	NS	9 (4%)	3 (2%)	NS
	National Committee Chair	5 (10%)	2 (1%)	NS	3 (3%)	14 (7%)	NS	10 (4%)	8 (5%)	NS
	Inter-Institutional Collab Director	0 (0%)	0 (0%)	NS	1 (1%)	1 (0%)	NS	7 (3%)	5 (3%)	NS
	International Collab Chair	0 (0%)	0 (0%)	NS	1 (1%)	0 (0%)	NS	2 (1%)	0 (0%)	NS
None	34 (71%)	105 (71%)	NS	53 (56%)	127 (60%)	NS	129 (57%)	89 (56%)	NS	



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COMPARISON OF EMPLOYER BENEFITS

	Early Career			Mid-Career			Later Career		
	Male n = 51 (24%)	Female n = 163 (76%)	p-value	Male n = 100 (31%)	Female n = 222 (69%)	p-value	Male n = 236 (58%)	Female n = 169 (42%)	p-value
Employment Status									
Employee	46 (90%)	152 (94%)	NS	88 (89%)	198 (89%)	NS	201 (86%)	142 (84%)	NS
Full/Part owner	3 (6%)	5 (3%)	NS	7 (7%)	10 (5%)	NS	20 (9%)	10 (6%)	NS
Contractor	2 (4%)	6 (4%)	NS	6 (6%)	17 (8%)	NS	13 (6%)	15 (9%)	NS
Other Employment Type	0 (0%)	2 (1%)	NS	2 (2%)	1 (0%)	NS	5 (2%)	6 (4%)	NS
Benefits									
Bonus	34 (67%)	100 (62%)	NS	63 (64%)	136 (62%)	NS	146 (62%)	87 (52%)	0.046
Health Insurance	47 (92%)	153 (95%)	NS	95 (97%)	211 (95%)	NS	225 (96%)	153 (92%)	NS
Malpractice	47 (92%)	155 (96%)	NS	94 (96%)	213 (96%)	NS	226 (96%)	159 (95%)	NS
Loan Repayment	2 (4%)	3 (2%)	NS	2 (2%)	4 (2%)	NS	2 (1%)	5 (3%)	NS
Reimburse for Professional Expenses	42 (82%)	144 (89%)	NS	83 (85%)	197 (89%)	NS	198 (84%)	141 (84%)	NS
Tuition Reimbursement	11 (22%)	24 (15%)	NS	12 (12%)	40 (18%)	NS	44 (19%)	33 (20%)	NS
Paid Family Care Leave	20 (39%)	53 (33%)	NS	27 (28%)	85 (38%)	NS	74 (31%)	49 (29%)	NS
Paid Family Medical Leave	24 (47%)	75 (47%)	NS	35 (36%)	127 (57%)	<0.001	94 (40%)	77 (46%)	NS
Dependent Care Leave	22 (43%)	65 (40%)	NS	30 (31%)	99 (45%)	0.015	80 (34%)	60 (36%)	NS
Life Insurance	46 (90%)	124 (77%)	0.015	76 (78%)	176 (80%)	NS	185 (79%)	128 (77%)	NS
Long-Term Disability Ins	40 (78%)	110 (68%)	NS	69 (70%)	156 (71%)	NS	157 (67%)	112 (67%)	NS
Short-Term Disability Ins	38 (75%)	114 (71%)	NS	54 (55%)	147 (67%)	NS	142 (60%)	100 (60%)	NS
Retirement	44 (86%)	140 (87%)	NS	78 (80%)	194 (88%)	NS	186 (79%)	124 (74%)	NS
Other	3 (6%)	0 (0%)	NS	3 (3%)	3 (1%)	NS	8 (3%)	8 (5%)	NS



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COMPARISON OF CASH COMPENSATION

	Early Career			Mid-Career			Later Career		
	Male n = 51 (24%)	Female n = 163 (76%)	p-value	Male n = 100 (31%)	Female n = 222 (69%)	p-value	Male n = 236 (58%)	Female n = 169 (42%)	p-value
Cash Compensation									
Base Compensation	\$227,000 (\$203,000 - \$285,000)	\$220,000 (\$190,000 - \$250,000)	NS	\$275,000 (\$250,000 - \$315,000)	\$250,000 (\$225,000 - \$291,000)	0.001	\$300,000 (\$250,000 - \$350,000)	\$270,000 (\$220,000 - \$325,000)	0.002
Administrative stipend	\$10,000 (\$3,250 - \$11,875)	\$3,500 (\$2,000 - \$8,000)	NS	\$30,000 (\$7,500 - \$50,000)	\$10,000 (\$2,350 - \$25,000)	0.004	\$25,000 (\$12,000 - \$50,000)	\$25,000 (\$10,000 - \$50,000)	NS
Extra duty earnings	\$25,000 (\$11,250 - \$50,000)	\$25,000 (\$10,000 - \$47,500)	NS	\$20,000 (\$15,000 - \$41,250)	\$25,000 (\$10,000 - \$50,000)	NS	\$20,000 (\$10,000 - \$50,000)	\$16,000 (\$5,000 - \$30,000)	NS
Productivity incentive	\$24,000 (\$8,800 - \$77,500)	\$22,500 (\$10,000 - \$76,250)	NS	\$18,000 (\$10,000 - \$52,500)	\$15,000 (\$5,000 - \$58,000)	NS	\$22,000 (\$10,000 - \$77,500)	\$18,000 (\$6,000 - \$38,000)	NS
Quality incentive	\$15,000 (\$10,000 - \$23,900)	\$10,000 (\$3,750 - \$27,250)	NS	\$15,000 (\$7,500 - \$22,000)	\$10,000 (\$3,125 - \$21,500)	NS	\$10,000 (\$5,000 - \$26,000)	\$10,000 (\$5,000 - \$36,000)	NS
Research incentive	\$17,000 (\$17,000 - \$17,000)	\$7,500 (\$2,750 - \$21,250)	NS	\$5,000 (\$4,125 - \$5,359)	\$12,649 (\$2,686 - \$35,000)	NS	\$9,500 (\$2,338 - \$27,500)	\$9,500 (\$6,000 - \$13,000)	NS
Calculated Total Cash Compensation	\$260,000 (\$213,500 - \$343,700)	\$235,000 (\$204,250 - \$288,000)	NS	\$322,250 (\$264,500 - \$453,000)	\$271,000 (\$236,500 - \$330,000)	<0.001	\$340,000 (\$277,000 - \$425,000)	\$294,500 (\$235,000 - \$350,000)	<0.001



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CONCLUSIONS

- We found no meaningful differences in:
 - Clinical duties
 - Administrative roles
- Yet, we did identify meaningful differences in:
 - Academic rank
 - Financial compensation



FUTURE DIRECTIONS

- This has been a bivariate cross-sections comparison of gender across three career phases
- Future multivariate analysis will better explore independent influences and co-variates
- Explore all pediatrics specialties



Thank you

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For more more information
about the neonatologist workforce,
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