

Race and Gender Disparities in Academic Pay

Southern Sociological Society

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4/9/21

Acknowledgements

- ▶ Ohio State Sociology Department's Small Grants Fund
- ▶ Research Assistants: Christopher Lindsay, Godwin Mshiu, Melina Raglin, Xiaowen Sun, Yulu Qin

5 Professors Sue Rutgers, Saying It Shortchanges Women on Pay

The five women say they are paid tens of thousands of dollars less than men with similar qualifications. The university says it is “committed to pay equity.”

- ▶ Author: Jillian Kramer
- ▶ Date: October 15th, 2020



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Princeton University Agrees To Nearly \$1 Million In Back Pay To Female Professors

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Introduction

- ▶ Extract race & gender using computational techniques to examine inequality in faculty pay

Agenda

- ▶ Briefly review literature on pay disparities
- ▶ Introduce our data and methods
- ▶ Results for 86 colleges and universities in the U.S.
- ▶ Our study's next steps

Gender and Racial Pay Gap

- ▶ Allocative, valuative, and within-job wage discrimination (Peterson and Morgan, 1995)
 - ▶ (Dwyer 2013; Glenn 1992; Pager, Bonikowski, and Western 2009)
- ▶ Racial wage inequality (Huffman and Cohen, 2004)
- ▶ Gender income gap (Blau and Kahn, 2017)

Specifically in Academia

- ▶ 11% gender gap at Ohio State (Chen and Crown, 2019)
- ▶ Women allocated to lower-paying academic locations (Renzulli et al., 2013)
- ▶ Faculty of color may have reached parity in pay with white colleagues (Toutkoushian, Bellas, and Moore, 2007)

Our Research

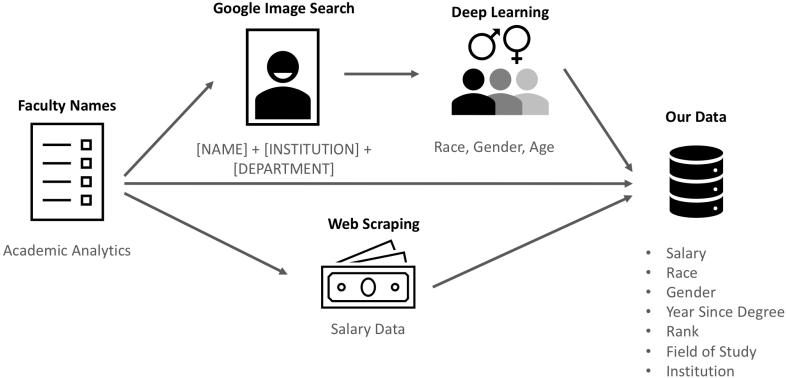
Are there disparities in academic pay?

- ▶ Race and gender
- ▶ All public US universities
- ▶ 8 years of data (2012-2018)

This Study

- ▶ 86 universities across the United States
- ▶ 2018 Salary
- ▶ 26,079 professors

Data

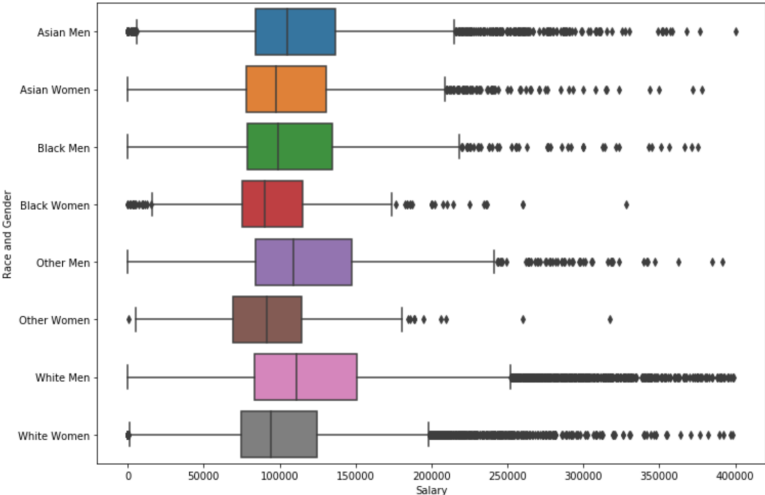


Data

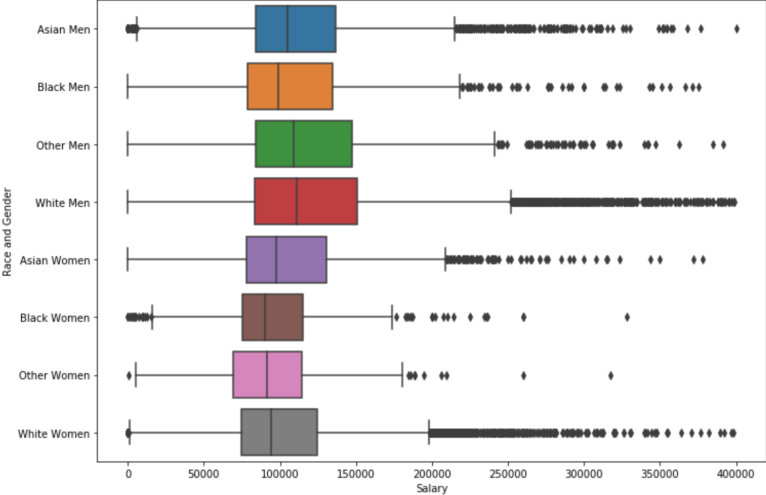
Accuracy rate (number of observations predicted) by Race and Gender

		Race				
		Asian	Black	Other	White	N
Gender	Men	85.4% (123)	47.4% (19)	3.6% (28)	90.3% (259)	544
	Women	84.1% (44)	81.8% (11)	0% (6)	88.4% (224)	185
N		167	30	34	483	

Comparing Gender Pay



Comparing Race Pay



Method

- ▶ Linear Mixed-Effects Model
- ▶ Random Intercepts
 - ▶ Field of Study
 - ▶ Institution

**Linear Mixed-Effects Model (Random Intercepts:
Field of Study/Institution)**

	Total Salary for Latest Year	
	Model 1	Model 2
Asian	-9,010 ^{***} (805)	
Black	-4,238 ^{**} (1,408)	
Other	-2,632 (1,347)	
Woman		-10,547 ^{***} (654)
Constant	111,756 ^{***} (8,348)	113,690 ^{***} (8,170)
<i>N</i>	26,079	26,079
Log Likelihood	-318,468	-318,420
AIC	636,951	636,849
BIC	637,008	636,890

* $p < .05$; ** $p < .01$; *** $p < .001$

Base categories for race and gender are white and male.

**Linear Mixed-Effects Model (Random Intercepts:
Field of Study/Institution)**

	Total Salary for Latest Year	
	Model 1	Model 2
Asian Men	-12,635 ^{***} (950)	-11,025 ^{***} (946)
Asian Women	-15,201 ^{***} (1,400)	-13,442 ^{***} (1,392)
Black Men	-5,056 ^{**} (1,756)	-2,245 (1,748)
Black Women	-16,725 ^{***} (2,214)	-13,585 ^{***} (2,203)
Other Men	-4,776 ^{**} (1,453)	-3,635 [*] (1,443)
Other Women	-21,815 ^{***} (3,587)	-19,528 ^{***} (3,561)
White Women	-12,646 ^{***} (748)	-11,861 ^{***} (743)
Age		872 ^{***} (43)
Constant	116,899 ^{***} (8,209)	84,606 ^{***} (8,321)
<i>N</i>	26,079	26,079
Log Likelihood	-318,275	-318,068
AIC	636,572	636,161
BIC	636,662	636,259

* p < .05; ** p < .01; *** p < .001

Base categories for race and gender are white and male.

Linear Mixed-Effects Model (Random Intercepts: Field of Study/Institution)

	Total Salary for Latest Year
Asian Men	-3,414*** (851)
Asian Women	-3,242** (1,251)
Black Men	591 (1,560)
Black Women	-5,598** (1,970)
Other Men	-45 (1,291)
Other Women	-7,752* (3,188)
White Women	-4,743*** (671)
Associate Professor	-33,801*** (713)
Assistant Professor	-52,285*** (665)
Other	-82,849*** (1,858)
Constant	144,970*** (7,564)
N	26,079
Log Likelihood	-315,143
AIC	630,314
BIC	630,428

* p < .05; ** p < .01; *** p < .001

Base categories for race, gender, and rank are white, male, and professor.

Conclusion

- ▶ There is a significant gender gap ($\sim 5k$) in salary across racial groups even when accounting for professorial rank
- ▶ The pay gap for all groups decreases significantly when controlling for rank, suggesting groups be promoted less frequently than white men

Next Steps

- ▶ Continue to increase our sample size
- ▶ Longitudinal (2012 - 2018)
- ▶ Add productivity measures (Publications, Grants, Citations, H-index)
- ▶ Oaxaca-Blinder decomposition analysis

Thank you!

- ▶ Thank for you for tuning in, I look forward to your thoughts, questions, and suggestions!
- ▶ email: **axxe.1@osu.edu**

Works Cited

- Blau, Francine D., and Lawrence M. Kahn. 2017. "The Gender Wage Gap: Extent, Trends, and Explanations." *Journal of Economic Literature* 55(3):789–865. doi: 10.1257/jel.20160995.
- Chen, Joyce J., and Daniel Crown. 2019. "The Gender Pay Gap in Academia: Evidence from the Ohio State University." *American Journal of Agricultural Economics* 101(5):1337–52. doi: <https://doi.org/10.1093/ajae/aaz017>.
- Dwyer, Rachel E. 2013. "The Care Economy? Gender, Economic Restructuring, and Job Polarization in the U.S. Labor Market." *American Sociological Review* 78(3):390–416. doi: 10.1177/0003122413487197.
- Glenn, Evelyn Nakano. 1992. "From Servitude to Service Work: Historical Continuities in the Racial Division of Paid Reproductive Labor." *Signs: Journal of Women in Culture and Society* 18(1):1–43. doi: 10.1086/494777.
- Huffman, Matt L., and Philip N. Cohen. 2004. "Racial Wage Inequality: Job Segregation and Devaluation across U.S. Labor Markets." *American Journal of Sociology* 109(4):902–36. doi: 10.1086/378928.
- Pager, Devah, Bart Bonikowski, and Bruce Western. 2009. "Discrimination in a Low-Wage Labor Market: A Field Experiment." *American Sociological Review* 74(5):777–99. doi: 10.1177/000312240907400505.
- Petersen, Trond, and Laurie A. Morgan. 1995. "Separate and Unequal: Occupation-Establishment Sex Segregation and the Gender Wage Gap." *American Journal of Sociology* 101(2):329–65.
- Renzulli, Linda A., Jeremy Reynolds, Kimberly Kelly, and Linda Grant. 2013. "Pathways to Gender Inequality in Faculty Pay: The Impact of Institution, Academic Division, and Rank." *Research in Social Stratification and Mobility* 34:58–72. doi:10.1016/j.rssm.2013.08.004.
- Toutkoushian, Robert Kevin, Marcia L. Bellas, and John V. Moore. 2007. "The Interaction Effects of Gender, Race, and Marital Status on Faculty Salaries." *The Journal of Higher Education* 78(5):572–601. doi: 10.1353/jhe.2007.0031.

Additional Material

