

Study probes gender pay gaps in US federal science agencies

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Kaye Husbands Fealing. Credit: Georgia Institute of Technology

Men make more than women at seven U.S. federal science agencies, but the reasons for these gender-based pay gaps differ by organization, according to new research involving Kaye Husbands Fealing of the Georgia Institute of Technology's School of Public Policy.

Husbands Fealing, chair and professor in the School of Public Policy, and researchers from the University of Massachusetts Amherst, University of Toronto and University of Minnesota analyzed 15 years of federal employment data from 1994 to 2008 for seven U.S. science-based agencies: the National Oceanic and Atmospheric Administration (NOAA), the National Institutes of Health (NIH), the Department of Agriculture (USDA), the National Science Foundation (NSF), the Centers for Disease Control and Prevention (CDC), the Environmental Protection Agency (EPA), and the Department of Energy (DOE).

The researchers found that the pay gaps at organizations such as NOAA and the DOE—agencies focused on traditionally masculine fields such as engineering and physical sciences—were largely the result of men being paid more than [women](#) for the same jobs.

At more gender-neutral agencies—those focused on life sciences and interdisciplinary sciences—the differences were due to agencies systematically hiring more women than men for low-paying jobs, according to the researchers. The result, they said, is "persistent pay stratification in organizations that otherwise embrace practices intended to increase equity." The NIH, CDC, EPA, NSF and USDA fell into this category.

"When the findings of this study are shared with members of the scientific community, there is typically surprise that measurable disparities in earnings are persistent between women and men even at [federal agencies](#) that use the General Schedule," said Husbands Fealing, referring to the standardized pay schedule for most federal jobs. "Our study shines a bright light on the persistence of earnings disparities between women and men, even when there is an appearance that the Federal system is designed to avoid these pay gaps."

According to the research, the overall gender gap fell between 1994 and 2008, apparently as a result of federal hiring practices. Significant disparities remained, however. In 1994, women earned on average 73 cents for every dollar earned by a man at agencies with a masculine focus and 77 cents for every dollar at the other agencies. The data show the gap closed by 2008, with women earning 83 cents per dollar earned by men at [life sciences](#) agencies and 90 cents per dollar at interdisciplinary agencies.

Researchers said the strong pay gap in male-oriented agencies was the result of substantial numbers of employees being paid outside of the General Schedule system in a classification more often held by men than women.

The explanations for pay gaps also varied widely among agencies. For instance, hiring women more often into lower-paying jobs accounted for about 84 percent of the gender pay gap at the NSF but 47 percent at NOAA. Meanwhile, practices that led to men being paid more than women for the same job accounted for less than 9 percent of the pay gap at the NSF, but about 33 percent at the USDA.

Organizational culture plays a strong role in perpetuating such pay gaps, said Laurel Smith-Doerr of the University of Massachusetts Amherst, lead author of the research co-authored with Husbands Fealing; Sharla

Alegria, an assistant professor of sociology at the University of Toronto; Debra Fitzpatrick, co-director of the University of Minnesota Center on Women, Gender and Public Policy; and Donald Tomaskovic-Devey, professor of sociology and director of the Center for Employment Equity at UMass Amherst.

"It is very easy for us in the U.S. to think in terms of individuals and to think about people making decisions, but actually it is really important to look at how organizations make decisions, and a lot of times that's less visible to us," Smith-Doerr said. "Therefore, you need to have this kind of population-level data and statistical analyses in order to be able to see these trends, and that's what we have here."

The paper, "Gender Pay Gaps in U.S. Federal Science Agencies: An Organizational Approach," is published in the September edition of the *American Journal of Sociology*.

More information: Laurel Smith-Doerr et al. Gender Pay Gaps in U.S. Federal Science Agencies: An Organizational Approach, *American Journal of Sociology* (2019). [DOI: 10.1086/705514](https://doi.org/10.1086/705514)

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