

# Performance and age only partially explain gender pay gap for New Zealand researchers

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Over her lifetime, the average female scientific researcher at a New Zealand university earns about NZ\$400,000 less than her male counterparts, and less than half of this disparity can be explained by research performance and age. Ann Brower and Alex James of the University of Canterbury, Christchurch, New Zealand, present these findings in *PLOS ONE* on January 22, 2020.

A growing body of research sheds light on gender disparities in academia, including gaps in pay, promotion rates, [research funding](#), and more. However, many studies can only estimate individuals' salaries and rely on publication impact as the sole measure of research performance.

In contrast, to better understand gender gaps, Brower and James analyzed salary bands and research performance scores for every academic researcher in New Zealand. Research scores were calculated according to the country's unique system for awarding [government funding](#), which incorporates several factors in addition to publication impact.

The analysis revealed that a male researcher at a New Zealand university has over double the odds of being ranked professor or associate professor than a woman with similar age and research score. The average male researcher earns more in a lifetime than the average female researcher, with research score and age accounting for only 40% to 70% of the pay gap, depending on the field.

The data also oppose the "male variability hypothesis"—the idea that pay gaps can be explained by a greater proportion of men at the very top of each field; a pay gap persisted even between men and women with similar career trajectories. Between 2003 and 2012, women whose research scores improved more than those of their male colleagues still lagged behind in moving up the academic ranks.

Brower and James suggest possible explanations for their findings, including the idea that universities might demand more teaching activities from women than from men, without sufficiently rewarding the work. They also show that current hiring practices will never close the gender gap in most academic fields.

Brower adds: "If we take 2 academics, a man and a woman, of the same age and research performance score, the man's odds are double the woman's of being ranked (and paid) an Associate Professor or Professor. The lifetime difference in pay for men and women of the same research [performance](#) adds up to the equivalent of a quarter of a house to a whole house, depending on field."

**More information:** Brower A, James A (2020) Research performance and age explain less than half of the gender pay gap in New Zealand universities. *PLoS ONE* 15(1): e0226392.

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