

Women found to transition to independent research grants at lower rates than men

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The transition from mentored to independent research is an important career junction for biomedical researchers. A new Yale-led study finds that women researchers in the United States reach that point at lower rates than men.

The findings, researchers say, highlight the need for more support structures for women researchers and [greater transparency](#) across [academic departments](#). The study was published June 27 in the *Journal of the American Medical Association (JAMA)*.

For the study, the researchers evaluated all recipients of what are known as mentored K awards (grants offered by the National Institutes of Health [NIH] to early-career scientists that incorporate a mentorship component) and R01-equivalent awards (a class of grants, including the NIH's R01 grant, that fund specific research projects and provide around \$500,000 per year for multiple years) at U.S. medical schools between 1997 and 2021.

To determine how many of those researchers made the transition from K to R awards within 10 years, the research team separated the data into two bins: 1997 to 2011 and 2012 to 2021. They then assessed award distribution and K-to-R transition rates by gender and medical school department.

"We found that there was significant gender disparity," said Mytien Nguyen, an M.D.-Ph.D. student at Yale School of Medicine and lead author of the study.

Across both time periods, women received fewer K awards than men. Around 43% of K awards granted between 1997 and 2011 were awarded to women. That rate dropped to less than 34% in the following 10 years.

When the researchers compared the annual percent change of women K awardees and the annual percent change of women faculty representation in academic departments, they found that awardee rates were lower than faculty representation rates in five of the 13 divisions assessed: internal medicine, pathology, pediatrics, psychiatry, and nonclinical departments.

The researchers note that their findings are also conservative assessments, as several additional departments showed disparities but, due to small sample sizes, didn't reach statistical significance.

The analysis also uncovered gender disparities among K-to-R transition rates.

"Women K-awardees were less likely than male K-awardees to have a successful K-to-R transition within 10 years," said Nguyen. "When we looked by department, there were several where female K-awardees had a significantly lower rate of 10-year K-to-R transition, including [internal medicine](#), non-clinical departments, and surgery."

Overall, 37.7% of women who received mentored K awards between 1997 and 2011 successfully applied for R01-equivalent grants within 10 years, compared to 41.5% of men.

This discrepancy has important consequences when it comes to the career trajectories of recipients. While K awards are viewed as training grants, R01-equivalent grants are a sign of scientific success, said senior author Dowin Boatright, vice chair of research in the Department of Emergency Medicine at New York University Grossman School of Medicine and formerly of Yale School of Medicine.

"Making that transition from K to R is pivotal to really being acknowledged as successful in the [academic community](#)," he said.

That some departments perform better than others in terms of awardee rate for women researchers may come down to culture, said Nguyen.

"And it highlights differential support for women in terms of both receiving that K award and being productive during that K-supported period so that they can successfully apply for and receive R grants later,"

she said.

To address these disparities, the researchers suggest departments incorporate more support structures for women faculty, including equitable academic and mentor networks, protected research time, limited clinical responsibilities, child care support, and efforts to eliminate mistreatment and discrimination.

"There should also be enhanced transparency within departments," said Boatright. "Departments should keep track of this data over time and be able to report back to their faculty whether there is parity in these transition rates. And if there's not, that data transparency could be an incentive for programs to act and address those inequities."

More information: Mytien Nguyen et al, Transition From Mentored to Independent NIH Funding by Gender and Department, *JAMA* (2023). DOI: [10.1001/jama.2023.7693](https://doi.org/10.1001/jama.2023.7693)

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