



EXECUTIVE SUMMARY

Keeping Women in the Science Pipeline

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Women now represent a large part of the talent pool for research science, but many data sources indicate that they are more likely than men to “leak” out of the pipeline in the sciences before obtaining tenure at a college or university. The loss of these women, together with serious increases in European and Asian nations’ capacity for research, means the long-term dependability of a highly trained U.S. workforce and global preeminence in the sciences may be in question. Our research addresses the effect of family formation on both when and why women and men drop or opt out of the academic science career path and on those who remain on the path. It offers an extensive examination of the experiences of researchers as well as the role that institutions of higher education and federal granting agencies play in regard to the leaky pipeline in the sciences. We collected data from a number of sources: A national longitudinal survey, the Survey of Doctorate Recipients, created by NSF; and several original surveys. Our surveys covered four academic researcher populations in the University of California system, including doctoral students, postdoctoral scholars, academic researchers, and faculty; a survey of the 62 member institutions of the Association of American Universities, a nonprofit organization of leading public and private research universities in the United States and Canada; and a survey of 10 of the major federal granting agencies.

We found that:

- Family formation – most importantly marriage and childbirth – accounts for the largest leaks in the pipeline between Ph.D. receipt and the acquisition of tenure for women in the sciences.

Women in the sciences who are married with children are 35 percent less likely to enter a tenure-track position after receiving a Ph.D. than married men with children, and 27 percent less likely than their male counterparts to achieve tenure upon entering a tenure-track job. By contrast, single women without young children are roughly as successful as married men with children in attaining a tenure-track job, and a little more successful than married women with children in achieving tenure. Married women without children also do not fare quite as well as men.

Those faculty women who do remain in the science pipeline and receive tenure experience dramatic differences in the patterns of marriage and childbirth than do their male counterparts. According to the Survey on Doctorate Recipients, these tenured women scientists are twice as likely as men to be single, and if married, only 53% have children as compared to 73% of men. Those women who do marry, experience divorce at a significantly higher rate than men.

- Young scientists often make decisions about their career path while still in training. Research-intensive careers in university settings have a bad reputation with both men and women.

The majority of doctoral students and postdoctoral scholars in our surveys indicated that they were concerned about the family friendliness of possible career paths, but research-intensive universities were considered the least family friendly of a range of possible career choices including tenure-track careers at teaching-intensive institutions, non tenure-track faculty positions, policy and managerial careers inside and outside academia, and research careers within and outside academia.

Women scientists who are graduate students or postdoctoral fellows are most likely to abandon their career goals if they have a child.

“Research-intensive careers in university settings have a bad reputation with both men and women.”

- America's researchers receive limited benefits when it comes to family-responsive policies such as paid maternity and parental leave. Young scientists early in the pipeline are the least likely to have these benefits.

Faculty are the only population in which a majority (58 percent) of the 62 AAU universities provide a baseline family-responsive maternity leave policy of at least six weeks of guaranteed paid leave following childbirth, without limitations that prohibit access to it. Only a fraction of research universities offer this level of paid maternity leave to graduate students, postdoctoral scholars, and academic researchers, with only 13 percent of universities making this baseline policy available to graduate students (43 percent of them offer only ad hoc paid leave, or no paid leave at all).

- Federal agencies have a shared responsibility with universities in providing adequate family responsive benefits for America's researchers. They are not doing as much as they could to stop the loss of women scientists.

Among other issues, some universities may be out of compliance with Title IX requirements regarding maternity discrimination. Federal agencies are charged with compliance to Title IX requirements.

Our current inadequate family responsive benefits for America's researchers makes no economic sense. In the world of federal grants, individuals who drop out of science after years of training represent a huge economic loss and are a detriment to our nation's future excellence.

