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# The Next Step for Female Scientists

By Mary Ann Mason



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"The folks at the NSF understand that you shouldn't be penalized or lose a chance to advance in your career because you are taking care of a new child or a mom or dad who's gotten sick," said Michelle Obama in a White House speech announcing a 10-year plan to help men and women balance research careers with their personal lives.

The new plan from the National Science Foundation includes a "stop the clock" provision on its grants, allowing scientists to defer or suspend their grants for up to year to accommodate childbirth or adoption. The plan also includes a salary supplement to help pay for a research technician to step in when a grant's principal investigator is on parental leave.

Those policies apply to both mothers and fathers, but clearly it is the steady loss of trained female scientists that prompted the change. "We need all hands on deck," the first lady said. "And that means clearing hurdles for women and girls as they navigate careers in science, technology, engineering, and math." She noted that while women earn 41 percent of the doctoral degrees in the sciences and engineering, women make up only 28 percent of the faculties in those disciplines.

Thank you, Mrs. Obama. This is a good first step, as it symbolizes the administration's recognition of the problem and constructive efforts on the part of NSF to solve it. But it is only a first step.

A mass of bureaucratic and regulatory blockages must be pushed through in order to achieve a flexible workplace in which having both a family and a career is possible. A critical block is that while federal agencies largely finance the graduate students, postdocs, and faculty members who create new scientific breakthroughs, it is universities that determine personnel issues.

For instance, the National Institutes of Health offers a generous eight weeks of paid leave to postdoctoral fellows who receive the National Research Service Award. However, recipients may take that paid leave only "when those in comparable training positions at the grantee organization have access to this level of paid leave." In other words, every postdoc at that university must also be eligible for eight weeks of paid leave—an unlikely circumstance for postdocs who are supported by a wide variety of sources.

Here at the University of California at Berkeley, our national study of the dropout rates of women in the sciences looked at the 61 members of the Association of American Universities (the top research institutions in the country). We found that only 23 percent of them guaranteed a minimum of six weeks' paid leave for postdocs, and only 13 percent promised the same to graduate students.

Childbirth takes a high toll on the career aspirations of female scientists. Of those who had children while they were postdocs at the University of California, 41 percent indicated that they had shifted their career goals away from becoming a research professor at a university.

Then there are the big discrepancies in providing any kind of family support across the more than a dozen federal agencies that award grants to scientists. The NIH and the NSF give the most money and have gone further than other agencies in offering a variety of family accommodations. Among the top 10 agencies, however, we found that most offer recipients only a no-cost extension of a grant to accommodate childbirth. Two offer nothing at all.

In its newly issued report, "A Forgotten Class of Scientists," the [Federal Demonstration Partnership](#) and its Task Force on Parental and Family Leave for Research Trainees focus on graduate students and postdocs, the most vulnerable class of scientists, with the fewest benefits. These are the young female trainees, in their peak childbearing years, who are most likely to abandon a career in research science when they have a child.

The partnership, sponsored by the National Academies, is a cooperative project among 10 federal agencies and 119 academic institutions that receive federal research money. Its study looked closely at the different policies pursued by leading granting agencies and at the laws and regulations that bind the organizations. It also examined how several universities interpreted those laws and regulation. What it found was a tangle of rules and policies at different universities.

"There appears to be little collaboration across academic institutions or with federal agencies to make active efforts to improve the process," the report said, "although many institutions are independently addressing these issues. At the least, this is a case of wasted resources. It creates confusion and multiple interpretations of already complicated policies. For example, although Title IX requires that institutions provide unpaid, job-protected leave to birth mothers 'for a reasonable period of time,' the absence of a formal policy could lead to the institution being in violation of Title IX if a postdoctoral scholar was informally granted less than what could be considered reasonable."

Postdocs in particular have grant money from many sources and therefore often receive different benefits. At one university, a postdoc may receive paid parental leave because he or she is considered an employee, while someone else in the same lab may receive nothing at all, including the right to unpaid leave, if his or her work is paid for from an outside source. Postdocs may not qualify for the national Family Medical Leave Act, which guarantees up to 12 weeks of unpaid leave for childbirth but requires that the employee have been employed for at least a year at the institution.

And there are yet different rules dealing with international students. According to the Federal Demonstration Partnership report, of the 48,000 postdoctoral researchers in the United States in 2005, 55 percent were non-U.S. citizens. Their status and access to parental and family benefits are generally handled differently from those of U.S. citizens, and with an alternate cast of officials and regulations. Those foreign postdocs, if treated well, would be more likely to remain in the United States and become major contributors to our pre-eminence as innovators in science and technology.

The report's recommendations make good sense. They suggest more collaboration and partnerships between federal agencies, universities, and other stakeholders; further research into successful programs that provide parity for postdocs; and several other useful strategies.

Most important, from my point of view, the report suggests the creation of a common baseline of benefits that should be offered by all federal agencies, and a clear outreach and dissemination of the policies for both agencies and universities. These complicated issues require executive leadership. It is time for the Obama administration to take the next step. While the dozens of agencies and hundreds of universities are working with little cooperation, and providing only spotty support for young researchers with families, we are losing some of our best and brightest scientists.

Take the next step. The president could convene a panel to hammer out baseline policies that would become mandatory for all grant agencies and universities. The policies could include salary supplements to the grant for childbirth leave, like those offered by the NSF, and support for re-entry training following an absence of more than a year, to accommodate family needs, like that offered by the NIH. The demonstration project would be an ideal platform for those reforms.

Women are stepping up in much greater numbers to undertake the many years of training, mostly financed by federal agencies, to become cutting-edge scientists. They want to continue their careers in research science *and* have families. We cannot afford to lose our investment in many of our best minds.

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