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REFLECTIONS IN DIVERSITY

Retaining Postdoc Mothers in an Academic Career

Many female postdocs do not return to academia after their position ends. One way to increase retention could be fellowships specifically geared to the needs of postdocs who are also mothers.

Ursula Keller and Anna Garry

The postdoc period of a scientific career—with its short-term contracts, frequent relocation requirements and limited openings for more stable, tenure-track positions—makes aspiring to a permanent academic career challenging even under the best of circumstances. Indeed, according to a 2015 study by the European Science Foundation, only 30 percent of postdocs opt to remain in academia rather than moving to industry or other career areas. For female scientists the picture is even worse; at our institution of ETH Zürich in Switzerland, for example, only 28 percent of 2014-15 postdocs across disciplines were females, and only 12 percent in

physics in particular. Given that such a low percentage of female physicists stay in an academic career, what can be done to boost their incentives to do so?

We believe that one answer is to support the postdoc period when many scientists decide to start a family. Here, we introduce the idea of competitive fellowships for postdoc mothers that enable them to pay for a Ph.D. student or early postdoc researcher, whom they will then supervise while in the early stages of motherhood. Such grants, we believe, could help these scientists maintain ties to their labs, their research, and their academic career path during a period of significant personal transition.

Leaving maternity out

Female postdocs who become mothers and still wish to pursue an academic career face some significant challenges. They carry the baby to term, take their allotted maternity leave—an absence from the lab that can hold back research results and their contribution to the group—and must negotiate the process of returning to work. One-year postdoc contracts have particularly low job security, and, from the supervisor's perspective, the arrival of a child may impede the postdoc's ability to fulfill the contract's requirements. A postdoc can find it difficult to return as planned, as the logistics of child care can be complex and challenging.

As a result, a postdoc's success depends critically upon a research group leader who supports the postdoc's joint pursuit of motherhood and career. Allowance of maternity leave and the understanding that parents cannot work the long hours once expected of them are obvious ways to help. Perhaps less obviously, leaders should not sideline mothers into less prestigious research themes. This can happen due to concerns of negative impact on the group's research output.

Yet such supportive environments may be rare. A 2014 U.S. study published in the *Proceedings of the National Academy of Sciences* (PNAS) showed that in the field of life sciences, where the proportion of Ph.D. students is 50 percent male and 50 percent female, some elite U.S. labs led by male professors do not recruit female postdocs. Many of these labs serve as funnels to tenure-track positions.

The study concludes that a cause of the marked decrease in women scientists in tenured positions could be the exclusion—or self-selected



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absence—of women from high-achieving laboratories. Given that these laboratories are not employing women, they arguably are also not equipped to, or even interested in, facilitating maternity leave.

Practical steps

Notwithstanding significant disincentives baked into the system, as highlighted by research like the PNAS study, some European universities and funding bodies have developed initiatives to encourage and support early-career scientists who are parents. The programs benefit both the institution and the researcher, as they help to avoid delays in research and publication output.

Since 2007, ETH Zürich in Switzerland has awarded an annual “Golden Tricycle” award to team leaders who enable their staff to balance career and family. The university aims to offer researchers (including those who aren't new mothers) further work-life balance with the introduction of its Robert Gnehm Grant, which will debut in 2017. The grant will provide funding (up to 3,000 Swiss francs) or child care so that academic parents can travel to conferences to present research results.

In 2013, the Swiss National Science Foundation (SNSF) introduced the “120% support grant,” a competitive award for SNSF-funded scientists working on a minimum 80 percent contract. The grants support researchers (both postdocs and Ph.D. students) by covering a portion of child care costs. They also facilitate flexible working scenarios, to reduce delays in research output and career progression.

Perhaps most directly relevant to maternity issues, Imperial College London, U.K., established the Elsie Widdowson Fellowship in 2000. The university and the department in which the female academic works jointly fund the fellowship, which is open to permanent academic staff returning to work following maternity, adoption, surrogacy or shared parental leave. The fellowship allows the recipient to concentrate solely on research for a year, with flexible work terms that consider family obligations. The college views the award as “an important component of the college's family-friendly policies.”

A fellowship for postdoc mothers?

With the Widdowson Fellowship as an inspiration, we propose a similar fellowship geared specifically to the

situation of women postdocs—one that recognizes the impact of maternity at this challenging career period. We believe that setting up a pool of fellowships for postdoc mothers, either central to universities or in specific departments, could empower women postdocs tremendously.

In the grant model we would propose that, during early pregnancy, the scientist submits a research proposal that would cover the appointment of a new Ph.D. student or early postdoc to the research group. The postdoc mother would then co-supervise the new researcher during the grant period. Successful awardees would thus remain fully integrated in the research group, gain management experience, and continue to contribute to key research and to bringing in funds for the lab.

Such an offering, by enabling active participation in research while balancing the multiple demands of new motherhood, could offer a career lifeline to talented women scientists who might otherwise leave academia during the precarious postdoc period. Such a program might also change the attitudes of some senior academics who assume that motherhood, and having women in their group, would diminish research capacity.

Gender statistics worldwide show a continuing and significant gender imbalance at the postdoc level, particularly in the natural sciences. A fellowship geared directly to the challenges faced by postdoc mothers, and at keeping them linked to high-impact research groups, could prove one

ingredient for a future that retains more women in science. **OPN**

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