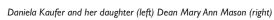
MIND THE GAP:

Studies find continued disparity in tenure rates between men and women with families.

66 The hardest year of my life" is how Dr. L Daniela Kaufer describes her first year as a faculty member in the department of integrative biology at UC Berkeley, and her third year as a mother. Amidst the demands of her job and her family, she says, "I had to give up everything in life that was not essential." No one ever said that balancing a family and a career in academia would be easy. But

children: 70 percent of men are married with children, compared to 44 percent of women (1). Like many other professions, academia is "front ended," says Mason. "The 30s and 40s are the make-or-break years, which are also the most vulnerable times for women [with respect to having children]. Children collide with career expectations."

The baby gap is partly due to the fact



achieving that balance is particularly challenging if an academic starts a family early in his or her career, and if that academic is a woman.

In the sciences, men that have early babies, born within five years of the receipt of a PhD, achieve tenure at a rate 24 percent higher than women with early babies. Berkeley Graduate Dean Mary Ann Mason calls this gap in tenure rates the "baby gap." She and Graduate Division research analyst Marc Goulden examined the family patterns of academics using data from the Survey of Doctorate Recipients, a study of over 160,000 PhD recipients from 1976 to 1999. They found large differences in the family choices made by men and women and the career consequences of these choices. Overall, men with tenured faculty positions are more likely than women with tenured faculty positions to have that male faculty are much more likely than female faculty to have a non-working spouse, allowing them to spend more time with work and less time with childcare. Additionally most academic men are married to non-academic women, while most academic women are married to academic men (2); a 1980 study of people with PhDs in science revealed that 62 percent of women had husbands with a PhD in science, while only 19 percent of men had wives with a PhD in science (3). Also, according to Mason, "Marriages in which one spouse does not work are statistically more stable than relationships in which both spouses work." This may explain why women who are married when they enter an academic job are more likely to get divorced or separated from their spouse than men in the same situation. Interestingly, women who are single when they begin their academic job are twice as likely as men to remain single (2). Because of these challenges, many women forego a career in academia altogether, choosing a less demanding career that allows time for a family.

Where are the women with PhDs?

Frequently, women slip out of the academic pipeline after graduate school. In 1998, women made up 42 percent of PhD recipients, but constituted only 13.8 percent of tenured faculty at research institutions (4). Women often leave academia to take second-tier jobs. These part-time, adjunct, and lecture positions are becoming more com-

Marriages in which one spouse does not work are statistically more stable ...

mon in universities across the country; over 50 percent of undergraduate classes are now taught by non-tenure track instructors (4, 5), 45 percent of whom are female (4). Lecture positions are more flexible and provide more time to spend with family, but offer lower salaries, limited benefits, and less prestige.

Are graduate students at Berkeley considering alternate careers in order to have time for a family? The Berkeley Science Review conducted a web-based survey to find out how graduate students at UC Berkeley feel about career and family. Of the 146 survey respondents, 135 were graduate students. Eighty-three respondents were female, 49 were male, and four declined to specify. Roughly equal percentages of men and women are considering leaving academia: 38 percent of the women and 34 percent of the men are considering alternative careers. Most are considering a shift because they want a more flexible career that is better suited to having a family. Many respondents also cited low pay and low job security as reasons to look bevond academia.

These responses echo the sentiments ex-

pressed in a survey of over 800 UC Berkeley postdoctoral fellows, conducted by Mason and Goulden in 2000. For single postdocs without children, 39 percent of women and 33 percent of men indicated a career goal shift away from academia. These numbers were higher for married postdocs with children: 59 percent of women and 39 percent of men indicated a shift in career goals (2).

Should you have been a doctor? Or maybe a historian?

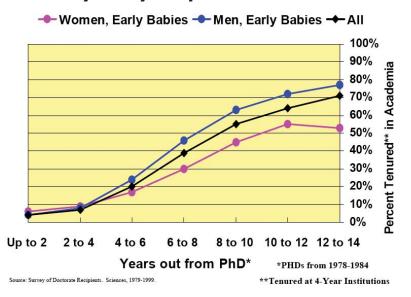
The people who took our survey acknowledged that professionals in many fields, including medicine, law, and business, have demanding jobs and work long hours. As in academia, female doctors, lawyers, and corporate executives are less likely to have children than their male counterparts. Similar to the situation in academia, women make up far less than 50 percent of the workforce at the top end of these professions (M.A.Mason, personal communication). Survey respondents pointed out that women in other pro-

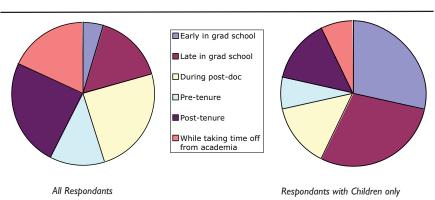
Men with early babies achieve tenure at a rate of 24% higher than women with early babies.

fessions make enough money to afford quality childcare. Says Dean Mason, "Academic women can't afford live-in help. And 9 to 5 childcare isn't sufficient because academic jobs are not 9 to 5 jobs."

How do the family patterns of academics in the sciences and social sciences compare? Our survey respondents, most of whom are graduate students in the sciences, thought academics in the humanities might have an easier time of balancing work and family. Scholars in the humanities can often work from home, they thought, unlike scientists who are tied to their labs. Several respondents expressed concern that the chemicals they use in their research may harm a fetus, requiring a temporary break from research during pregnancy. Mason and Goulden's study shows that the baby gap is slightly smaller in the social sciences and humanities than in the sciences: Men with early babies achieve tenure at a rate 20 percent higher than women with early babies, compared to a baby gap of 24 percent in the sciences (2). Women in the sciences are slightly less like-

Early Baby Gap in the Sciences





Responses to the BSR survey on career and family: What stage in your education/career do you think is the best time to have children? Respondents could select more than one answer.

ly to get divorced, and less likely to remain single, than their peers in the social sciences and humanities. Mason speculates that there are fewer single women in the sciences than in the humanities because the male-to-female ratio in the sciences is higher, meaning the dating pool is larger. Says Mason, "There are more men in the lab than in the library."

Okay, so you're a scientist. When is the best time to have children?

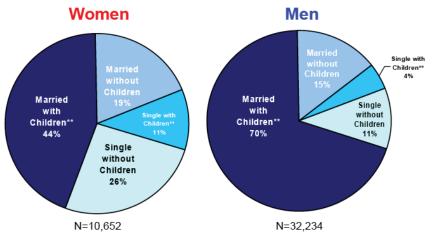
Mason thinks that graduate school is a good time to have children, because students' schedules are more flexible. "There are not enough graduate student parents out there," says Mason. She wants to attract and encourage graduate student parents at Berkeley, and is trying to create grants, provide housing, and instate a policy to provide six weeks of

paid leave for graduate students who have children. Of the graduate student parents who responded to the survey, all agreed that graduate school is one of the best times to have children.

Daniela Kaufer had her daughter while she was a post-doc. "There is no 'good time' but during a post-doc it is easier," she says. "You have more flexibility." Kaufer returned to work when her daughter was three months old. She set up experiments in the lab in the morning, went home in the afternoon, and returned to the lab at night to finish the experiments, often working until one in the morning.

Dr. Rosemary Gillespie, now a tenured faculty member in the department of environmental science, policy and management, had one child while she was a new faculty member at the University of Hawaii, and one

Family Status of Tenured Faculty*



*PhDs from 1978-1984 who are tenured 12 years out from PhD.
**Had a child in the household at any point post PhD to 12 years out.

Super Super Debtsch Bestigner, Science 1979-1989 (Jumpiter 1979-1985)

Tips for successfully balancing career and family, from Dean Mason and others:

- -Never lose contact: Keep up your networks, work part time, stay on top of the literature, make contributions by writing papers and articles, go to meetings.
- -The women who are most successful don't drop out for any period of time.
- -If you have children, get help. Don't try to prove that you can do everything. Hire someone to help with housework and/or childcare (and worry about paying for it later).
- When applying for faculty jobs, consider the family-friendliness of the university.
- -When interviewing for an academic job, don't voluntarily disclose your own family plans—search committee members are not even supposed to ask you. If you are asked, be straightforward.

child just before tenure. Says Gillespie, "I remember another faculty member saying to me that I was so brave to have a baby before I had tenure ... not something you really want to hear, as you don't feel at all brave!" Other faculty members were very supportive of her decision to have children. "I would take each kid when young to meetings, and would breast feed them at every meeting," she says. "People got very used to that." Her advice on the best time to have children? "There never is a 'best time.' So don't wait until it's too late."

But many women do wait, and have children after they receive tenure. From a career point of view, this is a good strategy. Mason's study shows that women who have late babies have career trajectories that look more like those of women who don't have children

at all (2). However, a second study by Mason and Goulden shows that waiting to get tenure before having children is not the answer for everyone. They surveyed the entire ladder-rank faculty of the UC system, and found that 40 percent of women said they had fewer children than they wanted, compared to 20 percent of men (6). Women who wait to have children until they have tenure run the risk of running out of time.

Freeze your tenure clock or freeze your eggs?

Mason and Goulden have made suggestions that would make universities more equitable workplaces for male and female parents. Mason thinks it is up to universities to develop "a culture that encourages family

balances," she says. "Universities are starting to compete to put in place family friendly policies, where they didn't have them before."

Mason also wants to develop re-entry post-docs for women who took time off to have children and want to return to academia. She has recently received a grant from the Sloan Foundation to study re-entry to academia.

When asked what the university could do to make being a parent easier, Kaufer said the university should provide more daycare services. "There is only one place on campus, and they take only 24 kids per year." The survey respondents with children reiterated the need for on-campus childcare. On-campus daycare is preferable because it makes commuting more convenient, parents are nearby in the event of an emergency, and the daycare service offers extended hours, which are necessary when faculty work late or teach early classes. "Next semester, I will teach a class at 8 AM" says Kaufer, "but my daughter's school doesn't open that early." Clearly, childcare is something that the university could improve and expand upon.

Many university policies have met with resentment from people who have chosen not to have kids. One survey respondent put it very clearly:

A colleague who just had a baby said that she is on a kind of maternity leave where all she has to do is her research but is free of admin and teaching duties but still gets paid. What? That sounds like the dream job. If true, that's just wrong, and unfair. Instead of rewarding those of us who make the serious sacrifice of not having children for our research, it feels like we get penalized.

However, flexible leave options don't only benefit parents. The availability of paid and unpaid leave to care for family members could be used by all faculty to care for an ailing spouse or relative, not just faculty with children. Likewise, a flexible part-time option could be used by any faculty in the event of health problems or as they approach retirement. UC Berkeley has instated new family-friendly policies, which allow faculty who have or adopt children to "freeze" their tenure clock for a semester or two. "Freezing the tenure clock is the only thing that is going to make a difference," says one mother. However, these options are underused, says Mason, because people are afraid to use them.

Options that offer flexibility for families need to be respected. Says Gillespie, "just before I had [my oldest child], I went to the Director of our research unit in Hawaii and asked if I could go part time. His response was that it didn't make a difference... So whether or not I'd taken time off, I would have to keep up productivity."

What is needed is a shift in academic culture, so that an academic's choice to have a family is valued and respected. Kaufer grew up in Israel, where, she says, "everyone has children. Therefore you are evaluated differently by your peers." It is understood that academics can be parents and can still sustain successful careers. Developing familyfriendly policies is a step towards changing academic culture. But a more open dialogue about balancing careers and families is also necessary. "People just don't talk about this enough," said one woman. Fifty-three percent of survey respondents said they did not have a mentor with whom they feel comfortable discussing career and family plans. Thirtyone percent said they did not have role models who successfully balance career and family. Said one respondent, "I'm happy to say I can think of several woman faculty members I'd be comfortable speaking to; unfortunately, this survey just made me realize that none of them has children. I don't think I'd get much useful feedback from such a biased sample." This problem has not been solved. But, says Kaufer, "there is the story of balancing work and family. But the bigger story is that having kids is really fun." The faculty parents interviewed for this article said that if you pursue an academic career and you have kids, you make it work, and you never regret it.

JENNIFER SKENE is a graduate student in integrative biology.

Want to know more?

For full results of the BSR's survey, check out our website: sciencereview .berkeley.edu.

Dean Mason's Homepage: www.grad.berkeley.edu/deans/mason

The UC Faculty Family Friendly Edge: http://ucfamilyedge.berkeley.edu/ index.html

Report from the National Academy of Sciences: Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering

http://www.nap.edu/catalog/11741.html

References

1.M. A. Mason, M. Goulden, Academe 90 (2004). 2.M. A. Mason, M. Goulden, Academe 88 (2002). 3.E. Wasserman. The door in the dream: Conversations with eminent women in science (Joseph Henry Press, Washington, D.C., 2000).

4.J. S. White, Liberal Education 91, 22-27 (2005). 5. American Association of University Professors. Statement of Principles on Family Responsibilities and Academic Work (AAUP, Washington, 2001). 6.M. A. Mason, M. Goulden, Annals of the American Academy of Political and Social Science 596, 86-103 (2004).

> For nearly half a century, the **Institute for Defense Analyses** has been successfully pursuing its mission to bring analytic objectivity and understanding to complex issues of national security. As a not-for-profit corporation operating three federally funded As a not-for-profit corporation operating three tederally funded research and development centers that serve the Office of the Secretary of Defense, the Joint Chiefs of Staff, Unified Commands and Defense Agencies, we provide a solid and exciting foundation for career growth and longevity. And, through specialized analytic, technical and scientific talent, we are moving steadily forward, confidently increasing our capabilities to face the country's important security issues.

* * * * * * * * * * * * * * * *

How will you put your expertise to work every day?

IDA is seeking highly qualified individuals with degrees at the doctoral or master's level in the following:

- Biochemistry
- Biomedical Engineering
- Chemistry
- Chemical Engineering
- Economics
- Electrical Engineering
- Genetics, Bioinformatics & Computational Biology
- Materials Science & Engineering
- Mathematics
- Mechanical
- Operations
- Physics &
- Statistics
- Systems & Computer Science

Along with competitive salaries, IDA provides excellent benefits including comprehensive health insurance, paid holidays, 3 weeks' vacation and more — all in a professional development environment that encourages individual thinking and produces concrete results. Applicants selected will be subject to a security investigation and must meet eligibility requirements for access to classified information. US citizenship is required.



INSTITUTE FOR DEFENSE ANALYSES www.ida.org

Please email your resume to: resumes@ida.org, or mail to: Institute for Defense Analyses, ATTN: Employment 4850 Mark Center Drive, Alexandria, VA 22311; FAX: (240) 282-8314.

Visit our website for more information on our specialized opportunities. EOE.

* * * * * * * * * * * * * *