The New Norm of Faculty Flexibility: Transforming the Culture in Science & Engineering, Keynote #1

DO BABIES MATTER? The New Norm of Flexibility in Science and Engineering

Mary Ann Mason
University of California, Berkeley

Survey of Doctorate Recipients (SDR)

- A national biennial longitudinal data set of PhD recipients’ post-degree employment experiences funded by the NSF and others, 1973 to present (NEH funded the Humanities, 1977-1995).
- Includes a ~10% sub-sample of PhD recipients drawn from the Survey of Earned Doctorates (SED) each year -- and individuals are resurveyed until they reach age 76, leave the country, or refuse to participate (over 160,000 individuals have participated).
- Response data is weighted based on sampling design and re-weighted each survey cycle, based on attrition (e.g. gender, ethnicity) to reflect US PhD population.
- Starting in 1979 and 1981, respondents were asked about their marital status (1979) and the number of children (1981) living in their household (under 6, 6-18, etc.).
- Arguably the best employment dataset in the country.

PhD Recipients from U.S. Universities (U.S. Citizens only)

- Women, White/Other
- Women, Asian
- Women, URM
- Men, URM
- Men, Asian
- Men, White/Other

Survey of Doctorate Recipients: Women, White/Other

N=1117

Shareholders

Partners

Part-time

Associates

Men

Women

Large San Francisco Law Firm

Shareholder Partners

Part-time

Associates

Men

Women

Heads and Necks of Science PhD Recipients*

Women, Early Babies

Women, Late or No Babies

Men, Early Babies

Tenured Professors

Second Tier

Part-Time, 2-Year Faculty, Non-Ten.

Track, Acad. Researchers, and Still Tenure Track

*PhDs from 1978-1984 Who Are Working in Academia 12 to 14 Years Out from PhD

Note: The use of NSF Data does not imply the endorsement of research methods or conclusions contained in this report.
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*Philips from 1978-1984 Who Are Working in Academia 12 to 14 Years Out from PhD at Tenure Track Position

Leaks in the Academic Pipeline for Women*

<table>
<thead>
<tr>
<th></th>
<th>Graduate School Entry</th>
<th>PhD Receipt</th>
<th>Assistant Professor (Tenure Track)</th>
<th>Associate Professor (Tenured)</th>
<th>Full Professor (Tenured)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women with Babies</td>
<td>42%</td>
<td>29%</td>
<td>22%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>Women, Late or No</td>
<td>58%</td>
<td>71%</td>
<td>78%</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>Women, Early Babies</td>
<td>58%</td>
<td>71%</td>
<td>78%</td>
<td>76%</td>
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<td>Men, Early Babies</td>
<td>58%</td>
<td>71%</td>
<td>78%</td>
<td>76%</td>
<td>76%</td>
</tr>
</tbody>
</table>

* Preliminary results based on statistical analysis of the Survey of Doctorate Recipients (a national biennial longitudinal data set funded by the National Science Foundation and others, 1979 to 1995). All results are adjusted for selection bias; the sample of doctorate recipients is defined as all individuals who have earned a PhD degree in one of 49 academic fields. For each event (PhD to TT job procurement, or Associate to Full Professor), data is limited to a maximum of 16 years. The analysis is an analytic rendering of the statistical effects of family and gender.

Career Goal at Start of PhD

<table>
<thead>
<tr>
<th></th>
<th>Current Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td></td>
</tr>
</tbody>
</table>

Changing Career Goals

<table>
<thead>
<tr>
<th></th>
<th>Current Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td></td>
</tr>
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</table>

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October 10-11, 2008
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### Percentage of UCB Postdocs Who Indicated a Career Goal Shift Away from Academia*

<table>
<thead>
<tr>
<th></th>
<th>Married with Children</th>
<th>Married without Children</th>
<th>Single without Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women (%)</td>
<td>59%</td>
<td>46%</td>
<td>39%</td>
</tr>
<tr>
<td>Men (%)</td>
<td>39%</td>
<td>42%</td>
<td>33%</td>
</tr>
</tbody>
</table>

*Among all survey participants.


### Average Number of Hours Worked Each Week as a Postdoc

<table>
<thead>
<tr>
<th></th>
<th>Married with Children</th>
<th>Married without Children</th>
<th>Single without Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women (%)</td>
<td>41</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Men (%)</td>
<td>47</td>
<td>52</td>
<td>52</td>
</tr>
</tbody>
</table>


### No Presentations at Conferences in the Last Year

<table>
<thead>
<tr>
<th></th>
<th>Married with Children</th>
<th>Married without Children</th>
<th>Single without Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women (%)</td>
<td>44%</td>
<td>31%</td>
<td>21%</td>
</tr>
<tr>
<td>Men (%)</td>
<td>20%</td>
<td>26%</td>
<td>30%</td>
</tr>
</tbody>
</table>


### "Very Satisfied" or "Satisfied" with Quality of Guidance Received from Postdoc Sponsor*

<table>
<thead>
<tr>
<th></th>
<th>Married with Children</th>
<th>Married without Children</th>
<th>Single without Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women (%)</td>
<td>60%</td>
<td>76%</td>
<td>66%</td>
</tr>
<tr>
<td>Men (%)</td>
<td>61%</td>
<td>53%</td>
<td>31%</td>
</tr>
</tbody>
</table>

*"Do Not Know" excluded.


### The Pool Problem at UC Berkeley: Ladder Rank Faculty

<table>
<thead>
<tr>
<th></th>
<th>Actual UCB Applicants</th>
<th>Potential UCB Applicant Pool*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women (%)</td>
<td>39%</td>
<td>40%</td>
</tr>
<tr>
<td>Men (%)</td>
<td>70%</td>
<td>60%</td>
</tr>
</tbody>
</table>

*Data prepared by Angelica Stacy, Associate Vice Provost for Faculty Equity, UCB. Potential UCB Applicant Pool is derived from NCES data on PhD degrees granted in 2000, cut to a selected group of top-ranked graduate institutions and cut to relevant disciplinary fields for UCB.

### Major Findings: Family → Career

- Overall, men with "early babies" are 38% more likely than women with "early babies" to achieve tenure.
- Women with "early babies" leave academia before obtaining their first tenure track job.
- Single mothers are more successful than married mothers.
- Women with "late babies" do as well as women without children.
- Having no babies at all is the dominant success mode for women.
- Men who have "early babies" do very well. In fact, they do better than all others, including single men and women.
- A high percentage of mothers slide into the second tier, the part-time, adjunct and lecturer corps: the "gypsy scholars" of the university world.
- Many women change their career course in graduate school or as postdocs because of family concerns.
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**Major Findings: Career → Family**
- Only one in three women without children who takes a fast-track university job ever become mothers.
- Women who achieve tenure are far more likely than men who achieve tenure to be single 12 years out from the PhD — more than twice as likely.
- If married, women are significantly more likely than men to experience divorce or separation.
- Women faculty were more than twice as likely as men to indicate they wished they could have had more children — a full 36% of women said so in comparison to 18% of men.

**UC Work and Family Survey: History and Response Rates**
- Designed to assess the effectiveness of UC’s existing family friendly policies (as of July 1988) for ladder-rank faculty.
- UC Berkeley surveyed in Fall 2002. All other (except Merced) campuses surveyed in Spring-Summer 2003.

<table>
<thead>
<tr>
<th>UC campus</th>
<th># Responses</th>
<th># Surveyed</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkeley</td>
<td>743</td>
<td>1,351</td>
<td>55%</td>
</tr>
<tr>
<td>Davis</td>
<td>820</td>
<td>1,385</td>
<td>59%</td>
</tr>
<tr>
<td>Irvine</td>
<td>645</td>
<td>910</td>
<td>49%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>788</td>
<td>1,758</td>
<td>45%</td>
</tr>
<tr>
<td>Riverside</td>
<td>387</td>
<td>663</td>
<td>55%</td>
</tr>
<tr>
<td>San Diego</td>
<td>472</td>
<td>998</td>
<td>47%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>168</td>
<td>357</td>
<td>53%</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>374</td>
<td>802</td>
<td>47%</td>
</tr>
<tr>
<td>Santa Cruz</td>
<td>262</td>
<td>481</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,459</strong></td>
<td><strong>8,705</strong></td>
<td><strong>51%</strong></td>
</tr>
</tbody>
</table>

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New Family Friendly Initiatives for UC Berkeley Ladder-Rank Faculty

- **Active Service-Modified Duties (ASMD)** — Provides teaching relief for parents with "substantial" caregiving responsibilities for a newborn or new adoptee. Two semesters/quarters for birth mothers. Funded centrally to defray the cost to departments. 
- **Tenure-Clock Stoppage** — Adds one year extension to the tenure clock for tenure-track faculty parents with "substantial" caregiving responsibilities for a newborn or new adoptee. One year per birth/adoption event, with a two-year cap. 
- **Flexible Part-time Option** — To allow tenure-track faculty, pre- and post-tenure, to go from full- to part-time as life needs arise (i.e. caregiving responsibilities). Would encourage departments to take into account part-time status in advancement decisions. Under review. 
- **School for Chairs** — Promotes the use of family friendly policies, resources and benefits. Soon to be launched.

Creating a Family Friendly Department: Chairs and Deans Toolkit

**Excerpts:**

- Legal case examples
  - In a tenure-denial lawsuit involving a reported tentative settlement of $495,000, the provost at the University of Oregon allegedly told another professor that the mother’s decision to “stop the clock” was a “red flag.” The department chair also wrote in a memo that she “knew as a mother of two infants, she had responsibilities that were incompatible with those of a full-time academician.” (ref. June C. Williams, 2004, “Breaking the Maternal Wall.”, *Academe, June 2004*)

- Faculty quotes about negative responses from chairs to requests for family accommodations
  - “I want to emphasize that the greatest source of work-related stress in relation to having a child has been the hostility and recalcitrance of my chair who announced that he thought of ASMD as a ‘special privilege’ and who fought it all the way.” - Female faculty member

Graduate Student Parent Resources at UC Berkeley

**New initiatives**
- Paid Childbirth Leave (approved February 2007)
- Expanded infant/toddler/preschool slots in a new Child Development Center (opened January 2007)
- UC Families: an online newsletter and resource for students, staff, and faculty at all UC campuses who seek to balance academic goals or careers with family life. See [http://parents.berkeley.edu/ucfamilies](http://parents.berkeley.edu/ucfamilies)
- Stopping the Clock: Extensions to academic milestones (preliminary exams, qualifying exams, Normative Time completion)

**Continuing initiatives**
- Family Student Housing (two large complexes)
- Children’s Center & Family Resource Center (located in Family Housing)
- Student Parent Center (located in Student Center)
- Breastfeeding Support Program (Student Health Center & campus locations)
- Graduate Student Parent Grant (funded by Graduate Division, administered by Financial Aid Office)

Figure 15: A New Model for the Next Generation in Academia: Part 3

**Current Model and Assumptions**
- Academia is typically either a full-time or no-time pursuit, particularly for those on fellowships or grants.
- The appropriate career trajectory for successful academics is linear and without breaks - from doctoral years, to postdoctoral, to pro-tenure, and full professor ranks.
- Academic "stars" move through the ranks very quickly.
- There is no good time to have children.
- Having children, particularly for women, is often equated with less seriousness and drive in academia.

**New Model and Assumptions**
- Men and women can shift to part-time status or temporarily elongate timelines over their life course without penalty.
- Many men and women will want or need to temporarily take time out from their academic life for caregiving - for children or other dependents - Re-entry is supported.
- "Academic "stars" are those who produce the most important or relevant work - faster is not necessarily better.
- Throughout the career path any time is fine to have children because there is a full array of resources to support academics.
- There is no stigma associated with having children, nor negative career consequences, and the culture is broadly supportive of academics who do.
In the past few decades the number of women entering graduate schools has been skyrocketing, while the number of women reaching the top rung of the corporate and academic worlds has remained relatively stagnant. Why are so many women falling off the fast track?

In this timely book, Mary Ann Mason traces the career paths of the first generation of ambitious women who started careers in science, academia, law, medicine, business, and the media in large numbers in the 1970s and 1980s. Along with her daughter, an aspiring journalist, Mason has written a guide for young women who are facing the tough decision of when -- and if -- to start a family. It is also a guide for older women seeking a second chance to break through to the next level, as Mason herself did in academia. The result is a roadmap of new choices for women facing the sobering question of how to balance a successful career with family.

Read more at http://www.grad.berkeley.edu/deans/mason/index.shtml