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Authors: Mason, Mary Ann
Goulden, Marc
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Do Babies Matter?

The Effect of Family Formation on the Lifelong Careers of Academic Men and women

For women academics, deciding to have a baby is a career decision. Traditional narratives of the academic career must adapt to new demands and new constituencies.

When I first became the dean of the graduate division at Berkeley last year, I had an extraordinary experience. Fifty-one percent of the 2,500 new graduate students whom I welcomed were women. Thirty-five years ago that number would have been closer to 10 percent. The graduate students included not only
those pursuing doctoral studies, but also those seeking professional degrees in law, public health, social welfare, optometry, and other areas. Berkeley has no medical school, but if it did, women would be close to the majority there as well.

The sharp increase in women's participation in graduate education is a striking national trend. There are significant differences by discipline—engineering, for instance, has produced far fewer women Ph.D.'s than English literature. Overall, women's participation in higher education, and particularly in doctoral and professional programs, has risen dramatically since 1966. The percentage of doctoral recipients who are women has risen from 12 percent to 42 percent, while the percentage of women among recipients of professional degrees has risen even more sharply. Women law school graduates, for instance, made up only about 5 percent of their classes thirty years ago, but they now make up almost 45 percent.

Does this steady climb in all disciplines and in all professional schools over the last thirty years indicate that women are on a winning streak? Are women finally achieving equality in the academy?

The employment patterns at the University of California, Berkeley, which are representative of those at other major research universities, indicate that while gender equality may be the reality for graduate students, it is a far different story for ladder-rank faculty, non-ladder-rank academic personnel, and staff. Using a body profile to illustrate employment demographics makes it clear that the experiences of men and women are in dramatic contrast. The drawing on the left in Figure 1 illustrates a composite profile of all employees. The head, at 1,283, represents the total faculty count on campus, including both tenured and nontenured ladder-rank faculty. The middle drawing in Figure 1 represents women employees. There are only 281 women faculty on campus, so the head is small. The drawing on the right represents men employees. This large-headed profile indicates that Berkeley has 1,002 male faculty members.

Moving down the body profile to the neck, the drawing on the left indicates that Berkeley employs a total of 386 non-ladder-rank academic personnel. These include lecturers, adjuncts, and an assortment of other academics, most of whom teach. The neck is particularly important since non-ladder-rank faculty is the fastest growing segment in higher education. The women's profile in the middle demonstrates a substantial neck compared with the head, reflecting 256 non-ladder-rank personnel compared to 281 faculty, while on the men's profile at right, the neck is slender compared to the head, reflecting 130 non-ladder-rank academic personnel compared to 1,002 faculty.

In the three drawings in Figure 1, the torso represents the staff. The torso on the profile at left represents Berkeley's total number of staff: 7,000. The shoulder regions represent the highest levels of management, where men prevail. The middle drawing shows us that women are overrepresented among the staff, particularly in the lower, nonmanagerial region. Women, it appears, have a body problem: they're small of faculty head, fairly large in the lecturer neck, and exhibit a substantial staff torso. The drawing at right shows that men, in contrast, have a large faculty head and a very small lecturer neck. The bottom of their staff torso is slimmer than that of women but they exhibit large shoulders since they are better represented among the directors and professional staff. Men taper down to buildings and grounds jobs at the bottom, while women spread out at the hips with a higher representation of clerical employees and food-service workers.

We should note that the "neck problem" is even more significant at other types of four-year institutions. At a large state university without a research focus, for example, the number of part-time and non-ladder-rank faculty, the neck, would be much larger than the number of ladder-rank faculty, the head. A majority of this segment of the teaching staff, sometimes referred to as the second tier, is composed of women, and the tier is growing. Recently the Coalition on the Academic Workforce announced that more than 50 percent of all undergraduate courses are now taught by non-ladder-rank instructors.

**Underrepresentation of Women**

Some analysts suggest that women in the professoriate are not as well represented as men because they have only recently gained degrees in large numbers. Time will take care of the problem, they predict, as
more young women professors are hired and the older cohort, mainly male, retires.

Data from the National Center for Education Statistics, however, indicate that the gap between the percentage of all men faculty who are tenured and the percentage of all women faculty who are tenured has been fairly consistent over time, even though the relative numbers of women faculty have grown. While the percentage of women among doctorates has grown, the percentage of women among tenured faculty looks very much the same as it did in 1975. A similar phenomenon occurs when examining salary data. The gap between men's and women's salaries has actually grown wider in the last 30 years.

What accounts for the consistent gaps in tenure and salary? Currently, two leading theories, not necessarily contradictory although sometimes perceived to be, attempt to explain these persistent gaps.

The first theory, classically known as the "glass ceiling" theory, focuses on an alleged inherent pattern of discrimination, which bars women from top positions in academic and other institutions. This theory's proponents analyze the ways in which women are persistently treated differently from birth. For example, they claim that girl babies are smiled at more than boy babies to encourage pleasing behavior; that girls are later discouraged from taking "hard math" classes and steered to more "feminine" pursuits. Reports issued by faculty committees at the Massachusetts Institute of Technology in the past few years have suggested that even the most successful, tenured women scientists at that prestigious university were systematically excluded from important leadership roles and treated differently when spaces and resources were allocated. One commentator described the slights as a "thousand paper cuts," both small and large, that kept women in a subordinate position. In this theoretical framework, family issues are given peripheral attention.

The second school of thought, the "work versus family" school, believes it is the unbending nature of the American workplace, configured around a male career model established in the nineteenth century, that forces women to make choices between work and family. Rather than a thousand paper cuts, it is the sixty-hour work weeks and the required travel that force women with children to leave professions, including academia. Because the academic job market demands that workers relocate for their jobs, women with families face an additional difficulty. According to proponents of this theory, most women do not get as far as reaching tenure at MIT, but take a different route earlier. In her recent book The Price of Motherhood, Ann Crittenden points out that at MIT, only seven of sixteen tenured women professors had children in 2000, suggesting that most women scientists who have children do not make it that far.

There has not been much data to back up these heated debates, because until recently, there has been very little research on career patterns of most women in the academy. While women scientists and engineers at major research universities have gotten a fair amount of attention, women in the humanities, social sciences, and professions, almost half of all Ph.D.'s., have rarely been examined for work-family conflict, nor have women in smaller, non-research-oriented universities. In addition, almost no attention has been paid to the growing number of women in the second tier of non-ladder-rank faculty, the "neck" issue.

Work and Family Conflict

Our research examines family formation and its effects on the career lives of both women and men academics from the time they receive their doctorates until twenty years later. Our data source is the richest available longitudinal employment database on Ph.D. recipients, the Survey of Doctorate Recipients (SDR), an ongoing weighted, biennial longitudinal study sponsored by the National Science Foundation and other government agencies. Using data from 1973 to 1999, we tested the theory that the workplace structure does not accommodate families with children. We looked at academics in the sciences, the social sciences, and the humanities.

Our findings illustrate, not surprisingly, that babies do matter--they matter a great deal. And what also matters is the timing of babies. There is a consistent and large gap in achieving tenure between women who have early babies and men who have early babies, and this gap is surprisingly uniform across the disciplines and across types of institutions. While there are some differences among the sciences, the social sciences, and the humanities, and there are some differences between large research universities...
and small liberal arts colleges, the "baby gap" is robust and consistent. By our definition, an "early baby" is one who joins the household prior to five years after his or her parent completes the Ph.D. For most academics, this represents the time of early career development: graduate school and assistant professor or postdoctoral years. These are years of high demands and high job insecurity.

In the sciences and engineering, among those working in academia, men who have early babies are strikingly more successful in earning tenure than women who have early babies. As Figure 4 shows, there is an overall 24 percent gap between men's and women's rates of having achieved tenure twelve to fourteen years after receiving the Ph.D. This comparative finding focuses on that relatively small group of women who receive Ph.D.'s in the sciences. The gap would be even larger if we simply compared all men in science with all women in science, since men Ph.D.'s greatly outnumber women Ph.D.'s. The same phenomenon exists in the humanities and social sciences, where the gap in tenure achievement between men and women who have early babies is close to 20 percent. Surprisingly, having early babies seems to help men; men who have early babies achieve tenure at slightly higher rates than people who do not have early babies.

The effects of having late babies, those who join the household more than five years after the Ph.D. is earned, are far less dramatic. Overall, women with late babies and women without children demonstrate about the same rate of achieving tenure, a rate higher than women with early babies. Presumably, women who have babies later in their career life have already achieved job security. They are also more likely to have only one child.

Overall, women who attain tenure across the disciplines are unlikely to have children in the household. Twelve to fourteen years out from the Ph.D., 62 percent of tenured women in the humanities and social sciences and 50 percent of those in the sciences do not have children in the household. By contrast, only 39 percent of tenured men in social sciences and humanities and 30 percent of those in the sciences do not have children in the household 12 to 14 years out from the Ph.D.

Tenured women in science are twice as likely as tenured men to be single, and more tenured women remain single in the social sciences and humanities, as well. There are many reasons why women are more likely to remain single and less likely to have children, but one may assume that for many it is a realistic career choice based on their observations of who gets tenure.

#### Neck Issue

Women with early babies often do not get as far as ladder-rank jobs. They make choices that may force them to leave the academy or put them into the second tier of faculty: the lecturers, adjuncts, and part-time faculty. Across the disciplines, women with early babies are more likely than those who have late or no babies to be part of the neck rather than the head.

Women with late or no children are found in this second tier at lower rates than those who experience early family formation. But although they are more successful than women with early babies, such women still lag behind men. Men across the disciplines are more likely to be tenured faculty, and less likely to part of the second tier. This suggests that babies are not completely responsible for the gender gap, and that there are other factors at work, perhaps including the thousand paper cuts of discrimination.

#### Decision Making

The SDR data reveal large-scale trends over time. The question then arises, how do people make career decisions, and at what point? To answer this question, we analyzed data from a survey of the attitudes of more than 800 postdoctoral fellows at Berkeley in the year 2000.

Most postdoctorates surveyed were in the biological and physical sciences, with a few in the social sciences. About 35 percent were women; and of these, 32 percent already had at least one child. The majority of those surveyed, both men and women, were married. Within this group, many of whom were in the beginning of their family formation cycle, we found a wide range of responses to issues of family and
future career path.

Fifty-nine percent of married women with children indicated they were considering leaving academia. Married women with children were far more likely than others to cite children as one of the reasons they changed their career goals away from academia, and they were the most likely to indicate that balancing career and family was a source of high stress for them. Such women worked significantly fewer hours per week in the laboratory (averaging a little over forty hours per week in comparison to more than fifty hours a week for the other groups) and presented research findings at far fewer national conferences (45 percent of married women with children did not present findings at national conferences in the last year in comparison to only 24 percent of other groups). With these performance indicators you can imagine that their mentors, professors, and others would be less likely to recommend them for research university positions.

Married women without children also expressed more ambivalence than their male counterparts about remaining in academia, often mentioning location as an important factor in their decision making. The dual-career dilemma is more of a problem for women than men, since, as other studies have established, most women academics are married to men with advanced degrees, and most academic men are not married to women with advanced degrees.

Single women without children were also more likely than men to consider leaving academia. There was less of a predictable pattern here, but some such women mentioned social isolation as a negative factor. Bench laboratory science, the chosen specialty of most of these postdocs, can be very isolating—postdocs may meet few people outside of their laboratory. This is the group of women that is most likely to achieve tenure; but its members are also more likely than single men to remain single. All three groups of women expressed concerns about mentoring, and 32 percent of women were dissatisfied with their relationships with their mentors in comparison to 18 percent of men.

Policy Considerations

What do these findings mean for graduate students and for young faculty? Do they show that men can have babies, but women can't? That early babies are the academic kiss of death for women? Do they tell men that it is good for their careers to have children early?

There is a danger that these findings could help to revive the old saw that ruled the academy for most of history: "Don't waste your time on women graduate students—they will only have babies and drop out." Large numbers of academic women are clearly already getting that message—they are not marrying and they are not having children, while men are.

We have done a better job of opening up the competition to women than we have of leveling the playing field. Merely opening up graduate education is not enough to assure equal opportunity in the long run for those women who choose to have children. Policy recommendations must focus on all three levels of the body: the faculty head, the part-time and adjunct neck, and the staff torso. While the recommendations are different for each body part, the common theme is time. Raising children takes time and only an accommodation to that basic fact can ultimately allow women to achieve their career goals.

RECOMMENDATIONS FOR HEAD PROBLEMS

Recently, the AAUP offered an important policy statement on principles of family responsibilities and academic work, which expresses concern that junior faculty, especially women, sometimes have a hard time in the probationary period before tenure—the years of struggle as an assistant professor, which coincides with the time period in which many women have babies. The statement recommends leave policies, active service with modified duties, stopping the tenure clock for a maximum of two children, and other solutions primarily designed to address the fact that children, particularly babies, are very time consuming.

Our findings suggest additional recommendations for ladder-rank faculty both earlier and later in their
careers. A large proportion of women drop away before taking on a tenure-track job. They need to be counseled and supported much earlier, as graduate students, when they are making difficult decisions. Women face difficulties after achieving tenure as well, and they need support in taking full advantage of opportunities presented and in moving into leadership roles. As noted, women with Ph.D.’s are far more likely to marry men with advanced degrees than are men and in the early child-raising years women are far more likely to defer to a spouse’s career than are men. Therefore, accommodating two-career couples becomes an important “family friendly” policy.

More radically, we recommend that institutions both provide a part-time track for early child-raising years, with reentry rights to full-time, and discount "resume gaps," which indicate the candidate has been largely inactive for few years. These recommendations require a very different look at the linear career clock that has persisted, almost unchanged, in the face of a radical demographic gender shift.

**RECOMMENDATIONS FOR NECK PROBLEMS**

Virtually every four-year institution is supported in part by a cadre of mothers in non-ladder-rank positions. More and more they are teaching the undergraduate classes, and their temporary name cards can be found on office doors throughout the academy. Yet, for the most part, they are treated as if they are invisible, and almost all the debate about family-work conflict has focused on ladder-rank faculty. The second-tier issue is difficult because we would all like it to disappear. In the ideal academic world, all faculty are fully employed, perhaps with a flexible or reduced schedule, fully secure with tenure, and fully benefited. But we also know that those part-time and adjunct faculties are not going to disappear. The economics of the university dictate that the second tier is indispensable to most institutions.

Rather than ignoring the second tier, we should implement policy measures to relieve some of the problems faced by its members. Part-time and adjunct faculty often choose this track because it provides them with the flexibility and the time that ladder-rank faculty are not offered, and for some, it would be an acceptable career track if the problems of job security, benefits, and participation in the framing of the curriculum, and in the departmental and university community, could be resolved.

Accordingly, we recommend that non-ladder-rank positions consisting of half or more of a full-time teaching load should have full benefits, including family leave benefits. Employment should be secured by long-term contracts after an appropriate period. Non-ladder-rank faculty should be eligible to participate in departmental affairs, and should have their research and publication efforts recognized. Departments should adhere to regularized standards of appointment, review, and retention.

**RECOMMENDATIONS FOR TORSO PROBLEMS**

Efforts at developing a family-friendly university should include staff, the infrastructure upon which institutions function. Staff were not included in the scope of this study, but we do know that staff members are more likely to be female than male. We can also guess by observation that they may be more likely to be mothers than the tenured women. Staff are better protected in many ways than second-tier faculty. Usually they have full pay, benefits, and fairly good protection against arbitrary dismissals. But they lack one very important benefit that faculty and part-time women enjoy: flexibility. During the holidays, most academics will have a month or more when they do not have to be at the university and can attend to their families. Staff get days, not months, off from work each year. They share the lack of childcare with faculty, but they have no ability to organize their work lives around their children's school schedules. Staff with families, in universities and in all other institutions need more flexibility and more economic support for family matters, paid parental leave for childbirth and family illness, flexible hours, and subsidized childcare.

Finally, it is important to observe that the body problems introduced in this article are not unique to academia. The same small head, thick neck, and large hips would symbolize women's relative representation in most institutions. We know it represents most large law firms and hospitals, but further analysis would probably show that this imbalance exists in the Federal Bureau of Investigation, the Central Intelligence Agency, and the armed forces.
This article focuses on a very large social issue: how to deal fairly with the great majority of working
women who are also mothers. The academic world has some particular twists to it: its up-or-out system of
tenure and the fact that academics, more than most workers, cannot choose a place to live--they must go
where the job is. Yet most of the issues faced by academic workers are not unique to the academic world.
The academic world, however, in its role as the purveyor of enlightened ideals, is in a position to provide
a new model for the successful balance of work and family.

Note

The use of NSF data does not imply NSF endorsement of research methods or conclusions contained in
the report.

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By Mary Ann Mason and Marc Goulden

Mary Ann Mason is dean of, and Marc Goulden is a research analyst in, the graduate division of the
University of California, Berkeley.

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