



American Academy of Political and Social Science

Marriage and Baby Blues: Redefining Gender Equity in the Academy

Author(s): Mary Ann Mason and Marc Goulden

Reviewed work(s):

Source: *Annals of the American Academy of Political and Social Science*, Vol. 596, Mommies and Daddies on the Fast Track: Success of Parents in Demanding Professions (Nov., 2004), pp. 86-103

Published by: [Sage Publications, Inc.](#) in association with the [American Academy of Political and Social Science](#)

Stable URL: <http://www.jstor.org/stable/4127651>

Accessed: 30/10/2012 21:06

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Sage Publications, Inc. and *American Academy of Political and Social Science* are collaborating with JSTOR to digitize, preserve and extend access to *Annals of the American Academy of Political and Social Science*.

<http://www.jstor.org>

Marriage and Baby Blues: Redefining Gender Equity in the Academy

By
MARY ANN MASON
and
MARC GOULDEN

Traditionally, gender equity in the academy is evaluated in terms of women's professional success as compared to men's. This study examines gender equity not only in terms of professional outcomes but also in terms of familial outcomes, such as childbirth, marriage, and divorce. Using data from the Survey of Doctorate Recipients as well as data from a 2002 to 2003 survey of the work and family issues facing ladder-rank faculty in the nine campuses of the University of California system, the authors followed more than thirty thousand Ph.D.s in all disciplines across their life course and surveyed more than eighty-five hundred active University of California faculty. Results indicate that gender equity in terms of familial gains is as elusive as gender equity in terms of professional employment, raising the fundamental issue of what gender equity means in a university setting or in any fast-track employment setting.

Keywords: gender equity; academia; family; faculty

The traditional approach to issues of gender equity in the academy is to examine whether men and women have reached educational and employment parity, a fifty-fifty split, at each level of the academic enterprise. In recent years, the pipeline metaphor has been a popular way to depict the possible transitions from undergraduate matriculation to the achievement of full professor status (Camp 1997; Kulis, Sicotte, and Collins 2002; McBride 2002). Researchers concerned with problems in the pipeline to tenured faculty positions seek to determine, therefore,

Mary Ann Mason, JD, Ph.D., is dean of the Graduate Division and a professor in law and social welfare in the Graduate School of Social Welfare at the University of California, Berkeley. She publishes and lectures nationally on child and family law matters; the history of the American family and of childhood; and public policy issues related to work and family, child custody, children's rights, and stepfamilies. Among her publications are a major work on work/family issues, The Equality Trap, and two major works on child custody, From Father's Property to Children's Rights: A History of Child Custody in America and The Custody Wars: Why Children Are Losing the Legal Battles and What We Can Do about It. Currently, she is engaged in a major

DOI: 10.1177/0002716204268744

whether women disproportionately “leak out” of the pipeline at specific junctures (Cole and Zuckerman 1987; Ginther 2001; Jacobs 1996; Long 1990, 1992, 2001; Long, Allison, and McGinnis 1993; Perna 2001a, 2001b; Toutkoushian 1999; Valian 1998; Xie and Shauman 1998).

This approach has provided essential information to higher education policy makers and has led to the development of important policy interventions, particularly in the sciences. For example, the National Science Foundation’s (NSF’s) Advance Program seeks to aid women in pursuit of academic careers in the sciences (NSF 2002). The goal of this program is to facilitate women’s progression through the academic ranks, building the necessary mechanisms—mentorship programs, funding opportunities, and so forth—to keep women in the sciences in the pipeline.

In our earlier work, we have sought to quantify the problems in the academic pipeline for women. Specifically, we have sought to determine what the effects of family formation are on the academic careers of men and women Ph.D. recipients (Mason and Goulden 2002; Wolfinger, Mason, and Goulden 2004). More recently, we have focused on an equally important, but neglected, approach to gender equity issues: assessing the effect of academic careers on the family outcomes of male and female academics—marriage rates, fertility, and divorce (Goulden, Mason, and Wolfinger 2004). This recent analysis has led us to conclude that programs and policies that are designed to promote gender equity in academia must take into account family outcomes as a measure of gender equity.

Gender Equity Problems in the Academic Pipeline, from Baccalaureate Degree to Tenured Professor

In the past thirty-five years, women’s participation in undergraduate and graduate education has increased sharply and steadily. In 1966, women comprised 43 percent of bachelor’s degree recipients, 34 percent of master’s degree recipients, 5 percent of professional degree recipients, and 12 percent of doctorate degree recipients. In the academic year 2001-02, women constituted a clear majority of bachelor’s and master’s degree recipients, 57 and 59 percent, respectively; and were close to parity with men in the receipt of professional and doctorate degrees,

research study on the effects of family formation on the careers of men and women in the fast-track professions, the “Do Babies Matter?” study. She is also the co-principal investigator of a Sloan Foundation grant to implement family-friendly initiatives for ladder-rank faculty at the University of California.

Marc Goulden has a Ph.D. in social history and a background in life-course analysis. As a full-time academic researcher with the Graduate Division of the University of California, Berkeley, his work focuses on national research and policy issues related to graduate education and academia in general. He is also a coauthor of the “Do Babies Matter?” study as it relates to academic women and men.

constituting 46 and 45 percent of recipients, respectively (National Center for Education Statistics 2003a). Moreover, women now represent half of the full-time enrolled students in law schools and medical schools and at least half in doctoral programs in the life sciences, social sciences, and humanities (National Center for Education Statistics 2003b). Even in traditionally male-dominated fields such as the physical sciences and engineering, the representation of women has grown dramatically (NSF 2003).

Although women's obvious progress in the area of educational achievement is heartening, a less encouraging picture emerges if we examine the employment rates of men and women in the professorate. For example, in 1999, the most recent year of available data, women were just 29 percent of tenured faculty in the United States (National Center for Education Statistics 2001). At our institution, the University of California (UC), Berkeley, the situation is even less encouraging—women made up just 23 percent of tenured faculty in 2002, 259 out of the 1,126 associate and full professors (UC 2004).

One proposed explanation for why women have failed to progress to the upper ranks of academia is the rigid structure of the American workplace. The employment structures of the professions, proponents of this explanation argue, are configured for the typical male career of the nineteenth century, in which the man in the household was the single breadwinner and the woman was responsible for raising the children. According to this explanation, such rigid employment structures force women to choose between work and family. Rather than blatant discrimination against women, it is the long work hours and the required travel, precisely at the time when most women with advanced degrees have children and begin families, that force women to leave the fast-track professions (Crittenden 2002; Hochschild 1989, 1997; Mason 1988/2000; Williams 2000).

Many studies have shown that women have less time to devote to their careers than men because of domestic and caregiving responsibilities (Hochschild 1989; Press and Townsley 1998; Robinson 1988; Shelton and John 1996). Gary Becker (1991) has argued that the resources needed to meet professional responsibilities conflict directly with those needed for home duties. And more recent research confirms that this conflict extends to academics (Gatta and Roos 2002), with female professors spending considerably more time on domestic chores than their male counterparts (Suitor, Mecom, and Feld 2001).

Data Sources

With data from the Survey of Doctorate Recipients (SDR) (National Science Foundation 2004) and the University of California Faculty Work and Family Survey (Mason, Stacy, and Goulden 2003), we have tested the explanatory value of the work-family conflict explanation as it relates to career achievement in academia and problems in the pipeline to tenure for women.¹ What is more, these data sources have allowed us to do the opposite analysis: examine the effects of aca-

demographic careers on familial outcomes of men and women doctoral recipients and ladder-rank faculty at the UC.

The SDR is a national biennial longitudinal study of U.S. doctoral recipients funded by NSF and others that started in 1973 and continues today (NSF 2004). For each biennial survey, the SDR includes (1) a nationally representative subsample of Ph.D. recipients drawn from the Survey of Earned Doctorates (SED), roughly 10 percent of the SED survey population; and (2) all individuals previously included in earlier SDR survey cycles who are younger than seventy-six years of age and live in the United States (NSF 1999). The overall response rate is high—nearly 87 percent of the surveyed population completed the survey in 1991 (NSF 1995); and to date, more than 160,000 doctoral recipients have participated in the study. Starting in 1981, the SDR included questions about both marriage and children younger and older than age six living in the household (Clark 1994). Thus, data from the SDR, since 1981, provide a full picture of career and family patterns over the life cycle and allow us to identify characteristics associated with career issues and family patterns and to measure their importance.

Our second data source, the University of California Faculty Work and Family Survey, includes the survey responses of 4,459 ladder-rank faculty who were working at one of the nine active UC campuses during the time of survey (Fall-Winter 2002-03 for UC Berkeley and Spring-Summer 2003 for the other eight active UC campuses). The fourteen-page survey focused on professional and family history, use of family-friendly policies, and work and family experiences while working as a faculty member at the UC (Mason, Stacy, and Goulden 2003). A total of 8,705 ladder-rank faculty with valid e-mail addresses were surveyed, with a 51 percent response rate. The results provide valuable information about work hours of UC faculty respondents, birth histories, attitudes toward childbirth, and issues of work and family conflict that augments our data findings from the SDR.

Assessing Family Formation Effects on the Tenure Rates of Men and Women Ph.D.s

In our initial analysis of data from the SDR, we sought to test the effect of children younger than six in the household at the time of career formation (up to five years post-Ph.D.), which we refer to as “early babies,” upon the academic career progression of men and women doctorate recipients. We controlled broadly for discipline by conducting separate cohort analyses of Ph.D. recipients in (1) the sciences and (2) the social sciences and humanities. Among Ph.D. recipients from 1978 to 1984 who were still working in academia twelve to fourteen years out from Ph.D., we found that tenure rates for men with early babies in both the sciences and the social sciences and humanities were considerably higher (77 and 78 percent, respectively) than were the tenure rates of women with early babies in both the sciences and social sciences (53 and 58 percent, respectively). This finding led us to speculate that women with early babies were being pushed into, or choosing,

second-tier jobs in academia (non-tenure track, part-time, and other similar positions) because of their family situation (Mason and Goulden 2002).

We also found that in both the sciences and the social sciences and humanities, women who had “late babies”—that is, the first child younger than six entering the household five or more years post-Ph.D.—or who had no children had somewhat higher tenure rates twelve to fourteen years out from Ph.D. than did women with early babies (65 and 71 percent, respectively). The tenure rates of women with late or no babies were still lower, however, than the tenure rates of men with early babies. We concluded, therefore, that gender-family effects were in part responsible for the lower tenure rates of women (Mason and Goulden 2002).

Rather than blatant discrimination against women, it is the long work hours and the required travel, precisely at the time when most women with advanced degrees have children and begin families, that force women to leave the fast-track professions.

To better test the validity of gender-family effects in accounting for women’s lower rates of tenure achievement, we conducted a second series of analyses that were expressly designed to assess the exact location at which women Ph.D.s were leaking out of the pipeline to tenure (Wolfinger, Mason, and Goulden 2004). Using discrete-time event history analyses (Allison 1995), we modeled the effects of gender and family on the likelihood of individuals leaking out of the pipeline (1) from Ph.D. receipt to tenure-track job entry and (2) from tenure-track job entry to the receipt of tenure. Our analyses controlled for broad disciplinary field differences in sciences, social sciences, and humanities; age; ethnicity; Ph.D. calendar year; time-to-Ph.D. degree; and National Research Council (NRC) Ph.D. degree program reputation ranking (Wolfinger, Mason, and Goulden 2004).

Our findings from the second series of analyses provided us with a clearer understanding of the effects of gender and family on the pipeline to tenure for women and men academics. Specifically, we found significant interactions between gender and children younger than six in the household and between gender and marriage in estimating the likelihood of Ph.D.s entering a tenure-track position. Women with children younger than six were the least likely of all groups to secure a ladder-rank faculty position. In contrast, married men with children youn-

ger than six were the most likely of all groups to secure a tenure-track position. Married women without children younger than six were a little less likely than married men without children younger than six to enter a tenure-track job. And single women without children younger than six were a little more likely than single men without children younger than six to enter the ladder ranks. Thus, gender-family interactions are associated with the greater likelihood of women leaking out at the Ph.D. receipt to tenure-track entry stage (Wolfinger, Mason, and Goulden 2004).

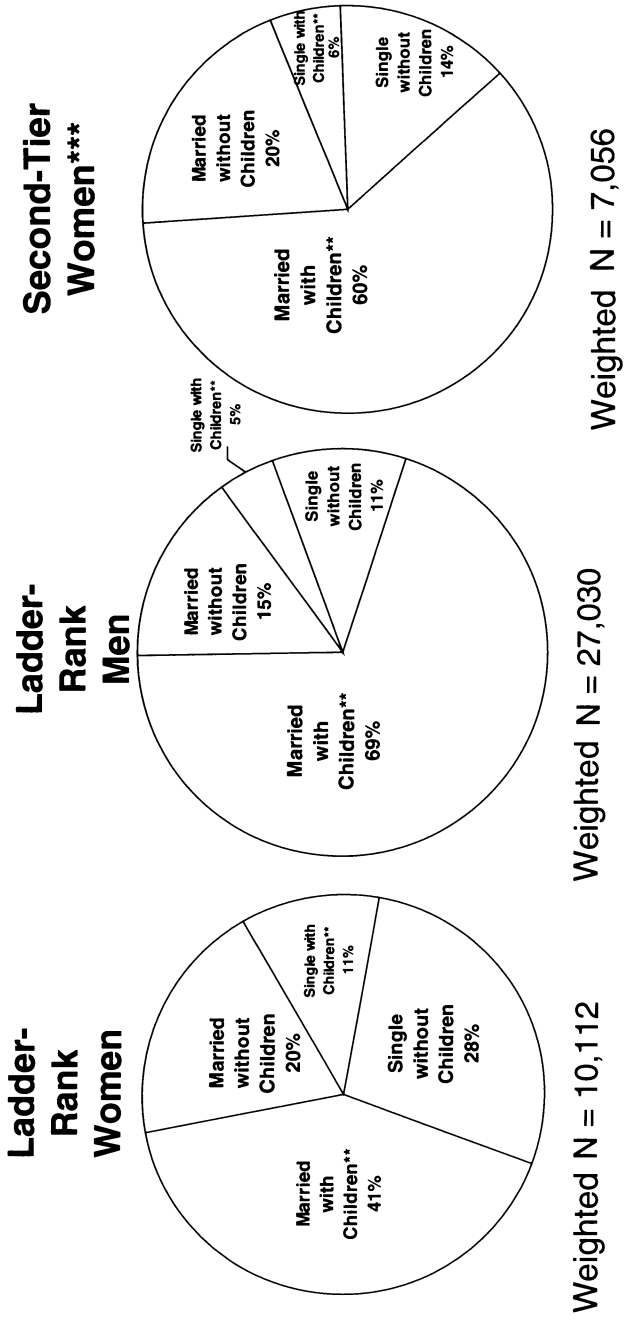
When we tested statistically the relationships between gender-family interactions and movements through the portions of the pipeline from tenure-track job entry to tenure achievement, we found neither a “baby penalty” nor a “marriage penalty” for women. Rather, women were less likely than men, regardless of marriage or the presence of children younger than six in the household, to achieve tenure. Thus, we concluded that babies and marriage account for why women Ph.D.s disproportionately leak out of the pipeline prior to entering a tenure-track position; but these family effects do not explain completely why women, after securing a tenure-track position, are more likely than men to leave prior to achieving tenure (Wolfinger, Mason, and Goulden 2004).

Assessing the Effect of Academic Careers on Family Formation of Men and Women Ph.D.s

A great deal of scholarship analyzes the effects of gender and family on the academic career outcomes of men and women; considerably less research has been devoted to measuring the impact of academic careers on the family formation patterns of men and women. Women faculty have been observed to have overall lower rates of marriage and to have fewer children or dependents in the household than men faculty (Perna 2001a, 2003). But if they do marry, women academics are more likely than men to marry fellow academics, leading to the speculation that women academics are more likely to be professionally limited by dual-career couple constraints than are men (Astin and Milem 1997). There is also evidence that women faculty worry about the impact of family formation, particularly children, on their academic careers and that they may forgo or delay childbirth or time their births to occur during the summer months to avoid negative career consequences (Armenti 2004; Finkel and Olswang 1996). Delaying childbirth, however, can have adverse fertility consequences (Varner 2000).

With data from the SDR, we follow the cohort of Ph.D.s awarded between 1978 and 1983 and observe differences in the family status of men and women at different points after receipt of the Ph.D. by current employment situation. Figure 1 shows the family status of ladder-rank faculty women twelve years out from Ph.D. and the family status of two reference groups, ladder-rank faculty men and second-tier women—women Ph.D.s working in non-tenure-track faculty positions, working in part-time positions, or not working. Although a clear majority of ladder-rank faculty men, 69 percent, and second-tier women, 60 percent, are married with

FIGURE 1
FAMILY STATUS TWELVE YEARS OUT FROM PH.D.^o



SOURCE: Survey of Doctorate Recipients, Science and Humanities, 1979-95 (National Science Foundation 2004).
^oPh.D.s from 1978 to 1983 who are ladder-rank faculty twelve years out from Ph.D.
^{**}Had a child in the household at any point post-Ph.D. to twelve years out.
^{***}Non-tenure track, part-time, or not working.

children (that is, currently married and having had children younger than eighteen in the household at some point after Ph.D. receipt), a minority of ladder-rank faculty women are married with children, 41 percent. Ladder-rank faculty women, in contrast, are more likely than both ladder-rank men and second-tier women to be single without children (28, 11, and 14 percent, respectively) and to be single with children (11, 5, and 6 percent, respectively). These findings suggest that men and women ladder-rank faculty have very different family formation patterns; it also shows that second-tier women are more similar to ladder-rank faculty men than they are to ladder-rank faculty women in their family patterns.

*More recent cohorts may be postponing fertility
until their careers are more firmly established.*

Additional analyses using a larger cohort of Ph.D.s, all those with degrees awarded between 1978 and 1994, confirm that ladder-rank faculty women are different from ladder-rank men and second-tier women in their post-Ph.D. family formation patterns. Using logistic regression and controlling for broad disciplinary field, age, ethnicity, year Ph.D. awarded, time to Ph.D. degree, and program reputational ranking² (see Table 1), we find that women who are appointed as ladder-rank faculty within three years of receiving their Ph.D.s have a 50 percent lower probability of being married than do men and a 52 percent lower probability than do women appointed to second-tier positions.³ These same ladder-rank faculty women also have a 61 percent lower probability of having a child younger than six in their households than do ladder-rank men and a 65 percent lower probability than do second-tier women.⁴ In contrast, ladder-rank faculty women have a 144 percent greater probability of being divorced than do ladder-rank men and a 75 percent greater probability than do second-tier women.⁵

Based on a discrete-time event history analysis estimated with a complementary log-log regression (Allison 1995, 216-19) (see Table 2), we find that the probability of single women who are in ladder-rank positions within three years of receiving their Ph.D.s subsequently getting married is 32 percent lower than that of single ladder-rank men and 35 percent lower than that of single second-tier women.⁶ Similarly, these same ladder-rank faculty women without children younger than six have a 35 percent lower probability of subsequently having a child younger than six enter their households than do ladder-rank men and a 61 percent lower probability than do second-tier women.⁷ If these same ladder-rank faculty women are married within three years of their Ph.D.s, they are at a 35 percent greater risk of becoming divorced than are married ladder-rank men and at a 99 percent greater risk than are married second-tier women.⁸

TABLE 1
 LOGISTIC REGRESSION OF MARRIED, CHILDREN YOUNGER THAN SIX IN
 HOUSEHOLD, AND DIVORCED AT TIME OF CAREER FORMATION^a

	Married	Child Younger than Six	Divorced
Female	.64****	.68****	-.16
Employment status			
Ladder-rank faculty	.61****	.55****	-.49***
Second tier ^a	—	—	—
Other full-time	.40****	.37****	-.22
Female × Ladder-Rank Faculty	-1.34****	-1.61****	
1.05****			
Female × Second Tier ^b	—	—	—
Female × Other Full-Time	-1.15****	-1.59****	
.80****			
Ethnicity			
White	—	—	—
African American	-.31****	.23**	.20
Asian American	.53****	.45****	—
.91****			
Latino	.07	.10	.04
Other/unknown	.17*	.06	-.11
Age	.02****	-.07****	
.07****			
Year Ph.D. received	.00	-.01***	.01
Discipline			
Sciences	—	—	—
Social sciences	-.12***	-.11**	
.38****			
Humanities	-.19****	-.22****	.13
Rank of graduate program			
Best quartile	—	—	—
Second quartile	.15***	.25****	.10
Third quartile	.20****	.31****	.09
Worst quartile	.28****	.21**	-.17
Program unranked	.29****	.23***	-.10
Field not ranked	.20***	.28****	-.15
Time to degree			
Fastest quartile	—	—	—
Second quartile	.10**	.34****	-.07
Third quartile	.32****	1.00****	.04
Slowest quartile	.36****	1.01****	.02
Data missing	.36***	.70****	.03
Constant	-5.51	23.38***	-24.07
Log-likelihood	-18,949.86	-16,221.10	-6,249.55

NOTE: Analyses are weighted. $n = 30,874$ for married, 27,870 for child younger than six, and 30,874 for divorced.

The data reported in Tables 1 and 2 also show that women Ph.D.s who are working full-time in other professional (nonfaculty) positions also experience lower

TABLE 2
 DISCRETE-TIME EVENT HISTORY ANALYSES OF GETTING MARRIED,
 HAVING A CHILD YOUNGER THAN SIX, AND GETTING DIVORCED
 AFTER TIME OF CAREER FORMATION^a

	Getting Married	Having a Child Younger than Six	Getting Divorced
Female	.46 ^{oo}	1.07 ^{oooo}	-.39
Employment status			
Ladder-rank faculty	.42 ^{ooo}	.56 ^{oooo}	.00
Second tier ^b	—	—	—
Other full-time	.40 ^{ooo}	.55 ^{oooo}	-.23
Female × Ladder-Rank Faculty	-.85 ^{oooo}	-1.50 ^{oooo}	.69 ^{oo}
Female × Second Tier ^b	—	—	—
Female × Other Full-Time	-.85 ^{oooo}	-1.35 ^{oooo}	.81 ^{ooo}
Ethnicity			
White	—	—	—
African American	-.20	-.04	.10
Asian American	.25 ^{oo}	.28 ^{ooo}	-.54 ^{oo}
Latino	-.11	.13	.32
Other/unknown	-.06	-.14	-.05
Age	-.04 ^{oooo}	-.10 ^{oooo}	.01
Year Ph.D. received	.01	.03 ^{oooo}	-.03 ^{ooo}
Discipline			
Sciences	—	—	—
Social sciences	-.04	.05	.18 ^o
Humanities	-.05	-.30 ^{ooo}	.06
Rank of graduate program			
Best quartile	—	—	—
Second quartile	.09	.00	.11
Third quartile	.05	.08	.18
Worst quartile	-.15	-.02	.11
Program unranked	.08	.03	.22
Field not ranked	-.08	-.00	.39 ^{ooo}
Time to degree			
Fastest quartile	—	—	—
Second quartile	.14 ^o	.22 ^{ooo}	.27 ^{oo}
Third quartile	.13	.29 ^{ooo}	.27 ^{oo}
Slowest quartile	-.06	-.06	.23
Data missing	.36	.52 ^{oo}	-.31
Constant	-20.88	-64.86 ^{oooo}	56.24 ^{ooo}
Log-likelihood	-72,695.43	-96,378.11	-63,430.87

NOTE: Analyses are weighted. $n = 6,366$ for getting married (12,700 people biennial increments), 11,161 for having child younger than six (22,325 biennial increments), and 16,770 for getting divorced (39,507 biennial increments).

a. At time of first Survey of Doctorate Recipients survey, within three years of Ph.D. receipt.

b. Working in non-tenure-track faculty positions, part-time employment, or not working.

^o $p < .10$. ^{oo} $p < .05$. ^{ooo} $p < .01$. ^{oooo} $p < .001$.

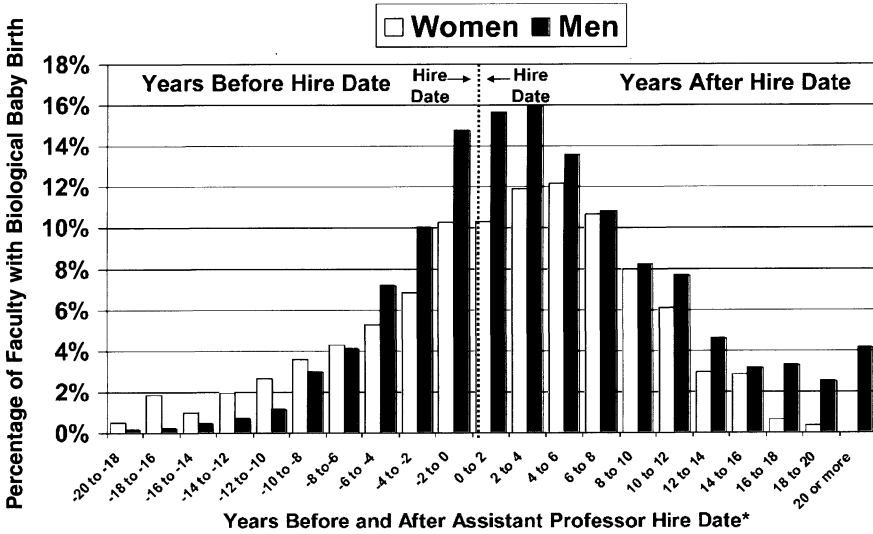
rates of marriage and fertility and higher rates of divorce than do ladder-rank faculty men, men employed in other jobs, and second-tier women. The effects of ladder-rank faculty positions on the family patterns of women Ph.D.s are not unique; other fast-track professional jobs have the same types of effects on the family outcomes of Ph.D. women. We observe, too, that Ph.D. recipients from lower-prestige programs and programs in the sciences and those taking a longer time to complete their degree show higher rates of marriage and children younger than six in their households within three years of their Ph.D.s than do individuals from higher-ranked programs, degree recipients in the social sciences and humanities, and faster degree completers, respectively. Asian American Ph.D. recipients consistently have higher rates of marriage and fertility and lower rates of divorce than do other ethnic groups. And there is evidence of a cohort shift in the fertility patterns of Ph.D. recipients, with more recent Ph.D. recipients showing lower rates of children younger than six in the household within three years of their degrees but higher subsequent rates of having children enter their households. More recent cohorts may be postponing fertility until their careers are more firmly established. These findings are discussed in greater detail in Goulden, Mason, and Wolfinger (2004).

Birth history data from the University of California Faculty Work and Family Survey provide further evidence that faculty men and women have different fertility patterns. As part of the survey, we asked respondents to provide us with the month and year of up to four children entering their household and their relationship to the child, biological or otherwise. Comparing the timing and rate of birth events in relationship to assistant professor start date for all UC faculty respondents, we observe clear differences in the fertility histories of UC men and women faculty. UC faculty women are more likely to have children prior to entry into graduate school or early on in their years of graduate school (see Figure 2). UC faculty men are considerably more likely than UC faculty women to have new babies at the critical time of career formation, from four years before to four years after assistant professor hire date. Moreover, from six years before hire date to twenty or more years after hire date, UC faculty men are more likely to have babies than are UC faculty women.

By taking the same birth history data and fixing it to respondent's age at birth of children, the differences in fertility patterns of UC women and men faculty are even clearer (see Figure 3). From age twenty-two to thirty-six, UC faculty men are more likely than UC faculty women to have babies. Women faculty, however, are more likely to have babies from age thirty-six to forty. This suggests that UC faculty women may be delaying childbirth until their mid- to late thirties. After age forty, men faculty are again more likely to have biological babies than are women faculty, no doubt because of biological constraints that disproportionately affect women after the age of forty.

Although many UC faculty women may have made a conscious decision to delay childbirth until their mid- to late thirties for career reasons, the longer-term consequences of doing so may not be readily apparent to aspiring faculty. Among faculty beginning their careers without children, the SDR data indicate that women lad-

FIGURE 2
 FERTILITY RATES OF UNIVERSITY OF CALIFORNIA FACULTY
 IN PURSUIT OF TENURE



SOURCE: University of California Faculty Work and Family Survey (Mason, Stacy, and Goulden 2003).

NOTE: N = 2,340 men and 982 women.

*Year 0 represents assistant professor hire date.

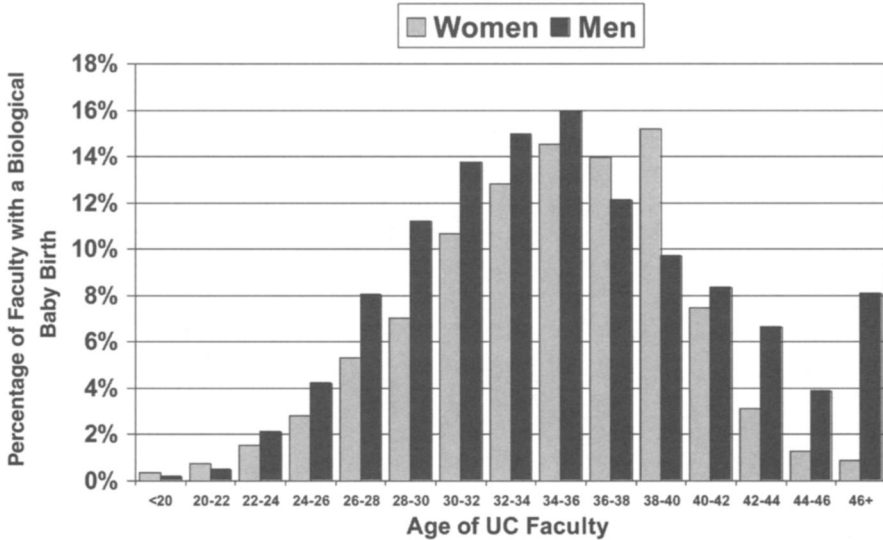
der-rank faculty are less likely than men ladder-rank faculty to have children enter the household (30 percent in comparison to 50 percent, respectively) within twelve years of their hire.

UC faculty women are also more likely than UC faculty men to indicate that they had fewer children than they wanted to have. As seen in Table 3, 40 percent of UC faculty women aged forty to sixty indicate that they had fewer children than they wanted to have in comparison to 20 percent of UC faculty men aged forty to sixty. Among both men and women faculty, but particularly women faculty, individuals who had one child were the most likely to indicate that they had fewer children than they wanted, 42 and 64 percent, respectively. Thus, we observe that women faculty throughout the United States are less likely to have children than are men faculty, and UC faculty women are more likely than UC faculty men to indicate, after the age of likely fertility, that they had fewer children than they wanted.

Work and Family Conflict

Although there may be many reasons that ladder-rank women faculty forgo or delay childbirth, data from the University of California Faculty Work and Family

FIGURE 3
 BIOLOGICAL BABY BIRTHS BY AGE OF UNIVERSITY OF CALIFORNIA FACULTY



SOURCE: University of California Faculty Work and Family Survey (Mason, Stacy, and Goulden 2003).

NOTE: N = 2,809 men and 1,095 women.

Survey concerning total hours worked each week by faculty provide evidence that faculty mothers face what Arlie Hochschild (1997) referred to as a time bind. Among UC faculty aged thirty to fifty, women faculty with children self-report an average total of 101 hours per week engaged in professional, housework, and caregiving activities; men faculty with children report an average of 88 hours per week engaged in these activities; and men and women faculty without children report an average of 78 hours per week (see Figure 4). Caregiving activities take up a substantial portion of the time that women faculty with children devote to these activities, 35 percent of total hours, possibly to the detriment of their professional careers as seen in the lower number of hours, 51, that they report doing professional work each week.

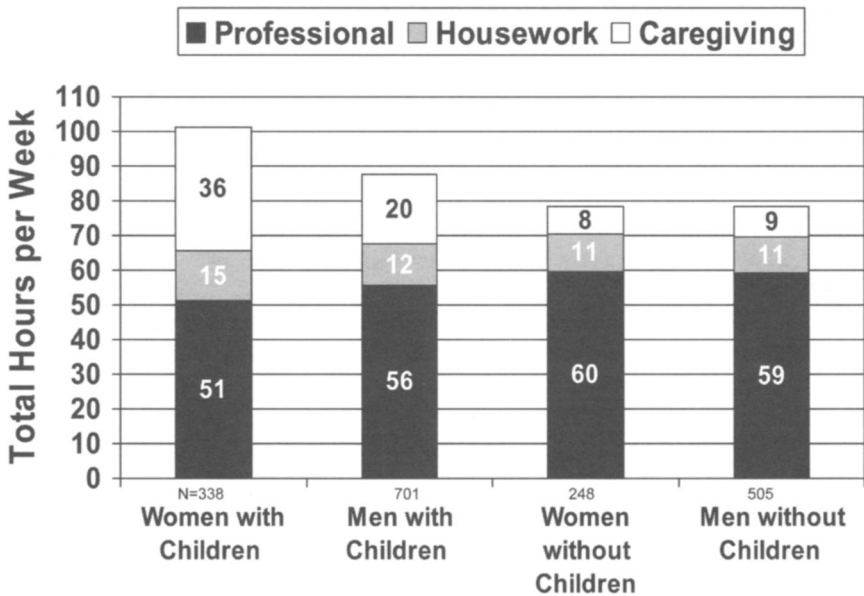
UC faculty women with children are also more likely than UC faculty men to indicate they experience a great deal of tension or stress in their parenting as a result of certain work activities. As seen in Table 4, women with children are more likely than men with children to identify work activities that involve travel, field-work, conferences, and the time-consuming activity of writing and publishing as causes of stress in regard to their parenting. With the higher number of hours worked each week and greater parental stress as a result of work activities, UC faculty women with children seem to carry a heavier load than do UC faculty men and experience greater conflict in balancing professional and parenting demands.

TABLE 3
PERCENTAGE OF UNIVERSITY OF CALIFORNIA FACULTY, AGED FORTY TO SIXTY, INDICATING THEY HAD FEWER CHILDREN THAN THEY WANTED TO BY GENDER AND NUMBER OF CHILDREN

	<i>n</i>	%
Men		
No children	424	22
One child	239	42
Two children	514	13
Three or more children	236	8
All	1,413	20
Women		
No children	205	34
One child	153	64
Two children	224	32
Three or more children	50	24
All	632	40

SOURCE: University of California Faculty Work and Family Survey, 2002-03 (Mason, Stacy, and Goulden 2003).

FIGURE 4
UNIVERSITY OF CALIFORNIA FACULTY, AGED THIRTY TO FIFTY, SELF-REPORTED HOURS PER WEEK ENGAGED IN PROFESSIONAL WORK, HOUSEWORK, AND CAREGIVING



SOURCE: University of California Faculty Work and Family Survey (Mason, Stacy, and Goulden 2003).

TABLE 4
**PERCENTAGE OF UNIVERSITY OF CALIFORNIA FACULTY
 PARENTS EXPERIENCING A GREAT DEAL OF TENSION OR STRESS
 IN THEIR PARENTING AS A RESULT OF SELECTED
 WORK OBLIGATIONS, BY GENDER**

	Doing Fieldwork or Field Research Away from Home		Writing and Publishing		Attending Conferences or Giving Conference Papers	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Women with children	455	47	660	48	662	46
Men with children	1,148	27	1,782	29	1,772	22

SOURCE: University of California Faculty Work and Family Survey, 2002-03 (Mason, Stacy, and Goulden 2003).

Redefining Gender Equity

Our findings raise a host of cause-and-effect questions about family formation and academic success and the effect of academic careers on family formation. Although economists have asserted that there is a relationship between fertility and women’s labor force participation, they have offered little consensus about the nature of causality (for an overview, see Macunovich 1996). Our first set of results relating to the pipeline to tenure shows that women may be more successful in obtaining academic careers if they forgo or delay marriage and childbirth.

Our second set of results relating to the effect of academic careers on family formation shows that women who successfully pursue ladder-rank faculty careers are quite different in their patterns of family formation from men who achieve ladder rank and also from women who drop out of the pipeline to tenure: ladder-rank faculty women are less likely to marry and have children and are more likely to divorce. We cannot determine with certainty the cause-and-effect relationships between these decisions. Women may be making conscious decisions to forgo or delay family formation to better their careers. Women may be choosing to drop out of the pipeline to marry, have children, or avoid divorce. Women who are dissatisfied with their rates of academic progress may be more likely subsequently to marry, have children, or stay married. Women may be forgoing academic careers or family formation for other reasons. We do know, however, that this pattern of low marriage and birth rates among many academic women is sharply at odds with the fact that most Americans desire both marriage and children (Thornton and Young-DeMarco 2001).

The life-course approach that we have taken in this article suggests that gender equity in terms of familial gains and losses is as unbalanced as gender equity in terms of professional gains, raising the fundamental issue of what gender equity means in a male-dominated profession. Thirty-odd years after the second-wave

feminist revolution, equality in the workplace remains more of an aspiration than a reality. Yet the data presented above suggest that women, as compared to men, have significantly different family formation patterns when they pursue that elusive goal. Women aiming for high position in the professional academic world do not marry and have children in their early twenties, as their mothers did. They may be delaying these commitments because they consider a good boost up the career ladder the prudent preface to family formation. Meanwhile, in focusing solely on professional outcomes as the measure of gender equality, scholars have failed to acknowledge that the gap between the family outcomes of men and women, as measured by marriage, children, and divorce, is as wide as the gap in employment.

Notes

1. The Survey of Doctoral Recipients is sponsored by the National Science Foundation (NSF), the National Institutes of Health, and others for the sciences (including social sciences), and the National Endowment for the Humanities up through 1995. The use of NSF data does not imply NSF endorsement of research methods or conclusions contained in this report. Special thanks is due to the Association of Institutional Researchers and Alfred P. Sloan Foundation for funding our research.

2. Rankings are based on the National Research Council's ranks as reported in Goldberger, Maher, and Flattau (1995).

3. These probabilities can be computed from the Table 1 coefficients as follows: $50 = 100 \times [1 - \exp(0.64 - 1.34)]$ and $52 = 100 \times [1 - \exp(0.61 - 1.34)]$.

4. Computed as $61 = 100 \times [1 - \exp(0.68 - 1.61)]$ and $65 = 100 \times [1 - \exp(0.55 - 1.61)]$.

5. Computed as $144 = 100 \times [1 - \exp(1.05 - 0.16)]$ and $75 = 100 \times [1 - \exp(1.05 - 0.49)]$.

6. Computed as $32 = 100 \times [1 - \exp(0.46 - 0.85)]$ and $35 = 100 \times [1 - \exp(0.42 - 0.85)]$.

7. Computed as $35 = 100 \times [1 - \exp(1.07 - 1.50)]$ and $61 = 100 \times [1 - \exp(0.56 - 1.5)]$.

8. Computed as $35 = 100 \times [1 - \exp(0.69 - 0.39)]$ and $99 = 100 \times [1 - \exp(0.69)]$.

References

- Allison, Paul D. 1995. *Survival analysis using the SAS system: A practical guide*. Cary, NC: SAS Institute, Inc.
- Armenti, Carmen. 2004. May babies and posttenure babies: Maternal decisions of women professors. *Review of Higher Education* 27:211-31.
- Astin, Helen S., and Jeffrey F. Milem. 1997. The status of academic couples in U.S. institutions. In *Academic couples*, edited by M. A. Ferber and J. W. Loeb, 128-55. Urbana: University of Illinois Press.
- Becker, Gary S. 1991. *A treatise on the family*. Cambridge, MA: Harvard University Press.
- Camp, Tracy. 1997. The incredible shrinking pipeline. *Communications of the ACM* 40:103-10.
- Clark, Sheldon B. 1994. Variations in item content and presentation in the survey of doctorate recipients, 1973-1991. Working Paper, National Science Foundation, Washington, DC.
- Cole, Jonathan R., and Harriet Zuckerman. 1987. Marriage, motherhood and research performance in science. *Scientific American* 255:119-25.
- Crittenden, Ann. 2002. *The price of motherhood: Why the most important job in the world is still the least valued*. New York: Owl Books.
- Finkel, Susan Kolker, and Steven G. Olswang. 1996. Child rearing as a career impediment to women assistant professors. *Review of Higher Education* 19:129-39.
- Gatta, Mary L., and Patricia A. Roos. 2002. Balancing without a net in academia: Integrating family and work lives. Manuscript, Center for Women and Work, Rutgers University, New Brunswick, NJ.
- Ginther, Donna. 2001. Does science discriminate against women? Evidence from academia, 1973-97. Working Papers 2001-2002. Atlanta, GA: Federal Reserve Bank of Atlanta.

- Goldberger, Marvin L., Brendan A. Maher, and Pamela Ebert Flattau, eds. 1995. *Research doctorate programs in the United States: Continuity and change*. Washington, DC: National Academy Press.
- Goulden, Marc, Mary Ann Mason, and Nicholas Wolfinger. 2004. Alone in the ivory tower: The hidden cost of academic success for women. Manuscript.
- Hochschild, Arlie (with Anne Machung). 1989. *The second shift*. New York: Avon Books.
- Hochschild, Arlie. 1997. *The time bind: When work becomes home and home becomes work*. New York: Metropolitan Books.
- Jacobs, Jerry. 1996. Gender inequality and higher education. *Annual Review of Sociology* 22:153-85.
- Kulis, Stephen, Diane Sicotte, and Shawn Collins. 2002. More than a pipeline problem: Labor supply constraints and gender stratification across academic science disciplines. *Research in Higher Education* 43:657-91.
- Long, J. Scott. 1990. The origins of sex differences in science. *Social Forces* 68:1297-316.
- . 1992. Measures of sex differences in scientific productivity. *Social Forces* 71:159-78.
- , ed. 2001. *From scarcity to visibility: Gender differences in the careers of doctoral scientists and engineers*. Washington, DC: National Academy Press.
- Long, J. Scott, Paul D. Allison, and Robert McGinnis. 1993. Rank advancement in academic careers: Sex differences and the effects of productivity. *American Sociological Review* 58:703-22.
- Macunovich, Diane J. 1996. Relative income and price of time: Exploring their effects on US fertility and female labor force participation. *Population and Development Review*, suppl.: "Fertility in the United States: New Patterns, New Theories," 22:223-57.
- Mason, Mary Ann. 1988/2000. *The equality trap*. Somerset, NJ: Transaction Books.
- Mason, Mary Ann, and Marc Goulden. 2002. Do babies matter? The effect of family formation on the lifelong careers of academic men and women. *Academe* 88 (6): 21-27.
- Mason, Mary Ann, Angelica Stacy, and Marc Goulden. 2003. *The UC faculty work and family survey*. <http://ucfamilyedge.berkeley.edu/workfamily/htm>.
- McBride, Helen. 2002. The academic pipeline is a choice, not an obligation. *Science: Next Wave*, July 19. <http://nextwave.sciencemag.org/cgi/content/full/2002/07/16/7>.
- National Center for Education Statistics (NCES). 2001. *The Integrated Postsecondary Education Data System (IPEDS) Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey*. Washington, DC: NCES.
- . 2003a. *The Integrated Postsecondary Education Data System (IPEDS) Completions Survey*. Washington, DC: NCES.
- . 2003b. *The Integrated Postsecondary Education Data System (IPEDS) fall enrollment*. Washington, DC: NCES.
- National Science Foundation (NSF). 1995. Changes to the survey of doctorate recipients in 1991 and 1993: Implications for data users. Presentation to the National Science Foundation, April 12.
- . 1999. *Characteristics of doctoral scientists and engineers in the United States: 1997*. Arlington, VA: NSF.
- . 2002. *Advance: Increasing the participation and advancement of women in the academic science and engineering careers: Program solicitation*. Arlington, VA: NSF.
- . 2003. *Survey of graduate students and postdoctorates in science and engineering*. Washington, DC: NSF.
- . 2004. *Survey of doctorate recipients*. <http://www.nsf.gov/sbe/srs/ssdr/start.htm>.
- Perna, Laura. 2001a. The relationship between family responsibilities and employment status among college and university faculty. *Journal of Higher Education* 72:584-611.
- . 2001b. Sex and race differences in faculty tenure and promotion. *Research in Higher Education* 42:541-67.
- . 2003. Sex differences in faculty tenure and promotion: The contribution of family ties. Paper presented at the annual meeting of the Association for the Study of Higher Education, Portland OR.
- Press, Julie E., and Eleanor Townsley. 1998. Wives' and husbands' housework reporting: Gender, class, and social desirability. *Gender & Society* 12:188-218.
- Robinson, John. 1988. Who's doing the housework? *American Demographics* 10:24-28.

- Shelton, Beth Anne, and Daphne John. 1996. The division of household labor. *Annual Review of Sociology* 22:299-322.
- Suitor, J. Jill, Dorothy Mecom, and Ilana S. Feld. 2001. Gender, household labor, and scholarly productivity among university professors. *Gender Issues* 19:50-67.
- Thornton, Arland, and Linda Young-DeMarco. 2001. Four decades of trends in attitudes toward family issues in the United States: The 1960s through the 1990s. *Journal of Marriage and Family* 63:1009-37.
- Toutkoushian, Robert. 1999. The status of academic women in the 1990s: No longer outsiders, but not yet equals. *Quarterly Review of Economics and Finance* 39:679-98.
- University of California. 2004. *Ladder and equivalent rank faculty, years 1989 to 2002, universitywide and by campus*. Oakland: University of California, Office of the President.
- Valian, Virginia. 1998. *Why so slow?: The advancement of women*. Cambridge, MA: MIT Press.
- Varner, Amy. 2000. *The consequences and costs of delaying attempted childbirth for women faculty*. University Park: Department of Labor Studies and Industrial Relations, Pennsylvania State University.
- Williams, Joan. 2000. *Unbending gender: Why family and work conflict and what to do about it*. Oxford, UK: Oxford University Press.
- Wolfinger, Nicholas, Mary Mason, and Marc Goulden. 2004. Problems in the pipeline: Gender, marriage, and fertility in the ivory tower. Manuscript.
- Xie, Yu, and Kimberlee A. Shauman. 1998. Sex differences in research productivity: New evidence about an old puzzle. *American Sociological Review* 63:847-70.