

Women Professors: New Challenges for the Next Generation

By Henry Lee Allen

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Women will inherit the mandate for improving and strengthening academic careers, as they become the leaders of the next academic generation. In fact, women are already challenging the norms traditionally associated with academic work.¹ They are demanding family friendly, salutary, and humane policies on workload and productivity—policies needed to attract and retain the best talent as the pool of academics becomes more diverse. More changes are ahead, as this demographic revolution takes hold.

This essay adds to the few existing empirical studies of the fortunes of women academics. It explores the changing demographics of the scientific disciplines at research universities, and examines the social and cultural terrain currently circumscribing the careers of women faculty. The essay exemplifies ways that research sponsored by faculty unions can promote the professionalism of the next generation of women leaders.

THE DEMOGRAPHICS

Table 1 shows the increased representation of women faculty members in most scientific disciplines between 1995 and 2003. The proportion of women full professors increased in all fields. The increase in the health sciences stands apart: from 35.1 to 59.0 percent. Physics showed a substantial percentage increase (4.3 to 7.6 percent), but the absolute numbers remained low. The representation of associate professors also increased, save for a slight reduction in the health sciences (from 65.6 to 59.1 percent). Especially notable is the increased presence of women in engineering (4.8 to 11.7 percent) and physics (9.5 to 19.5 percent). The proportion of women among assistant professors increased in all fields except physics (from 25.1 to 24.1 percent) and the health sciences (from 69.1 to 66.5 percent).

Women faculty remained well represented at all ranks in the health sciences in 2003 (assistant = 66.5, associate = 59.1, full = 59.0), despite small decreases from 1995. Biology also attracted

Table 1. Percentage Representation of Women Faculty at Research I Institutions, by Field, 1995 and 2003

Discipline	Assistant		Associate		Full	
	1995	2003	1995	2003	1995	2003
Agriculture	17.8%	27.2%	12.7%	13.9%	4.9%	8.0%
Biology	35.6	38.8	26.0	31.2	14.0	20.8
Engineering	14.2	16.6	4.8	11.7	1.8	3.8
Health Sciences	69.1	66.5	65.6	59.1	35.1	59.0
Mathematics	18.7	26.6	10.4	16.3	7.6	9.7
Physics	25.1	24.1	9.5	19.5	4.3	7.6

Source: National Academy of Sciences, *Gender Differences at Critical Transitions in the Careers of Science, Engineering, and Mathematics Faculty*, Executive Summary, 5.

increased numbers of women faculty across all ranks (38.8, 31.2, and 20.8, respectively).

Women gained ground in the full-time academic workforce; representing about 25 percent of all academics and 20 percent of the full-time science and engineering workforce in 2003. But women's representation varied substantially by discipline. Women held the majority of full-time positions in the health sciences, but less than 10 percent of positions in engineering. Medical schools reported the greatest concentration of women among full-time academics; Research II institutions showed the lowest concentration.²

Leaders in other fields should study and, where feasible, replicate the best practices used by successful departments to improve recruitment and retention. But the increases noted here should have been greater and distributed more equitably. Women must still overcome many structural barriers, despite their growing numbers.

THE IMPETUS FOR REVITALIZING ACADEMIC WORK

In the past, women academics were disproportionately: (1) relegated to part-time or contingent faculty slots, (2) concentrated in lower academic ranks, (3) represented in traditional female-dominated academic disciplines, and

(4) employed in non-research institutions with heavy teaching loads and lower salaries.³ Three decades have passed since colleges and universities adopted their first affirmative action plans to remedy these conditions.⁴ But despite the percentage gains, a 2009 National Academy of Sciences (NAS) report noted an "overall loss of women's participation in academia." The report added, "Women continued to be under-represented among academic faculty, relative to the number receiving science and engineering degrees."

"We do not know," the NAS report continued, "what happens to the significant percentage of female Ph.D.s in science and engineering who do not apply for regular, faculty positions at Research I (RI) institutions, or what happens to women faculty members who are hired and subsequently leave the university." At the other end of the academic pipeline, "We know little about female full professors and what gender differences might exist at this stage of their careers." The NAS report identified several pipeline problems beginning with women's willingness to pursue faculty positions in RI institutions and the duration of postdoctoral positions.⁵

That loss is most apparent in the smaller fraction of women who apply for faculty

positions and in the attrition of women assistant professors before tenure consideration. Unfortunately, our surveys do not shed light on why women fail to apply for faculty positions or why or if they leave academia between these critical transition points—underscoring that our work is not done.⁶

The report speculated that quality of life issues played a key role:

We do know that there are many factors unexplored here that play a significant role in women's academic careers, including the constraints of dual careers; access to quality child care; individuals' perceptions regarding professional recognition and career satisfaction; and other quality-of-life issues.

The NAS report delineated these key findings:

- For the most part, men and women faculty in science, engineering, and mathematics have enjoyed comparable opportunities within the university, and gender does not appear to be a factor in a number of important career transitions and outcomes.
- Women represent an increasing share of science, mathematics, and engineering faculty, but they continue to be underrepresented in many of those disciplines.
- Women account for about 17 percent of applications for tenure-track *and* tenured positions in the departments surveyed. The proportion of applications from women for tenure track positions was lower than the percentage of Ph.D.s awarded to women in each of the six disciplines.
- Most institutional and departmental strategies proposed for increasing the proportion of women in the applicant pool were not strong predictors of the percentage of women applying. The proportion of females on the search committee and having a woman chair the search committee did significantly affect the recruitment of women.
- Most departments have not aggressively used special strategies to increase gender diversity in the applicant pool.⁷

One can only wonder about the conditions elsewhere given this state of affairs at the more prestigious and wealthy research universities.⁸

THE PERILOUS TERRAIN

The extensive career challenges facing the next generation of women faculty recently attracted the attention of the American Council on Education (ACE).⁹ Its National Panel of Presidents and Chancellors recognized growing diversity in the candidate pool. But to move candidates into tenure-track academic careers, the panel noted, colleges and universities must become more flexible.¹⁰ Changes in campus climate, the panel acknowledged, require sustained leadership from the top, as well as a targeted allocation of institutional resources. "Career flexibility for tenure-track faculty," the panel concluded, "is key to attracting and retaining this scientific workforce in academia."¹¹

The panel suggested two imperatives:

- Colleges and universities must create hospitable environments that support a diverse faculty with changing needs as their careers progress.
- Academic institutions must develop policies and programs that help faculty members balance work-life issues, avoid stagnation and burnout, and remain productive scholars throughout their careers. This flexibility will allow faculty to maintain excellence in teaching, innovative research, and U.S. global competitiveness. Developing new knowledge and technology, in particular, is critical to the country's economy and security.

Like faculty unions, ACE recognized that a major intergenerational transition is affecting academic workload and productivity.¹² Colleges and universities, research suggests, will be most effective in the recruitment, retention,

and timely retirement of an excellent faculty by providing for greater harmony between their personal lives and academic careers.

Successfully addressing these challenges, allows institutions to maintain excellence in research and teaching, the ACE report suggests. Success also enhances the culture of the academy to keep pace with societal changes, particularly with respect to demographic, cultural, and ethnic shifts. Achieving gender, racial, and ethnic equity among faculty, the report adds, is crucial given the increasingly diverse student body. The result will be continued contributions to the nation's competitiveness and national security.¹³

The ACE report, echoing other leaders and policymakers, recognizes the need to restructure the patterns and incentives for academic careers. The presence of women faculty, the report adds, is the key predictor of the success of women students. Bachelor's and graduate enrollments of women are increasing, and women now earn the majority of doctoral degrees. The report directs institutional leaders to correct any maladies of culture and practice inhibiting women faculty from reaching their full potential.¹⁴

Women faculty members are constrained in the time they can realistically (and in health) devote to personal and professional obligations. The ACE report reiterates key findings in the NAS document: Married women faculty members do not seek tenure-track positions at the same rate as men. They also suffer the highest attrition rate from these positions. Tenure and promotion policies must therefore address their struggles with child care and family responsibilities. "Far too frequently," states the ACE report, "women are unable to fulfill evening and weekend duties or attend professional conferences because of the conflict of caring for children and other dependents and the lack of sufficient help to free up some of their time for these professional duties."¹⁵

What specifically can colleges do? Institutional leaders and academic departments must,

the ACE report states, "create a professional climate in which the use of family-friendly and work-life policies is encouraged, not penalized."¹⁶ The report lists ways to overcome the status quo, beginning with providing affordable, quality child care. Also needed are enhanced mentoring and access to professional networks, resources, social capital, and sponsorship. Women need clear, but flexible tenure and promotion guidelines, balanced or reciprocal career socialization, professional development, release time for research, and an institutional culture that nurtures their whole identities. Rewarding institutional service increases the attractiveness of the college to recruits from diverse communities. Such policies will encourage talented candidates to enter or re-enter the professoriate from other careers; so will more flexible notions of scholarship. Unions, we may add, can assist the next generation of women professors to acquire these vital items.

Colleges and unions must target special efforts at women associate professors. These colleagues often experience heightened levels of stasis and dissatisfaction. Academe, adds the ACE report, must recognize diversity, developmental needs, and social obligations. "The ideal worker," it concludes, "should have the flexibility, without the loss of quality in their overall productivity, to address the work-life dilemmas for a period of time according to his or her personal and family demands if and when necessary."¹⁷ The growing presence and power of women faculty drives this train of innovation.

CHALLENGES

Consistent with the ACE report, researchers from the American Association of University Professors (AAUP) wrote:

When women are missing from faculty ranks, the research questions they would raise—whether or not those questions relate to matters of gender—are not asked and the corresponding research is not undertaken. American higher education as a whole

suffers because of the lack of gender equity in the faculty.¹⁸

Women, the AAUP determined, were underrepresented in full-time tenure-track positions and senior faculty ranks in 2005–06: 34 percent at doctoral institutions and 42 percent of full-time faculty at colleges and universities awarding bachelor's or master's degrees. Women were at parity at the community college level, holding 51 percent of faculty positions. Women held 48 percent of part-time jobs—a consistent pattern except for doctoral institutions—and 52 percent of non-tenure track positions.

Disproportionate numbers of women populate the ranks of contingent faculty. About 30 percent of full-time women faculty members had non-tenure track jobs. The breakdown: 52 percent at doctoral institutions, 54 percent at master's, 49 percent at bachelor's, and 53 percent at two-year colleges.

The AAUP report details improvements related to recruitment, retention, promotion and tenure, and salary. But the basic conclusion remains, “The large overall difference between men's and women's salaries...will be eliminated only when women are hired into tenure-eligible faculty positions, instead of non-tenure-track jobs, at rates equal to men.”¹⁹

POLICY IMPLICATIONS

The momentum for addressing pipeline issues for the next generation of women professors exceeds the efforts associated with recruiting minority faculty. Even so, academic institutions cannot address all aspects of gender inequities, especially those involving external factors.²⁰ In the long run, accommodating the needs of women faculty involves addressing systemic factors, including changes in gender roles and fostering gender equity throughout the educational pipeline.²¹ Sexual harassment remains an ever-present threat. Advocates for gender equity in science have compiled more than 400 tested projects designed to inform gatekeepers, reduce sexual harassment, and enhance knowledge

and skills.²² We must also assure that discriminatory biases do not enter the tenure and promotion process for women faculty.²³

Many factors associated with faculty workload and productivity must be scrutinized to promote equity. These factors include teaching loads, class sizes, contact hours, committee assignments, professional development, salaries, promotion, and tenure. To understand how these factors affect women faculty members, we need studies of how academic labor markets operate across different types of institutions, starting with the mentorship and sponsorship processes in graduate schools. Union-sponsored studies of academic systems, for example, could identify hidden advice or information networks, electronic or otherwise. They could show how social networks operate within and across academic departments, publishing venues, professional associations, and institutional locations. Do informal networks promote the advance of women professors throughout the academic pipeline? How do findings for women faculty compare with those for male faculty and for minority faculty of both sexes? These inquiries might ameliorate working conditions for the next generation of women faculty.

Faculty unions might sponsor symposia and centers that focus on the opportunity structure for women faculty. To avoid ethnocentric tendencies, centers might conduct comparative workload and productivity studies for women faculty members. Women have occupied the highest political and appointive offices in other democratic nations. The U.S. already has women leaders in Congress and the judicial system. Sooner or later, it will elect its first woman president. Higher education—the key element behind these social changes—must enhance the impact of women faculty.

CONCLUSION

A new generation of women faculty has overcome many challenges. But a solid institutionalized role for women is the next necessary step needed to overcome pay inequities and other

structural hazards. Organizational turnover and demographic transitions present higher education with opportunities for restructuring and revitalizing faculty work in a salutary direction.

NOTES

¹ Some personal encounters outside major research universities reinforce the findings of the NAS report. I recently observed a young minority female faculty member break down in tears over incidents involving the lack of professional respect conveyed by students, faculty, and academic administrators. Over the years, many other women faculty have discussed the structural pressures they've endured: the tenure clock, being single, dual-career marriages, finding suitable child care, parenting woes, female identity in male-dominated academic departments, heavy teaching loads, and contingent or temporary jobs. The current economic climate and the prospect of unemployment worsen these conditions.

² National Academy of Sciences, 2009, 5.

³ Allen, 1997 and Allen, 1998 contain useful background information.

⁴ See National Academy of Sciences, 2009, 1-2. NAS conducted two cross-sectional statistical surveys involving 500 departments and 1800 faculty members at research universities. Topics included departmental recruitment, tenure and promotion, employment experiences, and institutional support. The researchers only surveyed full-time tenured or tenure-eligible faculty members in biology, chemistry, civil engineering, electrical engineering, mathematics, and physics. The report supplied no social network data (graph theory) that could have scrutinized the impact of mentorship and sponsorship networks. "Many of the 'whys' of the findings included here," the report notes, "are buried in the factors the committee was unable to explore."

⁵ *Ibid.*, 2-3.

⁶ *Ibid.*, 3.

⁷ *Ibid.*, 7.

⁸ Gender differences were insignificant for several variables or arenas in the report, but the sociological implications of these findings are profound.

⁹ ACE, 2007. This report was prepared under the auspices of 10 chief executives from state university systems and major research universities.

¹⁰ Scholars of higher education recognized this problem more than a decade earlier, while advocates of affirmative action in academic employment saw this reality nearly three decades ago.

¹¹ ACE, 2007, iv.

¹² See articles on faculty workload and productivity concerns for unionized audiences by this author in *The NEA Almanac of Higher Education* for the years 1994 through 2009.

¹³ ACE, 2007, 2.

¹⁴ *Ibid.*, 4.

¹⁵ *Ibid.*, 6.

¹⁶ *Ibid.*, 9.

¹⁷ *Ibid.*, 25.

¹⁸ West and Curtis, 2006, 5.

¹⁹ *Ibid.*, 16.

²⁰ AAUWEF, 2004c.

²¹ AAUWEF, 2008.

²² AAUWEF, 2004a, AAUWEF, 2004b.

²³ American Association of University Women Legal Advocacy Fund, 2004.

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