Working Toward Gender Equity: Pathways Toward Institutional Transformation

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Abstract: The chronic underrepresentation of female faculty in STEM disciplines, in addition to women’s underrepresentation at higher faculty ranks and in leadership positions in general are well documented. This article discusses possible reasons for this problem at one major research institution, and identifies strategies to address them and proposes initiatives meant to inform the institution’s journey toward institutional change that, ultimately, will affect women in many disciplines.
Background

Despite a growing need for a diverse workforce, women’s participation in science and engineering occupations is only half of what it is in the U.S. workforce as a whole (National Science Foundation, 2013), and women continue to be underrepresented in science, technology, engineering and mathematics (STEM) disciplines in institutions of higher education across the nation (National Science Board, 2014). The job satisfaction of academic women in STEM disciplines (and many other academic fields) is lower than men’s, and women tend to leave their academic careers earlier than their male counterparts (Hill, Corbet, & Rose, 2010).

Many reasons account for women’s underrepresentation, including “pipeline” and climate issues, bias, and work–life conflict (Handelsmann, Cantor, Carnes, Denton, Fine, Grosz, Hinshaw, Marrett, Rosser, Shalala, & Sheridan, 2005; National Academy of Sciences, 2006). Studies have consistently reported that the number of girls and women interested in science and engineering drops with each transition in their academic career (Hill, Corbet, & Rose, 2010), dramatically affecting the number of women pursuing doctorates in STEM disciplines. Still poignant is what decades ago a senior scholar at the National Association for Women in Education coined the term “chilly climate,” referring to the subtle and sometimes overt discriminatory environment experienced by women in higher education (Sandler, 1996).

Drawing on a large and diverse body of research, the American Association of University Women (AAUW) provides evidence in its 2010 report Why so few? that social/environmental factors contribute to the underrepresentation of women in science and engineering. The AAUW argues that while the foundation for a STEM career is laid early in life, scientists and engineers are produced in colleges and universities. According to the research profiled by the organization, small improvements by STEM departments can have a profound impact on female student recruitment and retention. Institutions of higher education can significantly affect the recruitment and retention of female faculty in STEM disciplines if they improve departmental culture to more effectively integrate women. The AAUW recommends that colleges and universities recruit and retain more female faculty by implementing mentoring programs and effective work-life policies for all faculty members (Hill, Corbet & Rose, 2010).

Many of the problems, including the existence of a chilly climate, go beyond women in STEM disciplines and affect women in academe in general. Female faculty find it difficult, for example, to balance professional and personal responsibilities (Colbeck & Drago, 2005; Mason & Goulden, 2002; Philipsen & Bostic, 2010; Philipsen, 2008; Ward & Wolf-Wendel, 2006). At top-tier research institutions, women express great discontent with the clash between tenure requirements and family obligations (Ward & Wolf-Wendel, 2006).

This paper discusses the problem of chronic underrepresentation of female faculty in STEM disciplines, in addition to women’s underrepresentation at higher faculty ranks and in leadership positions. It also proposes strategies to address these issues. It reports problems areas identified at one major research university and suggests strategies meant to inform the institution’s journey toward institutional change that, ultimately, will affect women in non-STEM disciplines as well.

Conceptually, research indicates that, to be effective, institutional change needs to be initiated in two domains: (1) the institutional-structural domain and (2) the individual-cultural domain (Xu, 2008; Reskin, 2003; Xie & Shaumann, 2003). This paper acknowledges the importance of both domains but focuses primarily on the institutional-structural domain.

Methodology

Trying to understand underrepresentation of women in various disciplines and at higher ranks and in leadership positions, I conducted a case study at a large urban research institution. I examined existing data derived from climate and COACHE (Collaborative on Academic Careers in Higher Education) surveys and conducted focus group interviews with female STEM faculty and deans of all major units at the university. The COACHE survey was directed at tenure-eligible faculty while the focus group interviews included tenure-eligible, tenured and term female faculty in STEM disciplines at the university (Chemistry, Biology, Engineering, Statistics & Operations Research, Forensic Science), as well as senior administrators across academic units. The goal
was to find out what, from their perspectives, might account for the low numbers of women in tenured, tenure-eligible, and leadership ranks, and what the university could do to attract and retain more women into those positions. IRB permission to conduct the study was obtained.

Findings

COACHE survey results indicated high rates of faculty dissatisfaction: 40% of tenure-eligible faculty members believe, for instance, that the university does not make tenure and family compatible, and 50% are dissatisfied that it lacks a spousal hiring program. These data indicate a weakened capacity to attract and retain a diverse group of high-quality faculty, especially women who continue to be disproportionately affected by work-life conflict (Mason, 2009). This reflects a national problem, as research has amply illustrated (Philipsen & Bostic, 2010; Philipsen, 2008; Gappa, Austin, & Trice, 2007; Gornick & Meyers, 2005; Letherby, Marchbank, Ramsay, & Shiel, 2005; Spalter-Roth & Erskine, 2005; Jacobs & Winslow, 2004; Mason & Goulden, 2004; Ward & Wolf-Wendel, 2006; Drago & Colbeck, 2003; Fleig-Palmer, Murin, Palmer, & Rathert, 2003). Such high rates of faculty dissatisfaction undermine many universities’ capacity to attract and retain high quality faculty, a challenge that is also reflective of national trends: because life-work balance is increasingly important to young generations of scholars, colleges face obstacles recruiting and keeping the most promising junior faculty (Mason, Goulden, & Frasch, 2009).

Interview data, furthermore, indicates that the most pressing concerns across departmental units can be categorized as falling into the domains mentioned above: the institutional-structural domain and the individual-cultural domain.

Institutional-Structural Domain

- Inequities of available support structures (work-life policies and programs) between the two campuses
- Absence of supportive policies and programs (e.g. flexible work arrangements, part-time tenure schedules)
- Overrepresentation of STEM women in term (non-tenure) and underrepresentation in tenure-eligible/tenured positions
- Lack of recognition of women in STEM disciplines

Individual-Cultural Domain

- Departmental/disciplinary cultures that can make women feel isolated
- Lack of mentoring and leadership development opportunities to enhance STEM women’s professional role confidence

Consequently, to address the underrepresentation of women in STEM and other disciplines, as well as at higher ranks and in leadership positions, change within the institutional-structural domain must include a) increasing recruitment, retention and promotion of women; b) development of stronger and more innovative work-life policies for flexible work arrangements and spousal/partner hiring; c) strengthening and institutionalizing family leave and child care options; and d) improvement of the leadership and management capabilities of department chairs to create a more supportive environment for women. Change within the individual-cultural domain includes a) strengthening of women’s professional role confidence (meaning confidence in the ability to professionally succeed (Cech, Rubineau, Silbey & Seron, 2011) through effective mentoring and professional development opportunities; and b) building of leadership capabilities through a targeted leadership development program. This multi-tiered approach introduces initiatives while also capitalizing on existing resources. Multiple streams of interventions can be used to accomplish the goals, an approach designed to be robust even during economically unstable times.

Implications For The Institutional-Structural Domain

One way to strengthen the institutional-structural domain is to employ family-friendly initiatives to diversify, attract, and retain faculty, an approach used by a number of colleges and universities (Philipsen & Bostic, 2010; Lester & Sallee, 2009). Included are institutions with limited resources. Examples include:

One example is the University of Washington where faculty can choose from a variety of part-time work options in order to be able to fulfill personal responsibilities and manage challenges such as childbirth/adoption, elder care, personal or family illnesses (Quinn & Shapiro, 2009) or “active-service-modified duties (ASMD)” options for new mothers and fathers at the University of California-Berkeley (University of California-Berkeley, 2014). Institutions have also worked on instituting requirements for effective tenure clock stoppage to avoid stigmatization and the creation of “mommy tracks” (Philipsen & Bostic, 2010). Boise State University, for instance, allows tenure clock stoppage for reasons other than birth/adoption of a child, including elder/dependent care obligations, disability/chronic illness or circumstances beyond the control of the faculty member (Boise State University, 2014).

Effective Spousal/Partner Hiring Programs

An effective strategy is used by U Michigan which created the Higher Education Recruitment Consortium and by the California System which created The Northern California Higher Education Resource Consortium. Both organizations help find positions at nearby schools for spouses or partners who cannot be accommodated at the institution itself. Spouses and partners are given Web-based access not only to openings at a cluster of nearby institutions, but are also enabled to post credentials in a searchable database accessible to prospective employers.

Support with child care: The University of Washington provides assistance along several lines: finding childcare outside of the University of Washington, providing a caregiver directory, locating sick child care and emergency backup care as well as obtaining childcare assistance as a student (University of Washington, 2014). The University of Michigan offers a variety of resources as well, including on-campus childcare, access to a child care home network, sick and backup care, and summer care, to name a few (University of Michigan, 2014).

What Your Department Can Do

Adapt and implement practices that have been demonstrated at other institutions to be effective in increasing family-friendliness and therefore diversify the faculty and attract/retain high-quality faculty in STEM disciplines.

Pilot in several disciplines the following research-based initiatives, modeled after successful existing programs and policies at other universities:

- Flexible Work Arrangements (FWA) for male and female faculty: including part-time tenure track options, differentiated load, and effective tenure clock stoppage.
- Spousal/partner hiring programs, including: improved collaboration among colleges/universities and with major area employers.
- Increase availability of high-quality child care through collaboration with community child care providers, grant writing activities, expansion of services to include after-school, infant care and care for mildly sick children, “nanny-networks,” child care referral services, parent education, child-friendly campus locations, etc.

Financial Implications

Given the limited, often shrinking, budgets of most institutions of higher education, the question of how to finance family-friendly initiatives is a logical one to ask. However, not all policies and programs are costly, and many are even cost-neutral, based primarily on innovative thinking and new approaches. Examples include enhanced career-flexibility through part-time options, spousal/partner hiring support strategies and assistance in securing high quality child care. Regarding the latter, the University of Washington, for example, has a track record of providing an elaborate support system for parents by using various strategies. One of them is the collaboration with community-based child care centers that allow UW parents priority access. Another lies in obtaining grant funding for various projects such as the federal Department of Education’s Child Care Access Means Parents in Schools (CCAMPIS) grant that secured half a million dollars between 2001
and 2005 for student financial assistance. It has been suggested to those who wish to replicate the UW success to (a) develop their grant seeking behavior; and (b) enhance collaboration and partnerships, not only with community resources but also within the university by, for instance, tapping into research dollars or accessing intern sites for students in academic programs with a practicum component related to early childhood issues (Quinn & Shapiro, 2009). Lastly, if monies are needed to implement family-friendly initiatives, they are a wise investment. As former provost at U Michigan (and current president of UVA) Teresa Sullivan learned at Michigan, a family-friendly workplace “is a savings in the long run because faculty think well of Michigan and their time here. We want to foster loyalty, and it increases loyalty. It gives you an institutional strength that you can’t get any other way” (personal communication). The time has come for colleges/universities to follow suit, become more family-friendly, and therefore better able to increase the diversity and quality of its faculty in addition to doing what is right.

Conclusion

While lasting institutional change geared at addressing such persistent problems as the underrepresentation of women in higher faculty ranks and university leadership positions in colleges and universities in general, and in STEM fields in particular, is not easy to achieve, institutions across the country have made efforts to do so. Learning from existing models, many colleges, universities and major area employers can be poised to initiate changes in the institutional-structural and individual-cultural domains, including the implementation of family-friendly policies and programs. Such initiatives, in the long run, not only address the underrepresentation of women, they also strengthen workplace climate and therefore make colleges and universities more attractive places to work, for everyone.

References


