It Isn't Over: The Continuing Under-Representation of Female Faculty

Louise August
Research Specialist
Center for the Education of Women

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Center for the Education of Women
The University of Michigan
330 E. Liberty St. Ann Arbor, MI 48104-2289
734/998-7080
http://www.cew.umich.edu

ABSTRACT: This study examines data from a 1996 faculty survey updated in late 2004 with current employment information at a Research Extensive institution in the Midwest. Progress is examined of women and men over the ensuing nine-year period, studying tenure attainment, promotion to full professor, and attrition. Results indicate the situation for women in this university vis-à-vis their male colleagues is grim and, without change to the status quo, the disparity will persist and likely worsen. Recommendations for changes in policy and practice, informed by this study may aid in turning the tide for academic women, at least at this university.

The under-representation of women is a serious issue for institutions of higher education; despite the efforts of the women's movement and years of affirmative action, women remain a minority in academia. This is not a new problem, but it is a persistent one. While the number and percentage of women in the professorate has been increasing, they are still far from parity in representation. This is a complex, multi-faceted problem that is the result of a number of related smaller, but no less important issues. Relative to men, women are tenured and promoted at a slower rate (Bentley & Blackburn, 1992; Moore & Sagaria, 1993), are awarded tenure and promotion less often (Bain & Cummings, 2000), and have higher rates of attrition from the academy (Menges & Exum, 1983; Rausch, Ortiz, Douthitt, & Reed, 1989; Rothblum, 1988).

The Consequences of Under-Representation

On the surface under-representation might seem to be an issue only of parity representation and fair play that is often characterized as, "half the population is women therefore half the professorate should also be women." And indeed, it is patently inequitable to limit so large a segment of the population from full participation in academia based solely on gender. While this is certainly a valid argument, it tends to be somewhat superficial. It is essential to understand that the implications of under-representation are serious, more complex, and more far-reaching than being simply an issue of fairness or parity.

Diversity and Social Good

"Throughout the 20th century, public higher education has been seen as a central vehicle for increasing equity" (Tierney, 1997, p. 166), providing benefits to society, to the institution, and to the individual. As the national population becomes increasingly diverse, multi-cultural, and global in focus, greater diversity in higher education also becomes more desirable (Moore & Johnson, 1989). This goal is thwarted when women, as well as racial and ethnic populations, are under-represented in the faculty. "If our faculties become small subsets of the population… we really have limited our ability to be creative" (Wilson, 2004). In response to taxpayers, legislators, and parents who expect the university to be a microcosm of society, a balanced, demographically representative faculty is a key component as institutions strive to create diverse campus environments. These environments are a necessary precondition to creating welcoming, supportive climates that allow female students and faculty to succeed and thrive.

Student Educational Attainment and Faculty Career Success

The under-representation of women has negative effects on faculty career success and on student educational attainment. Inadequate numbers of women faculty results in a dearth of role models, mentors, and advisors for both junior female faculty and female students (Martin, 2000; Sax, 1996). The more pronounced under-representation at senior faculty levels (Bain & Cummings, 2000) means there are fewer such women to mentor their junior colleagues, and having a mentor is a key component in early career success, satisfaction, and socialization within the department (Boice, 1992a, 1992b, 1993; Waltman, 2001). Women represent more than half of the student body; approximately 57% of undergraduate and 61% of graduate students (NCES, 2004). Female faculty, as a result of their relatively few numbers, find themselves disproportionately burdened with requests for advising and mentoring by female students who

look to them for guidance and support, while often lacking the support of a female mentor for themselves (Park, 2000).

The opportunity to engage with academic women as professors, researchers, and practitioners gives female students the clear message that persons like themselves can be knowledgeable, creative, authoritative, and successful. Further, the presence of female faculty who hold advanced degrees significantly increases the likelihood that female students will themselves subsequently attain advanced degrees (Rothstein, 1995). This positive effect can have lifelong consequences; having an advanced degree has been shown to have a large, positive impact on earnings (Bruno, 1995) and on other measures of success (Tidball, 1973).

Creation and Dissemination of Knowledge

An important role for institutions of higher education is the creation and dissemination of knowledge. When women are under-represented, they lose the opportunity to engage in this process, not only as authors, but also as reviewers and editors. The academic disciplines are heavily reliant on the research published in scholarly journals. As arbiters of credibility and legitimacy, journals are tremendously influential in setting the direction and content of the academic discourse, and are the major source for the dissemination of scholarly knowledge. Relatively few scholars attend conferences and confer directly with their colleagues; most rely on journals to keep abreast of the new thought and research in their fields.

On an individual basis, an academic's credibility, visibility, and potential for career advancement are directly affected by the extent to which her research is chosen for publication in the more prestigious journals in that discipline. Moreover, it is the editor and reviewers who wield the power to sort out the sound, worthy research from the fluff. A rigorous, rational review and selection process should result in a reputable journal. However, this selection process,

though presumed to be neutral, is likely to reflect the attitudes and beliefs about what constitutes acceptable, legitimate scholarship by the dominant scholarly coalition that selected the editor. It is not surprising perhaps that this exercise in power results in women being under-represented as editors, and women authors and gender issues being under-represented in the professional literature. Several studies that conducted content analyses and examined the representation of women among the editors of a range of scholarly journals found a high incidence of gender bias (Bensimon & Marshall, 2000; Moore & Sagaria, 1993; Rusch & Marshall, 1995; Townsend, 1993; Twombley, 1993). Moore and Sagaria (1993) and concluded that the "instruments for the further extension and dissemination of knowledge that emanate from universities, such as scholarly journals, are similarly embedded with male bias in the selection of editors and in the matter and method of scholarship published in their volumes" (p. 236). When half the population is inadequately represented in the process of creating and disseminating knowledge, there is an unrecoverable cost to the larger academic community and society whose potential loss of new knowledge is incalculable (Martin, 2000; Rusch & Marshall, 1995).

The results of this study indicate that the rate of attrition is significantly higher for women than for their male colleagues and for assistant professors (where women tend to be clustered) than for the tenured ranks. Further contributing to under-representation, are women's lower rate of tenure attainment and lower rate of promotion to the rank of full professor compared to male colleagues. For the most part, these results confirm the findings of the research literature and have serious implications for the future representation of women on the faculty.

METHODOLOGY

The study utilizes data from a 1996 faculty work/life survey updated with current employment information at a Research Extensive institution in the Midwest. The study employed a census approach to survey all university faculty who held at least half-time instructional appointments and had been at the university for at least one year. Tests comparing survey data with the personnel database showed no significant differences across several measures, indicating that the respondent group was fairly representative of the faculty population as a whole, at least in terms of observable characteristics. Current information from the university personnel database in late 2004 provided information on current rank and employment status.

There was an overall response rate of 45% (n=962) with similar response levels among the three ranks. Overall, women responded at a somewhat higher rate than men, 52% vs. 42% respectively. Respondents came from a wide range of disciplines across the university, representing nearly all schools, colleges, and departments. For analysis purposes and to maintain confidentiality in departments with small numbers of faculty, respondents were grouped according to academic division.

In studying populations of leavers, it is appropriate to consider only voluntary departures and identify those who have left the institution involuntarily due to death, denial of tenure or termination for cause. While departure due to retirement is certainly voluntary, it is likely to be undertaken for very different reasons and motivations, and therefore should not be conflated with voluntary departures. The university's personnel database identifies three categories of departures: death, retirement, and termination. Within that third category are all other types of

departures, including all manner of voluntary departures, as well as involuntary departures as a result of tenure denial.

Identifying those who leave as a result of tenure denial (or in anticipation of a negative tenure decision) would be a desirable refinement however, the inability to do so may not create an unacceptable distortion of the results. At least one study (Rausch et al., 1989) found that the majority of those who left were next employed at other prestigious teaching or research institutions and often went on to achieve tenure at the new institution. As the authors noted, "leaving is not necessarily synonymous with 'failure' or non-tenure" (p.2). Identifying particular types of departures allows the examination of attrition to focus on the stayers and leavers without the possibly confounding effects described above. This results in a study sample of 756 cases; of which approximately three quarters are stayers – those still employed within the university.

RESULTS & DISCUSSION

Rate of Attrition

The "leavers" in this study may have gone on to faculty positions elsewhere (and may or may not have subsequently attained tenure there), they may have taken other academic employment, or left academia entirely. The leavers may have done so as a result of tenure denial (or anticipation of such an outcome), the desire to escape the pressures of tenure-track employment, or to pursue opportunities perceived to be more desirable. Without further study, the reasons for leaving and subsequent employment of most of the "leavers" remain unknown. However, much can be gleaned from the data about those who chose to leave.

Overall, nearly one in four respondents have left their employment at the university. The rate of attrition is higher for women than for men (Table 1); nearly one in three women (29%) vs. one in five men (21%); – a difference that is statistically significant ($p < .01$).

Table 1: Rate of Attrition by Gender

	Stayers		Leavers		Total	
	N	%	N	%	N	%
Female	154	71%	62	29%	216	29%
Male	429	79%	111	21%	540	71%
Total	583		173		756	
% of Total Category		77%		23%		100%

χ^2 (df=1, N=756) = 5.805, p <.01).

These results confirm the findings of other research (e.g., Lomperis, 1990; Menges & Exum, 1983; Rausch et al., 1989; Rothblum, 1988; Tack & Patitu, 1992; Trower, 2000) that women have higher rates of attrition from the academy than their male colleagues. In part, this is an artifact of women being clustered at the assistant professor level, the group with the greatest propensity to leave.

Naturally, attrition occurs at all ranks, however, attaining tenure substantially decreases attrition. The rate of attrition for assistant professors is higher than all others (Table 2) – more than twice that of associate professors (p<.0001), and more than three times that of full professors (p<.0001). That the rate of attrition is high for untenured faculty is neither unexpected nor necessarily problematic. Not all new academics will decide that academia is a good career choice for them in general, nor this university in particular, and not all will be able to attain tenure. Junior faculty unsuccessful in attaining tenure are awarded a terminal year contract and thus compelled to leave their positions. However, because of the uncertainty inherent in the tenure process, many junior faculty are active in the job market during their tenure review period. Knowing what opportunities are out there may induce a move even in the event of a favorable tenure decision or provide a counter-offer that enhances status and leverage.

Table 2: Rate of Attrition by Gender and Rank

	Women		Men		Total	
	Stayers	Leavers	Stayers	Leavers	Stayers	Leavers
Full	82%	18%	89%	11%	88%	12%
Assoc	82%	18%	82%	18%	82%	18%
Asst	60%	40%	58%	42%	59%	41%
Total	71%	29%	79%	21%	77%	23%
N	154	62	429	111	583	173
ANOVA	F=6.676 (2,213), p <.002		F=28.865 (2,537), p <.0001		F=37.170 (2,753), p <.0001	
Tukey	Asst-Assoc: sig p<.005 Asst-Full: sig p<.013 Assoc-Full: not sig		Asst-Assoc: sig p<.0001 Asst-Full: sig p<.0001 Assoc-Full: not sig		Asst-Assoc: sig p<.0001 Asst-Full: sig p<.0001 Assoc-Full: not sig	

The same patterns of attrition are evident when examining rank within gender classifications (Table 2). Assistant professors have a rate of attrition higher than their tenured colleagues both overall and within gender classifications. That is, female assistant professors are more likely to leave than their tenured female colleagues and likewise for male assistants compared to their tenured male colleagues. However, when examining the attrition of women and men at each rank separately, the differences are minimal. The women in this study at the assistant professor rank are no more likely to leave their academic employment than are their untenured male colleagues. This fails to confirm earlier research (Rausch et al., 1989; Rothblum, 1988) that found the rate of voluntary departure before tenure was as much as two times greater for women than men. In some respects this is heartening news; the studies showing a disproportionate rate of attrition between male and female assistant professors were conducted in the late 1980s, now, 15 years on, that gap seems to have closed, at least at this institution.

Respondents came from a wide range of disciplines across the university, representing nearly all schools, colleges, and departments. When the rate of attrition is examined by gender

and academic division (Table 3), a similar pattern emerges – the rate of attrition is higher for women in every academic division.

Table 3: Rate of Attrition by Gender and Academic Division

	Percentage of Leavers		
	Female	Male	Total
Medical School	34%	24%	26%
Biological & Life Sciences	18%	17%	17%
Physical Science & Engineering*	60%	17%	22%
Social Sciences	30%	22%	25%
Humanities & Arts	29%	22%	25%
Total	29%	21%	23%

*χ^2 (df=1, N=132) = 14.277, p <.001

This is most pronounced in the Physical Sciences & Engineering division, where the rate of attrition for women is almost four times that of men. Three out of five (60%) women leave, compared with only one out of six (17%) men – a difference that is statistically significant (p <.001). At the other extreme, in the Biological & Life Sciences, the rate of attrition is the lowest of all the academic divisions and nearly even for men and women.

Tenure Attainment

In the original survey there were 245 respondents at the rank of assistant professor. The fate of untenured faculty is more complex than simple attrition suggests. Tenure attainment is calculated over the nine-year span since the original study.[1] Nearly two-thirds of the former assistant professors have attained tenure, and the majority of those tenured are still actively employed in tenured positions. Demographically, assistant professors tend to be a relatively young group and accordingly very few have retired or died.

[1] Data gathered from the university's personnel database did not include the year in which tenure was awarded, therefore, neither the year-by-year tenure rate, nor the average time to tenure can be calculated.

The research literature (e.g., Bain & Cummings, 2000; Bentley & Blackburn, 1992; Moore & Sagaria, 1993) suggests that women are tenured less often and more slowly than their male colleagues. Confirming other research findings, the percentage of women attaining tenure in this study is lower than that of their male colleagues (59% vs. 63%, respectively), however, the difference is not statistically significant (Table 4). Female faculty are clustered in the un-tenured rank of assistant professor. Over time, the lower rate of tenure for women, even though the difference is not statistically significant, will exacerbate this over-representation of women at the lowest and least secure academic level.

Table 4: Tenure Attainment by Gender and Employment Status

	Women		Men		Total	
Employment Status	N	%	N	%	N	%
Active	56	85%	75	88%	131	87%
Deceased	0	0%	0	0%	0	0%
Retired	2	3%	0	0%	2	1%
Terminated	8	12%	10	12%	18	12%
Total tenured	66	100%	85	100%	151	100%
Total assistant professors	111		134		245	
Total % tenured		59%		63%		62%

Overall women are tenured less often than men, however, the rate of tenure attainment varies by academic division, ranging from a low of 55% in the Biological & Life Sciences to a high of 67% in the Medical School (Table 5). When also examined by gender, tenure attainment rates vary considerably more, though none of these differences are statistically significant.

Table 5: Rate of Tenure Attainment by Gender and Academic Division

	Percentage Tenured		
	Female*	Male	Total
Medical School	67%	67%	67%
Biological & Life Sciences	48%	65%	55%
Physical Science & Engineering	45%	67%	60%
Social Sciences	62%	55%	59%
Humanities & Arts	79%	44%	65%
Total	59%	63%	62%

* Given the small number of women in some academic division, large percentage changes may be a reflection of relatively small changes in actual headcount.

In two divisions, the Biological & Life Sciences and the Physical Sciences & Engineering, a larger percentage of men are tenured; about two-thirds of the men, vs. less than half of the women. Women are minorities in these divisions, especially so in the tenured ranks, comprising fewer than one of three in the Biological & Life Sciences and fewer than one for every twenty-five tenured faculty in the Physical Sciences & Engineering. The result of unequal tenure attainment rates (despite statistical insignificance) is that women will never increase their representation among the tenured ranks, and over time their current minority standing will likely worsen.

In the Medical School women and men are tenured at the same rate (approximately two-thirds). On the surface this appears highly equitable, but consider the fact that women comprise a very small portion (less than one in eight) of the tenured Medical School faculty. At equal rates of tenure attainment, women will always remain a one in eight minority in the tenured ranks.

Two of the five divisions award tenure to a larger percentage of women. In the Humanities & Arts nearly four of five women attain tenure compared to two of five men. In the Social Sciences nearly two-thirds of the women are awarded tenure vs. just over half of the men.

In both of these divisions women comprise approximately one in four faculty among the tenured ranks. Considered by itself,[2] the higher rate at which women are tenured in these two divisions will reduce their minority status, but only slowly. At these rates of tenure attainment, it will take more than three decades for women to comprise half the tenured faculty in the Humanities & Arts and even longer in the Social Sciences, nearly a century. Even taking the long-term view, women will remain minorities in the tenured ranks of these divisions for a very long time.

In three divisions, the Biological & Life Sciences, the Social Sciences, and the Humanities & Arts, approximately 60% of the assistant professors are women. This suggests that recruitment and hiring practices have been successful in increasing the proportion of women in these divisions, though for all ranks women still comprise only approximately a third of these faculties. However, hiring practices alone will not remedy women's minority status in the tenured ranks. As long as the tenure rate for men exceeds that for women, such hiring practices will serve only to leave a larger number of women clustered in the lowest ranks in these divisions.

Promotion to Full Professor

In addition to attainment of tenure, a number of respondents were promoted to the rank of full professor during the nine years since the survey was conducted. Overall, approximately two out of five (43%) of the respondents at the original rank of assistant or associate have been promoted to full rank. Two-thirds (65%) of the associate professors from the original survey have been promoted, and more than one in five (22%) of the original assistant professors has been promoted twice to reach full rank. As with tenure attainment, the majority are still actively employed in the university

[2] That is, without regard to other issues that effect women's under-representation such as hiring practices (a subject not addressed in the study), attrition, and promotion to full rank.

The research literature (e.g., Bain & Cummings, 2000; Bentley & Blackburn, 1992; Moore & Sagaria, 1993) has found that women are promoted less often and more slowly than their male colleagues. Examining promotion to full rank by gender (Table 6), nearly half of the men, but only a third of the women were promoted; a difference that is statistically significant (p <.0001). Clearly women in this study are promoted less often than the men; although the calculation of time to promotion is not possible[3], it is fair to speculate that women are also promoted more slowly.

Table 6: Promotion to Full Professor by Gender

	Women	Men	Total
Total promoted	63	147	210
Total pool from original survey	189	299	488
% of original pool promoted	33%	49%	43%

χ^2 (df=1, N=488) = 11.838, p <.0001

This pattern holds true when promotion is examined by rank; more men at both the assistant and associate ranks were promoted to full professor than their female colleagues. Table 7 examines promotion by gender and by the rank from which these individual were promoted. From the rank of assistant professor one in four men (25%) were promoted as compared to one in six women (17%); not a significant difference. Of those who were promoted from the rank of associate professor, again a larger percentage of men than women were promoted to full rank (69% and 56%, respectively), a statistically significant difference (p<.05).

[3] The actual date of promotion, which would allow for the calculation of annual promotion rates and average time to promotion, was not available.

Table 7: Promotion to Full Professor by Gender and Original Rank

	Women		Men		Total	
	Asst	Assoc	Asst	Assoc	Asst	Assoc
Total promoted	19	44	34	113	53	157
Total pool from original survey	111	78	134	165	245	243
% of original pool tenured	17%	56%*	25%	69%*	22%	65%

*χ^2 (df=1, N=243) = 3.377, p <.05

The pattern also holds true when examined by academic division. Rates of promotion to full professor varies considerably, however, a smaller percentage of women are promoted in each of the academic divisions (Table 8). This is most notable in the Physical Sciences & Engineering

Table 8: Rate of Promotion to Full Professor by Gender and Academic Division

	Percentage Promoted		
	Female	Male	Total
Medical School	35%	50%	46%
Biological & Life Sciences	36%	49%	42%
Physical Science & Engineering*	21%	57%	48%
Social Sciences	30%	43%	37%
Humanities & Arts	36%	45%	40%
Total	33%	49%	43%

* χ^2 (df=1, N=210) = 5.293, p <.05

where nearly three in five (57%) men are promoted compared with only one in five (21%) women. In the other four divisions, approximately one in two men compared to one in three women are promoted. The difference is significant only for the Physical Sciences & Engineering ($p<.05$).

The same argument can be made for disparate promotion rates as was made for disparate rates of tenure attainment – women are a small fraction of the full rank faculty and lower promotion rates will only serve to continue their minority status. Men comprise the vast majority

of faculty at the highest rank; overall, men are more than seven times as likely to be found at the rank of full professor; only one in eight women has attained full rank compared to nearly nine out of ten of men. Nearly half of the men, but only a third of the women were promoted to full professor. At best this will cause women to become mired at the associate professor level, just as they are presently clustered in the rank of assistant professor. As long as a smaller percentage of women are promoted to full rank, they will become an ever-smaller minority at the rank of full professor; never reaching parity.

The Cumulative Effect

Examining the faculty as a whole, four factors become apparent:

- Women are a minority at each rank and in each of the academic divisions
- Women have a higher rate of attrition
- Women have a lower rate of tenure attainment
- Women have a lower rate of promotion to full rank.

Together these factors serve to maintain and exacerbate women's minority representation in the faculty. Table 9 pulls together this information to emphasize the differences in the rates of attrition, tenure and promotion between women and men, and their cumulative negative impact. Among all the academic divisions, women's prospects are clearly worst in the Physical Sciences & Engineering. Women are already a tiny (9%) minority of the faculty in this division, their rate of attrition is the highest of all the divisions, and their rates of tenure attainment and promotion are the most different from the men in the division.

Table 9: Differential Rates of Divisional Representation, Attrition, Tenure Attainment, and Promotion, Women vs. Men

	% of Women in Each Division	% Differential for Women vs. Men*		
		Attrition	Tenure	Promotion
Medical School	18%	+10%	Even	-15%
Biological & Life Sciences	37%	+1%	-17%	-13%
Physical Sciences & Engineering	9%	+43%	-22%	-36%
Social Sciences	31%	+8%	+7%	-13%
Humanities & Arts	35%	+7%	+35%	-9%
Total	26%	+8%	-4%	-16%

*Percentages represent the difference of the associated percentages for women and men. For example attrition for women in the Medical School is 10% higher for women than for men - 34% vs. 24%

Women's prospects appear better in the Humanities & Arts. Women represent approximately a third of the faculty in this division, their rate of tenure is the highest, their rate of attrition is second lowest, and their rate of promotion is the closer to that of men in that division than in any other. However, this is not to say that their situation is good; it is not. Women are still a minority of the total faculty in this division, they are more likely to leave and less likely to be promoted to full rank. Their rate of tenure attainment, while higher than that of their male colleagues, will still require three decades before they comprise half of the faculty.

Overall, women's rate of attrition is 8% higher overall than their male colleagues, their rate of tenure attainment is 4% less and their rate of promotion to full rank is 16% less. Regrettably, this confirms the findings of other research that women are more likely to leave and are promoted and tenured less often than their male colleagues. Therefore it is not surprising that the faculty overall is predominantly male and that the disparity increases at each rank. Men comprise more than one half of the assistant professors, two thirds of the associate professors, and nearly nine out of ten full professors.

As noted earlier, recruitment and hiring practices that seek to employ more female faculty may increase the proportion of women, but will do nothing to overcome their under-presentation as associate and full professors. Even without regard to differences by academic division, the situation of women in the university is dire. Without changes in the disparate rates of attrition, tenure attainment and promotion, women's under-representation will not only persist, it will most certainly become worse and women will remain where they are now - clustered in the lowest, least secure, least well paid position of assistant professor.

Implications for Policy and Practice

So, what's to be done? All of the issues that contribute to women's under-representation need to be addressed by institutions of higher education. However, because the current population of academic women is smaller, advances more slowly, and tends to leave academia more frequently, it becomes even more critical that institutions strive to combat unwanted attrition among those women already employed.

The following are change strategies and interventions to help stem unwanted attrition, and to encourage higher rates of tenure and promotion among women. Some are intended to be enacted on a university-wide basis, others on the school or college level, and still others within the department or unit:

Encouraging Faculty Socialization

A large number of researchers have reported that a sense of community is important to satisfaction. In terms of their relationships with colleagues, female faculty members often perceive their academic departments to be challenging and unwelcoming places. The belief that one is treated differently from colleagues and receives less support and approval from senior

colleagues and chairs contributes to these perceptions (Astin, 1991; Boice, 1993; Fox, 1991; Johnsrud & Wunsch, 1991; Olsen et al., 1995; Olsen & Sorcinelli, 1992; Parson et al., 1991; Riger et al., 1997). Experience of such unsupportive conditions is particularly salient for women and untenured and newly appointed faculty (Aisenberg & Harrington, 1988; Finkelstein & LaCelle-Peterson, 1992; Olsen & Sorcinelli, 1992).

- Create social opportunities for new faculty to meet, at both institutional and departmental levels.
- Promote and support formal and informal networks for women faculty to meet and provide mutual support.

Creating Departmental Climates Conducive to Success

The role of the department chair is enormously instrumental in creating departmental environments conducive to faculty success including fostering congenial, collegial peer relations and a supportive work environment, enacting fair, equitable policies and practices, and supporting and advocating for department members (Erickson & Rodriguez, 1999; Sorcinelli, 2000; Whitt, 1991).

- Provide training for department chairs to understand the crucial nature of their role, develop sensitivity to departmental dynamics and the ways in which they can be instrumental in the success of their faculty.
- Devise meaningful ways to measure successful departmental climate and hold chairs accountable.
- Have a well thought out, comprehensive program to orient new faculty to department rules, politics, culture, etc. throughout the first year.
- Create cultures conducive to work/life balance.
    - Disseminate information about university policies that affect faculty.
    - Encourage faculty to utilize these policies.
    - Create flexible work environments by valuing faculty productivity over long hours of face-time.

- Create formal mentoring programs and encourage informal arrangements.
- Value and encourage senior faculty efforts to collaborate with new and junior faculty.

Creating Hospitable Institutional Climate

Numerous studies (Bain & Cummings, 2000; Johnsrud & Des Jarlais, 1994; Johnsrud & Heck, 1994; Menges & Exum, 1983) have found that women perceive more and different organizational barriers to their success than men and were more likely to leave as a result.

- Review institutional level policies, especially those salient to women (e.g., tenure clock stop, modified duties, childbearing leave, and sexual harassment and discrimination policies).
- Enact new policies and improve existing ones where necessary.
- Disseminate information about such policies and encourage their use.
- Monitor the utilization rates and follow up where usage is low.

Improving the Tenure Process

In studies that examined the tenure process (Austin & Rice, 1998; Menges & Exum, 1983), several consistent problems emerged: unclear, inappropriate, or unrealistic tenure criteria; inadequate, unhelpful, or contradictory feedback from the chair and senior faculty; the disparity between the allocation of effort (between teaching, research, and service) expected by the department and the way performance is evaluated in tenure review; and the thoroughness of the review process. Women were much more likely than men to be troubled by these issues and cite them as barriers to their success (Johnsrud & Atwater, 1993; Johnsrud & Des Jarlais, 1994).

- Coach new faculty on how to prepare for tenure review.
- Codify and clearly communicate the department's requirements and process for tenure.
- Enact a formalized practice of detailed feedback following interim review.
- Ensure that tenure procedure is applied equitably and fairly.

Enacting successful efforts to remedy under-representation of women is a sound decision; in terms of better provision of a quality educational environment, in terms of career successes for academic women, both faculty and students, and in achieving institutional and departmental goals. Moreover, the ability to retain, tenure and promote valued faculty members may confer a competitive advantage to institutions that can successfully address these issues.

This study seeks to highlight the nature and persistence of women's chronic under-representation and its components – attrition, tenure attainment, and promotion to the rank of full professor. The results indicate that the situation for women in this university vis-à-vis their male colleagues is bleak and, without change to the status quo, is likely to worsen. However, recommendations for changes in both policy and practice, informed by this study and the results of additional research may aid in turning the tide for academic women, at least at this university.

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