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Female professors continue to face challenges in the male-dominated academic disciplines of law, medicine, and engineering.

Female Faculty in Male-Dominated Fields: Law, Medicine, and Engineering

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Studies have documented the increased number of women faculty in the academy; however, in areas that are historically male dominated—law, medicine, and engineering—the numbers remain dismal. For example, in the legal academy, “Women constitute only sixteen percent of full professors, however, they constitute almost fifty percent of law school students nationwide” (Farley, 1996, p. 333). More recently, that figure has improved. In 2007–2008, women constituted almost 30 percent of full professors in law schools while still constituting about half of all students (Abdullina, 2008) Yet when women are hired as law faculty, they “receive less pay, are denied tenure at higher rates, and are disproportionately concentrated in lower-ranked schools” (Farley, 1996, p. 333). Even in the most recent statistical report of the Association of American Law Schools, only 30 percent of women law school faculty hold tenured or tenure-track positions compared with 70 percent of the male faculty (Abdullina, 2008). Because the “myths of neutrality and universality—that the perspectives of privileged White males are the embodiment of science, medicine, law or literature—are rarely challenged,” subtle sex discrimination continues to permeate educational institutions (Benokraitis, 1998, p. 19). According to Benokraitis, “One of the assumptions has always been that once women had access to education, salary disparities would decrease. In fact, racial and gender inequalities become greater as one goes up the educational hierarchy” (p. 22). Only 20 percent of law school deans are women, yet women constitute 65 percent of instructors and 61 percent of lecturers—both nontenure-track categories that represent the lowest status of academic

appointments in law schools (Abdullina, 2008). Research conducted by Ash, Carr, Goldstein, and Frieman (2004) suggests that “the most recent female graduates start with salaries similar to those of their male colleagues, but by three to eight years after a degree is earned, salary disparities appear and then increase with greater seniority” (p. 212).

The women “firsts” in these selected fields endured challenges based solely on their gender. Myra Bradwell, the first female attorney in the United States in 1869, “was denied admission to the Illinois bar because the court declared that women, because they are delicate and timid biologically, are unfit for the rude world of law practice” (Farley, 1996, p. 349). Similarly, the first woman to obtain a medical degree in 1849, Elizabeth Blackwell, was denied admission to the major medical schools. The one school to accept Blackwell presented her application to the male student body to determine admittance, which was granted under the guise that it was a practical joke. Despite resistance from students, professors, and even community members, Blackwell graduated first in her class. Unfortunately possessing stellar credentials was not sufficient; she was unable to secure a position with hospitals and decided to establish her own infirmary (National Women’s Hall of Fame, n.d.).

While challenges of the firsts were mainly blatant acts of sexual discrimination, today the occurrences tend to be subtle and often go unnoticed, especially those who are unaffected by the discrimination. “Subtle sex discrimination is often not noticed because most people have internalized subtle sexist behavior as normal, natural, or acceptable” (Benokraitis, 1998, p. 5). Today access to higher education is not an issue for females; however, male-dominated disciplines rarely provide welcoming or accepting environments compared to other disciplines, such as education or social work. The transition from student to professor status in these male-dominated areas has not met with any less resistance. “The articulated requirements for tenure are scholarship, teaching, and service, but what matters even more importantly, is not spoken. That requirement is the ability to fit in and for a woman in a male-dominated environment, this is a difficult task” (Farley, 1996, p. 347).

Law

“In legal academia, women are congregated in lower-ranking, lower-paying, lower-prestige positions” (Levit, 2001, p. 778). The perception of women as law professors has had a significant impact on their success and advancement. “Female faculty have entered legal education since the early 1980s but are leaving at greater rates than any other group outside of people of color” (Dusky, 1996, p. 88). Negative and sexist feedback from students in hostile classroom environments, criticism of scholarship, and generally not fitting into the “law professor” mode are factors that have an impact on female law professors.

“One of the main issues for women faculty in law is the presumption of competence. Student evaluations reveal that female law professors are judged on being a woman first and foremost and as not being well suited to teach law” (Farley, 1996, p. 336). Many law students enter law school possessing an image of a white, older, male professor sitting at a podium with a stern demeanor, questioning their competence and undermining their confidence. “The image of the paradigmatic law professor is still Professor Kingsfield from *The Paper Chase*,” a movie in which the stereotype of what a law professor is—a stern white male—continues to exist (Farley, 1996, p. 343). Since women do not mirror that image, they are treated with hostility. According to Farley (1996), female professors “report that the classroom is often hostile and students are disrespectful” (p. 341). This type of environment is labeled “a ‘prove it’ class dynamic where women are required to prove that they are qualified to teach law” (p. 341). Challenges, mostly from male students, have been observed by even male colleagues, who were “most struck by this atmosphere” (p. 341). Levit’s 2001 portrait shows that these student perceptions and actions persist over time.

Law schools reinforce gender differences in teaching. “Female law professors are much more likely than male professors to teach substantive courses addressing familial issues, as well as skills courses that demand labor intensive student nurturing” (Levit, 2001, p. 781). In addition, female faculty take on additional responsibilities from “student advising, attending student and community functions, planning law school programs to hosting or participating in colloquium series, reviewing manuscripts for colleagues, and serving on law school, university, and public service committees,” which are not factored into the tenure evaluation process (p. 781).

“The main excuse that law faculties use to deny tenure is that the women’s scholarship has been found lacking” (Dusky, 1996, p. 104). According to law professor Eleanor Swift, who was not offered tenure at Berkeley, female faculty are provided comments such as, “Your scholarship fails—it’s ‘unsuccessful,’ ‘unpersuasive,’ ‘overly ambitious,’ or ‘makes no contribution’” (p. 105). Due to this type of ambiguous and unconstructive feedback, many female professors have made their situations public and filed sexual discrimination grievances against law schools. Other accounts of denial of tenure include females being told they “didn’t make enough friends of the male faculty” (p. 108). A professor denied tenure at Harvard Law School was informed that “some professors were miffed that she didn’t seek them out to chat them up” (p. 108).

There are strategies that individuals and institutions can employ to welcome female law professors. First, women can serve as a catalyst to change the law schools where they teach. Our society is one that debunks myths and stereotypes by demonstrating flawed reasoning and logic. Qualified females graduate from law schools with as stellar credentials to teach and conduct research as their male counterparts do. Female law professors should thus not internalize stereotypes about inferiority,

but should strive to maintain self-confidence and align themselves with people who believe in them. Second, essential changes in the law school environment include “institutionalizing the expectation of mentoring” (Levit, 2001, p. 803). Mentoring by women and men in the legal academy is needed to guide those seeking tenure and acceptance. Finally, “what is absolutely required is the recognition that the legal system, the legal reasoning structure, and the law school are gendered institutions” (Farley, 1996, p. 352). According to Acker (1992), “The term ‘gendered institutions’ means that gender is present in the processes, practices, images and ideologies, and distributions of power. The law was historically created by men, currently dominated by men, and symbolically interpreted from the standpoint of men in leading positions, both in the present and historically” (p. 567). Moreover, Farley (1996) asserts, “We need to confront and reappraise the paradigms of legal education. We need to question ourselves, our colleagues, and our students about our assumptions about what law is and how law should be taught” (p. 7). Institutional change in law schools should address the acceptance of various research interests of females, especially those labeled as “nonmainstream,” and should insist on the use of nonsexist criteria to determine tenure.

Medicine

In the medical field, studies have confirmed that “academic rank and career success of women in academic medicine lags behind that of their male colleagues” (Lewis-Stevenson and others, 2001). “In medicine, 40% of graduates are women, and, until recently, women have entered academia in higher proportions than males” (Ash, Carr, Goldstein, and Frieman, 2004, p. 12). Speculations for the recent decline of female professors are attributed to resident and fellow awareness of the challenges facing women who choose academia. Lewis-Stevenson and others (2001) found that “despite the observation that women are more likely to pursue academic careers, women are more likely to remain at lower rungs on the academic ladder” (p. 459). One justification for this difference has been that “women may place different levels of value on some of the processes associated with achieving promotion and tenure in academic environments” (p. 459). For example, reports have shown that women tend to participate in “teaching and clinical activities over research because they find the former items more satisfying” (p. 459). In a 1997 study of 113 U.S. medical schools with family medicine departments, data collected revealed that “faculty in departments of family medicine were more likely to be female, 41% versus 21%, compared with all academic medicine disciplines. However, women in full-time positions were less likely than men, to be either an associate or full professor” (p. 461). In 2003, women in medical schools constituted only 11 percent of full professors and 13 percent of associate professors (Association of American Medical Colleges, 2003).

Similarly, another study showed that “women in academic emergency medicine spent a greater percentage of time in clinical and teaching activities, published less in peer-reviewed journals, and were less likely to achieve senior academic ranks in their medical schools” (Cydulka and others, 2000, p. 1006). Although the academic preparation is the same for men and women, differences exist in the advancement process: “Women were offered fewer academic resources at the time of their initial appointments, spent longer periods at lower ranks, and even after adjustment for productivity factors, were less likely to be promoted to associate or full professor” (Cydulka and others, 2000, p. 999). Ironically, the study revealed mentoring in an unfavorable light, observing at the turn of the century the following condition:

Networks of women faculty have not been effective as those of their men colleagues, as networks for women faculty tend to include fewer faculty of high rank and few associates from previous institutions. This problem is certainly true in emergency medicine, where very few women hold leadership positions and only two women are chairs of academic departments [p. 1005].

Another factor discovered in the study is that “women are younger than their male counterparts, spend more time on teaching and patient care activities, and are less likely to reach senior academic ranks than are men” (p. 1002).

Ash, Carr, Goldstein, and Frieman’s review (2004) of research shows that in addition to “simple discrimination,” female full professors are scarce for several reasons, including “lower motivation, their lack of mentorship, sexual harassment, greater family responsibilities, and less institutional support” (p. 11). In sharp contrast, a study regarding the promotion and salary of female versus male medical school full-time faculty at randomly selected U.S. medical schools revealed that “women had similar motivation, and similar mentoring as male faculty, and gender bias or sexual harassment had noticeably affected academic productivity” (p. 11). Not surprisingly, “Family responsibilities did differentially weigh on female faculty, affect their academic productivity, and contribute to greater time to attaining senior rank” (p. 11). Overall, these studies shed light on a disturbing fact that “despite an adequate pipeline in academic medicine and sufficient years for women to achieve full professor ranks, there is less advancement to full professor rank and lower salaries for women” (p. 12).

Fortunately, there are examples of medical schools that not only recognize the importance of achieving equality by creating policies but by action. The Johns Hopkins Department of Internal Medicine implemented a program beginning in 1990 to address the mentoring of female faculty. A faculty development position was created and was responsible for working “with all levels of staff personnel to analyze problems and mediate solutions” (Cydulka and others, 2000, p. 1005). In addition, faculty members

were educated on gender discrimination, and a “reduction of isolation” program was implemented. Proponents of gender equality in higher education assert that a commitment from high-level university officials and department heads who recognize a need for improvement is essential. In support of this assertion, “Johns Hopkins’ program success resulted primarily because the chair of the department of medicine was also very interested in seeing this program be successful” (p. 1005).

Medical schools should carefully “examine their environment for gender equity in promotion and compensation” (Ash, Carr, Goldstein, and Frieman, 2004, p. 12). For their success, academic women faculty in medicine “should be encouraged to focus on their goals and objectives and actively steered toward pathways that will help achieve them rather than toward avenues that don’t lead to academic promotion” (Cydulka and others, 2000, p. 1005). Strategies designed to retain female faculty in medicine and enhance their professional growth include “mentoring and research relationships developed, creative time planning that includes the consideration of time required for childbearing and child rearing, which would alleviate the pressure of forcing women to decide between career and family and thus potentially decrease the loss of many emerging academicians” (p. 1006). Efforts to include women on projects and committees that may assist in their career development and academic promotion are essential.

Engineering

According to Horning (1984), “Historically, women’s low representation in science and engineering was said to be due in large part to their lack of ‘ability, interest, or both’” (p. 30). Today this notion is no longer the case because of programs as early as elementary school promoting math and sciences to girls. Yet a more effective way of attracting females into the sciences, and specifically engineering, would be to increase the number of female faculty who can serve as mentors and role models. “Qualified women applicants are not given the opportunity to become engineering faculty because it is presumed that women will not have the time to serve as effective members of the professoriate given their family obligations” (Baum, 1989, p. 557). The model of the ideal worker in sciences and engineering, says Williams (2006), assumes a work week of more than fifty hours a week, which continues to exclude women who have child care obligations. Xie (2006) finds that women with children are less likely to pursue careers in science and engineering and less likely to be promoted. He states, “Although some of the gender differences are attributable to the advantages that marriage and parenthood bestow upon men, they clearly suggest that being married and having children create career barriers that are unique to women—as opposed to men—scientists.” (p. 172). Societal views have constructed the engineering profession as one of prestige and status that is associated with white males. “Historically, women have not been extended opportunities to

possess that same status and power” (Aisenberg and Harrington, 1988, p. 4). Similar to women in law, “Female faculty in engineering endure a ‘double-bind’ in which they attempt to redefine the ‘male’ image of professor as well as of engineer and are, oftentimes, the lone woman surrounded by a cadre of male academics” (Baum, 1989, p. 557). The “lone woman” image persists: women currently constitute only 11.8 percent of tenured or tenure-track faculty in engineering (Gibbons, 2008).

In a study of female engineering faculty, McKendall (2000) found that “the experiences of women engineering faculty are not unique to the professoriate, but their experiences have more impact because of their low representation. Most of the study participants endure environments that do not consider the problems and issues they encounter” (p. 32). The participants with families “must perform a balancing act between the roles of mother/wife and professor. This provides another source of anxiety that is not unique to the professoriate; however, as the only woman in the department, some may feel inclined to be a ‘superwoman’ in terms of publishing, teaching, obtaining grants, and service in their quest to prove themselves worthy of their position” (p. 34). McKendall indicates that the majority of males in this field do not have to consider the role of primary caregiver to children because of stay-at-home wives or professional child care providers who take on that responsibility. High levels of burnout and leaving the academy are often the results of taking on the superwoman role.

McKendall (2000) offers these recommendations for how institutions and individuals can take the initiative to change institutional and departmental climates for women in engineering:

- The dean should visit faculty meetings periodically in order to assess the departmental dynamics. However, this would be effective only if the dean is free from biased, sexist, stereotypical perceptions.
- Create a listserv or discussion group that could foster dialogue among female faculty to discern how others deal with some of the differences and share some of the problems specific to women in engineering and the sciences.
- Create sensitivity classes to make men aware of the differences that affect them not only in working with their colleagues but also with students in the classroom.
- Diversify the faculty and administration.
- Provide a formal setting where women across campus can interact (possibly a monthly seminar series or luncheon)
- Provide day care services.
- Increase the number of women in engineering [p. 34].

Another well-publicized account of female faculty engineers focused on the Massachusetts Institute of Technology (MIT). A group of female and male faculty in the School of Science analyzed the status of women faculty

in the department. This committee was created by the dean of science after inequalities were identified by female faculty and brought to his attention. The dean also conducted “a quick study and immediately recognized that a serious problem existed. He became a strong champion of the women’s cause” (Committee on Women Faculty in the School of Science at MIT, 1999, p. 6). According to the Committee on Women Faculty in the School of Science at MIT, findings demonstrated that “many tenured women faculty feel marginalized and excluded from a significant role in their departments. Marginalization increases as women progress through their careers at MIT. Data in support of their views are differential pay, space, awards, resources, and response to outside offers between men and women faculty with women receiving less despite professional accomplishments equal to those of their male colleagues” (p. 4). In contrast, “Junior women faculty feel well supported within their departments and most do not believe that gender bias will impact their careers differently from those of male colleagues” (p. 4). Perhaps their positive views expressed were in fear of being viewed as “complainers” or “it is quite possible they have been socialized by the male-dominated paradigm” (McKendall, 2000, p. 33). Alarming, the committee discovered that “the percent of women faculty in the School of Science (8%) had not changed significantly for at least 10 and probably 20 years” (Committee on Women Faculty in the School of Science at MIT, 1999, p. 4).

The committee learned that in order to address issues and concerns of female faculty in departments, it was necessary to conduct “meaningful review which is twofold: (1) It is essential to review primary rather than processed data, and (2) It is essential that the review be done by senior women faculty who are deeply knowledgeable about the particular department, discipline, and area of research” (p. 7).

MIT’s Committee on Women Faculty (1999) proposed more detailed recommendations to the administration than participants in the McKendall study. The suggestions included specific, action-oriented ways to address each item. Initiatives submitted include “the establishment of the women’s committee as a standing committee, review annually the compensation system, replace administrators who knowingly practice or permit discriminatory practices against women faculty, and address family-work conflict realistically and openly” (pp. 14–15). A follow-up report from MIT (Hopkins, Bailyn, Gibson, and Hammonds, 2002) details the similarities in situation between engineering and science schools and other units of the campus. It also highlighted changes that had begun to occur since the 1999 report, such as increases in the representation of women in engineering and science administration.

Conclusion

Common themes throughout the three disciplines discussed include lower pay for female faculty with the same credentials as male counterparts, longer

time to tenure due to various factors, and performing a disproportionate share of stereotypical "nurturing" tasks such as teaching clinical courses, advising students, and serving on committees. Studies reveal that a commitment from department chairs and upper-level administrators, mentoring programs, and consideration of family circumstances all have a positive impact on the environment, treatment, and success of female faculty. Ultimately the eradication of sexist policies and norms has to be recognized and addressed in order to have equity in teaching law, medicine, and engineering.

More important, those who want to help improve the situation of women in nontraditional fields should be inspired to conduct additional research that supports and validates the gender equality effort that has to be continually championed by all. "As students, faculty, administrators, and alumni, we can speak up individually about 'just below the surface' discriminatory behavior that many women (and some men) experience on a daily basis" (Benokraitis, 1998, p. 31).

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