2006-979: REASONABLE EXPECTATIONS: UNDERSTANDING THE LIMITED POWER OF TITLE IX TO TRANSFORM STEM EDUCATIONAL PROGRAMS

Catherine Pieronek, University of Notre Dame

Catherine Pieronek, J.D., is Assistant Director of Academic Programs and Director of the Women's Engineering Program at the University of Notre Dame College of Engineering. She has worked as a senior systems engineer on NASA spacecraft projects at TRW Space & Defense Sector, and as Director of External Relations for the Notre Dame Law School. She serves as a faculty advisor and editorial referee for the Journal of College of University Law, a student-edited legal journal published by the Notre Dame Law School and the National Association of College and University Attorneys, and has special expertise in matters involving Title IX of the Education Amendments of 1972. She earned her B.S.A.E. from the University of Notre Dame, her M.S.A.E. from UCLA, and her J.D. from the Notre Dame Law School.

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Reasonable Expectations: Understanding the Limited Power of Title IX to Transform STEM Educational Programs

Abstract

In 1972, Congress enacted Title IX of the Education Amendments of 1972 (20 U.S.C. §§ 1681-1688) to prohibit discrimination on the basis of gender in educational programs and activities that receive federal financial assistance. Over the past three decades, educational institutions have seen incredible growth in the number, and relative percentage, of women in most areas of higher education, from academic programs in demanding fields such as medicine and law to extracurricular activities such as athletics. At the same time, the number, and relative percentage, of women in engineering and certain science disciplines has also grown tremendously when compared with pre-1972 numbers. Unfortunately, however, the representation of female students and faculty in these fields still is nowhere near 50 percent and, in fact, appears once again to be decreasing.

The active enforcement of Title IX has shown tremendous power in shifting the balance of participation in intercollegiate athletics from 15 percent women in 1972 to more than 40 percent today. This has inspired some to look to Title IX to similarly transform science, technology, engineering and mathematics (STEM) educational programs and activities to achieve similar gains. But Title IX in the athletic context differs markedly from Title IX in the academic context, and similar tactics likely cannot produce similar results.

This paper looks at Title IX in the academic context, differentiates it from Title IX in the athletic context and explores how successes in one area do not necessarily portend similar successes in the other. It also examines issues raised in a recent report by the U.S. Government Accountability Office, which discusses some challenges regarding Title IX compliance monitoring and enforcement from the perspective of the federal government. The paper explores ways in which educational institutions can engage in their own compliance-monitoring efforts to effect change and, where relevant, includes examples of Title IX enforcement efforts through relevant federal-court cases. The paper concludes with advice for educational institutions seeking to use Title IX to improve educational programs and activities with an eye toward making them more hospitable to female students and faculty.

Introduction

Title IX of the Education Amendments of 1972[1] states that "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance . . . ."[1] As legislation enacted pursuant to congressional authority granted by the Spending Clause of the United States Constitution,[2] the statute forms a contract between the federal government and the federal funding recipient. The terms of that contract condition the grant of federal funds on the funding recipient's promise not to discriminate on the basis of gender. Thus, unlike other anti-discrimination laws such as the Fifteenth Amendment to the U.S. Constitution, which bans

outright, under any circumstances, all discrimination on the basis of race or color,[3] Title IX merely prohibits the use of federal funds in educational programs or activities that discriminate on the basis of gender. It does not outright prohibit gender-based discrimination under all circumstances and, thus, has a somewhat limited reach.

Since the enactment of Title IX thirty-four years ago, women have made tremendous progress in all areas of education. In higher education, in particular, women have achieved nearly equal representation to men, even in areas traditionally dominated by men such as law and medicine, as well as athletics, as shown in Table 1.[4,5,6]

Table 1
Percentage of All College Degrees Granted to Women
1972 to 2001

	1972	2001	% Growth
Bachelor's degrees granted to women (all fields)	43.7%	57.4%	31.4%
Master's degrees granted to women (all fields)	40.6%	58.6%	44.4%
Ph.D. degrees granted to women (all fields)	16.0%	44.0%	174.8%
First professional degree (all health fields)	6.5%	47.2%	626.2%
First profession degree (law, divinity, rabbinical studies)	6.1%	45.4%	644.3%
Intercollegiate athletics participation (NCAA members)	15.0%	43.0%	186.7%

In engineering, however, while their *rate* of progress has been exceptional, women still comprise a distinct minority of graduates at all levels, as shown in Table 2.[4]

Table 2
Percentage of All Engineering Degrees Granted to Women
1972 to 2001

	1972	2001	% Growth
Engineering bachelor's degrees granted to women	1.1%	20.1%	1768.0%
Engineering master's degrees granted to women	1.6%	21.2%	1212.6%
Engineering degrees granted to women	0.6%	16.9%	2587.8%

Despite these gains, it is also important to realize that the actual *number* of women earning engineering degrees at all levels has not really changed over the past two decades. Engineering bachelor's degrees awarded to women in 1987 and 2001 totaled 11,404 and 11,914, respectively, for a growth rate in that fourteen-year period of only 4.4 percent. During that same time period, however, the number of women earning a bachelor's degree in any field grew by 39.2 percent.

Significantly, much of the growth in the percentage of engineering bachelor's degrees awarded to women from 1987 to 2001 has resulted not from an actual increase in the number of female engineering students, but rather from a purely arithmetic increase caused by a 25 percent drop in the number of male engineering students during that time period.[4]

Additionally, despite comprising nearly 17 percent of engineering Ph.D. recipients in 2001,[4] women currently comprise only 8.5 percent of engineering faculty nationwide.[7] At the same time, women comprise a disproportionately large segment of the lower faculty ranks: 27.1 percent of instructors/lecturers; 13.9 percent of adjunct faculty; and 10.6 percent of non-tenure-track faculty.[7]

Coincident with the thirtieth anniversary of Title IX in 2002, segments of the federal government, various women's advocacy groups, and science and engineering educators began paying attention to the disparity between the participation rates of women and men in STEM disciplines. During the summer and fall of 2002, the U.S. Senate Subcommittee on Science, Technology and Space, of the Committee on Commerce, Science and Transportation, held hearings to gather information on the subject.[8,9,10] In 2003, a group of some 200 scientists, mathematicians and engineers sent a letter to Rod Paige, then-Secretary of Education, "imploring" him "to make certain that the disparities [that exist] in the numbers of women and men in our nation's institutions of science education are not the result of violations of Title IX law."[11] In July of 2004, at the request of Senators Ron Wyden (D-OR) and Barbara Boxer (D-CA), the United States Government Accountability Office (GAO) issued a report titled *Women's Participation in the Sciences Has Increased, but Agencies Need to Do More to Ensure Compliance with Title IX.*[12] Shortly thereafter, in August of 2004, the United States Department of Education (DED) issued a "Dear Colleague" letter informing postsecondary educational institutions of their basic obligations under the law as a result of DED's Title IX compliance investigations of at select federal funding recipients.[13]

All of this attention has raised some interesting questions for educational institutions and engineering educators:

- How far can Title IX go to remedy the persistent under-representation of women in engineering and the hard sciences? Or, put differently, can Title IX achieve for women in engineering and the hard sciences what it has achieved for women in intercollegiate athletics?

- How can Title IX help to ensure that the persistent under-representation of women in engineering and the hard sciences does not result from gender-based discrimination?

Answering the first question requires understanding the statute itself, along with the implementing regulations and other interpretive documents. Answering the second question requires understanding the Title IX compliance and enforcement scheme.

The Title IX Statute, Implementing Regulations and Interpretive Documents

The Title IX statute generally prohibits discrimination on the basis of gender (including

discrimination in the form of sexual harassment) in educational programs or activities that receive federal funds. The statute does, however, exempt traditionally single-sex public institutions, military institutions, educational institutions with contrary religious tenets, and certain single-sex activities such as Boy Scouts and Girl Scouts, father-son and mother-daughter activities, and fraternities and sororities.[1]

The statute explicitly states that the law cannot be interpreted to *require* any educational institution to grant preferential or disparate treatment to members of one gender to remedy a statistical imbalance in participation in an educational program or activity,[1] but is silent on the matter of whether an educational institution *may* pursue hiring quotas or enrollment goals, for example, to remedy a male/female imbalance on its faculty or in its student body. (Note, though, that certain state laws may actually prohibit such affirmative action efforts.)

The statute also spells out what the government must do when confronted with a Title IX violation at a funding recipient. Because of the contractual nature of the statute, the government has only one remedy when an educational institution breaks its promise not to discriminate on the basis of gender – that is, terminating federal funding in all of its forms, including federally guaranteed students loans. However, prior to terminating funding, the statue does require the federal funding agency to give the educational institution *notice* of the violation and an *opportunity to remedy* the problem.[1] As explained by the United States Supreme Court in a recent Title IX case, "a central purpose of requiring notice of the violation . . . and [providing] an opportunity [to come into] voluntary compliance before administrative enforcement proceedings can commence is to avoid diverting educational funding from beneficial uses [in instances in which] a recipient [institution] was unaware of discrimination in its programs and is willing to institute prompt corrective measures."[14] Without this notice requirement, the Court continued, an educational institution "would be liable in damages not for its own official decision but instead for its employees' independent actions."[14] Thus, the Title IX enforcement scheme makes clear that, when confronted with a Title IX violation, the government first must give the educational institution notice about the violation, and then must allow the educational institution the opportunity to remedy the violation before the government decides to terminate funding. Put differently, an educational institution does not violate Title IX merely because gender-based discrimination exists on its campus. It violates Title IX only when, after becoming aware of the gender-based discrimination, it decides not to act to remedy the violation. With these constraints, then, it is not surprising that no educational institution has ever lost federal funding because of a Title IX violation.

The type of notice required, however, varies with the type of Title IX violation at issue. Challenges to gender-based inequities in athletic programs generally have not required formal notice, as courts deciding such cases tend to impute institutional knowledge of any gender-based inequities, because such inequities typically result from funding or other programmatic decisions made by the institution itself. Cases involving sexual harassment, on the other hand, do require actual notice to a person who has the authority to take steps to stop the offending conduct.[14] Otherwise, an educational institution risks losing funding for act committed by individual faculty, employees or students – acts that it likely already forbids but has no real way of preventing on an individual basis. Cases of gender-based discrimination in academics, though, raise an interesting question regarding notice. Should an educational institution "know" that one

of its programs violates Title IX merely because of a male/female imbalance in student or faculty participation? Must the educational institution actively seek out and investigate such situations to determine whether the imbalance results from gender-based discrimination or from other nondiscriminatory factors such as personal choice? Or may the educational institution wait until someone – whether perhaps a student or employee, or a federal funding agency – notifies it of the existence of gender-based discrimination. These questions have no clear answers. At least one commentator has argued against imposing an "actual notice" requirement on Title IX violations other than sexual harassment, though, contending that educational institutions should not need to be told when their programs and activities do not comply with the law.[15] But how actively must an educational institution seek out such instances of inequity, especially when they might be isolated deep in an academic department or when they might result from poor choices made by lone or small groups of faculty or administrators?

Another question relates to how far an educational institution must go in its attempts to remedy a Title IX violation. Here, the answer is a little clearer. Courts generally find sufficient *any reasonable effort* aimed at stopping the discriminatory conduct, even if that effort ultimately proves unsuccessful. As the United States Court of Appeals for the Seventh Circuit has explained: "School officials faced with knowledge of [gender-based discrimination] must decide how to respond, but their choice is not a binary one between an obviously appropriate solution and no action at all. Rather, officials must choose from a range of responses. As long as the responsive strategy chosen is one plausibly directed toward putting an end to the known [discrimination], courts should not second-guess the professional judgments of school officials. In general terms, it should be enough to avoid Title IX liability if school officials investigate aggressively all complaints of [gender-based discrimination] and respond consistently and meaningfully when those complaints are found to have merit."[16] For example, when a dean knows that a male professor has engaged in discriminatory conduct (sexual harassment) toward a female student, the dean may, consistent with Title IX, follow the university's internal disciplinary procedures to attempt to put a stop to the professor's conduct, and need not initially resort to the drastic last step of firing the professor to ensure that his misconduct does not continue. But, if those disciplinary procedures ultimately prove ineffective, or if the university threatens but fails to follow through on stepped-up disciplinary action for successive incidents of misconduct, the university risks a Title IX violation by not undertaking a more serious course of disciplinary action.[17]

In 1988, Congress amended Title IX by passing the Civil Rights Restoration Act of 1987,[18] which gives Title IX institution-wide application. Thus, if *any* program or activity of an educational institution receives federal funds, then the *entire* educational institution must adhere to the requirements of the law. The Civil Rights Restoration Act also carves out another exception to the original statute by taking a position of neutrality with respect to the provision of abortion services.[18]

Congress set out Title IX's general nondiscrimination requirements in the language of the statute, but DED has explained how to comply with the law in the Title IX implementing regulations.[19] Forty-three separate regulations provide specific details in the following areas: (1) sixteen explain the scope of the law and address general administrative functions of educational institutions; (2) fifteen concern student services and activities; and (3) twelve apply to

employment practices. Various interpretive documents, available on DED's website at www.ed.gov, further explain these regulations.

As discussed in more detail in Pieronek,[20] of the sixteen regulations that address general administrative functions, twelve explain the scope of the law and the operation of the regulations themselves. Importantly, the regulations import into Title IX the compliance and enforcement scheme established for Title VI of the Civil Rights Act of 1964,[21] which prohibits race-based discrimination. Thus, changes in that area of the law affect Title IX compliance and enforcement, and vice-versa.

Four regulations impose particular obligations on educational institutions and prescribe the *minimum* that an educational institution *must* do in order to comply with the law. When applying for federal funding, an educational institution must:

$ *Assure granting agencies that programs and activities comply with Title IX*.[19] This assurance often takes the form of a *pro forma* statement included with a federal grant application. According to the 2004 GAO Report,[12] federal granting agencies typically require that grant applications include such statements, leading to the inference that educational institutions seeking federal funds typically comply with this requirement, albeit in a mechanical or routine manner.

$ *Designate at least one employee to coordinate Title IX compliance efforts, establish a Title IX grievance procedure, and disseminate information regarding the institution's Title IX nondiscrimination policy*.[19] According to a "Dear Colleague" letter issued by DED in August of 2004,[13] however, it appears that many educational institutions actually do not comply with these requirements. In its review of the Title IX compliance status of selected educational institutions, in fact, DED found "several instances" of noncompliance, explaining: "Examples of deficiencies identified during [DED] reviews include the failure to designate and/or adequately train at least one employee to coordinate the recipient's Title IX responsibilities, the failure to have and/or disseminate notice of the [institution's] nondiscrimination policy, and the failure to adopt or publish required Title IX grievance procedures to address [gender] discrimination claims. The most frequently cited problem was the failure to effectively disseminate notice of the Title IX coordinator's identity and contact information as required by the Title IX regulations."[13] The 2004 GAO Report, too, raises concerns about recipient noncompliance with these regulations, pointing out that some federal funding agencies do not routinely confirm whether recipients have complied with these requirements. [12]

$ *Undertake any remedial actions, including any affirmative action, ordered by a federal funding agency in response to a finding of gender-based discrimination.*[19] Even without such a finding, though, an educational institution *ma*y engage in affirmative action "to overcome the effects of conditions" which limited the participation of persons of one gender in a particular program or activity. For example, if the under-representation of women on an engineering faculty resulted from years of biased hiring practices, the engineering program could, consistent with Title IX, focus hiring efforts on female faculty until it has overcome whatever negative effects have persisted from the prior,

biased hiring practices.

Of the fifteen regulations that cover student services and activities, four address the admissions and recruitment of potential students, while eleven cover nondiscrimination in the educational programs and activities offered to existing students.

These regulations explain how Title IX prohibits gender discrimination in student-recruitment activities by prohibiting certain admissions practices including: preferring one applicant over another solely on the basis of the applicant's gender; preferring applicants from particular single-sex schools, if such preferences limit opportunities for members of the other gender; ranking applicants separately by gender; applying limits on or otherwise controlling the proportion of male and female students admitted; and using admissions tests or other criteria that adversely and disproportionately affect applicants of one gender, unless the educational institution can show both that the tests or other criteria validly predict student success, and that no gender-neutral alternatives exist; and inquiring into a student's marital or parental status.[19] An educational institution may inquire about an applicant's gender, however, as long as the information is used for benign purposes such as housing assignments and not as a way to collect information to facilitate discrimination in the admissions process.

If an engineering program has a disproportionately low percentage of women, what does Title IX prohibit or permit in the recruitment and admissions process to increase that percentage? Based on the regulations and on recent court cases,[22] the law prohibits such actions as: using a different standard to evaluate male versus female applicants; establishing a quota for the number or percentage of male and female applicants admitted to a program; and using the results of gender-biased tests as criteria for admission. Essentially, the law prohibits actions designed to alter the *results* of an admissions process in a manner that favors applicants of one gender. On the other hand, the law does permit *alterations to the process itself*, even if such alterations might favor women, as long as women and men are similarly evaluated under the new criteria. So what options could an educational institution consider?

If, for example, an engineering program uses SAT math scores as an admissions criterion, that part of its admissions process might cause an under-admission of women, because women tend to under-perform on the SAT math test and, on average, score lower than men.[23] To remedy the enrollment imbalance that results from this process, an educational institution might consider a solution from a range of options that could include:

$ Altering admissions criteria to accept a lower math SAT score, as long as men have the benefit of that lowered SAT math score as well.

$ Discontinuing the use of standardized test scores altogether and considering other factors such as an applicant's performance in high school mathematics and science classes, where women tend to out-perform men.[23]

$ Using a combination method, admitting both students who have a particular SAT math score and students who have taken an appropriate set of high school math courses to demonstrate competency equivalent to that desired SAT math score.

Or, if the lower percentage of women admitted to the program results not from any biased admissions standards but from a smaller applicant pool of qualified women, the educational institution may engage in efforts aimed at increasing the number of applications from female students. It may not, however, preferentially admit these women.

These regulations apply to undergraduate and graduate admission alike, so graduate-school recruitment and admissions practices should be scrutinized for bias as well. A particular graduate program may, for example, regularly favor students from particular undergraduate institutions because of experiences that indicate that the quality of those undergraduates fits well with the demands of that particular graduate program. But, if those particular undergraduate programs have a poor record of retaining women, the graduate school's admissions practices probably limit the pool of women who would be considered for admission and, in turn, likely limit the number of women admitted. The educational institution should, therefore, adjust its recruitment processes to broaden the field from which it selects suitable candidates for admission.

Title IX also prohibits any inquiry into the marital or parental status of an applicant.[19] A certain professor might prefer not to work with a female graduate student who is or might become pregnant, for example, because of a real fear that her needs for time off to tend to her children might adversely impact a tight research schedule. But Title IX clearly prohibits any inquiry into her marital or parental status and, more importantly, prohibits that any actions based on any knowledge, however gotten, of the woman's marital or parental status. Tight research schedules in demanding fields such as engineering do not absolve an educational institution from its Title IX obligations.

A recent decision by the United States Court of Appeals for the Eleventh Circuit[22] provides a good framework for developing a set of questions to ask when considering whether recruitment and admissions practices aimed at increasing the representation of women in engineering programs satisfy the requirements of Title IX:

- Does an admissions policy that favors women use gender in a rigid or mechanical way that does not take sufficient account of the different contributions to student-body diversity that individual applicants may offer? (Acceptable answer: No.)

- Does an admissions policy fully and fairly take account of gender-neutral factors that may improve the percentage of women in the engineering student body? (Acceptable answer: Yes.)

- Does the admissions policy give an arbitrary or disproportionate benefit to women? (Acceptable answer: No.)

- Has the educational institution genuinely considered, and rejected as inadequate, gender-neutral alternatives for increasing the percentage of women in the student body? (Acceptable answer: Yes.)

Together, these factors help to ensure that women do not have an unfair advantage over men, but still allow for some efforts targeted toward increasing the representation of women in the applicant pool and, as a result, among admitted students.

With regard to current students, undergraduate and graduate alike, the regulations include a broad prohibition of gender-based discrimination in "any academic, extracurricular, research, occupational training or other educational program." Title IX prohibits an educational institution from offering any program or activity separately to male and female students, but carves out an exemption on matters involving academic freedom.[19] What, then, does this general proscription mean for programs aimed at attracting young women to engineering programs? While the regulations do allow for affirmative action "to overcome the effects of conditions" which limited the participation of persons of one gender in a particular program or activity,[19] what if the educational institution cannot point to anything it had done in the past to limit the participation of young women in its engineering program? Could it still engage in efforts targeted toward inspiring young women to pursue engineering education? Again, these questions have no clear answers. However, in 2000, twenty-one federal agencies (apart from DED) published a notice to adopt a common rule for Title IX compliance and enforcement almost identical to DED's regulations.[24] In response to inquiries received during the comment period that questioned "the viability of single-sex programs such as an educational science program targeted at young women and designed to encourage their interest in a profession in which they are underrepresented," these agencies did agree that "[s]uch courses may, under appropriate circumstances, be permissible as part of a remedial or affirmative action program."[24] Unfortunately, these agencies did not provide an explanation of what such "appropriate circumstances" might be. Nevertheless, an educational institution that can clearly articulate a sound rationale for offering an engineering outreach program for only young women can proceed with some confidence that such a program likely will survive scrutiny under Title IX.

Separate programs for women and men enrolled at a particular educational institution, on the other hand, prove more problematic. Some researchers have suggested, for example, that male and female students might learn computer programming differently.[25] Consistent with Title IX, could an educational institution offer separate programming classes for men and women? Probably not. Following the logic that informs decisions on recruitment and admissions practices, an educational institution should first seek to determine whether offering separate classes is the *only* way – not just the *most convenient* or *easiest* way – to ensure that women succeed in computer programming. Perhaps all students would benefit from access to alternative teaching methods, even if those alternative teaching methods might favor women's learning styles over men's. Even if it did decide to offer a separate class targeted toward women, however, under no circumstances could an educational institution either require women to enroll in that class or exclude men from that alternative learning opportunity.

Several recent court cases provide additional examples of conduct in the academic environment that, if proven to have occurred solely because of the gender of the students involved and not because of some other objective reason, likely would violate Title IX: routinely refusing to give male nursing students the same opportunities as female nursing students to correct deficient work;[26] refusing to give a male graduate student the same multitude and variety of opportunities as a female graduate student to complete his oral exams;[27] and dismissing two female veterinary

students from their program because of poor grades while allowing male students with similarly poor grades to remain.[28] Treating male and female students differently for no reason other than their gender clearly violates Title IX, no matter the reason for the disparate treatment.

Note, too, that the scope and reach of these regulations does not end at the classroom door. An educational institution that requires participation in a co-op experience or practicum, for example, also has an obligation to ensure that the co-op experience or practicum is free of gender-based discrimination.[29] Moreover, an educational institution that provides career and placement services has an obligation to ensure that employers who use campus facilities to recruit students for employment also abide by relevant nondiscrimination laws in their recruitment and employment practices.[19] Usually, a statement assuring that the employer does not discriminate, signed by an appropriate employer representative, will suffice for these purposes. However, when confronted with evidence that an employer has not lived up to its nondiscrimination obligations, an educational institution may have to take corrective actions that could include banning the employer from recruiting on campus or terminating a co-op arrangement with that employer.

The regulations require that skills-assessment and counseling materials do not direct a substantially disproportionate number of members of one gender toward or away from a particular program, course of study or classification.[19] A disproportionately high enrollment of male students in an honors math program does not, by itself, violate Title IX. But if the high percentage of male students results because counselors routinely steer female students away from such courses, or because admission to those courses is determined solely on the basis of potentially biased SAT math scores, those practices probably do violate Title IX. One recent article highlighted a computer-science program that held regular advising sessions at a local bar, where the men would "sit together, eating the hot wings."[30] Some women did not attend these sessions, and even those who did felt uncomfortable because of the nature of the activity.[30] These sorts of practices can violate Title IX if they have a disproportionately negative effect on students of one gender.

The regulations also prohibit gender-based discrimination in extracurricular programs and other benefits, including financial-aid awards.[19] Thus, scholarships or other financial aid intended to attract women to engineering may violate Title IX, unless male students have access to equivalent (but not necessarily identical) sources of financial aid. The regulations prohibit gender-based discrimination in extracurricular activities including athletics. The regulations do permit single-sex housing, but require that men and women have access to housing of similar quantity and quality, with similar rules and regulations, for similar fees.[19] Thus, if women have access to single-sex living-and-learning communities at a particular university, the university should offer similar opportunities to men. If men choose not to take advantage of those opportunities and the university sees fit to stop offering them for lack of interest, continuing the programs for women alone, then, likely would not violate Title IX.

Educational institutions may not discriminate in health and insurance benefits, and must treat pregnancy the same as any other medical disability "with respect to any medical or hospital benefit, service, plan or policy which such recipient administers, operates, offers, or participates."[19] This regulation appears to limit the requirement to treat pregnancy as a medical

disability only in regard to the medical services and programs in which the educational institution participates. Thus, a medical insurance policy offered to students cannot exclude pregnancy. And although the regulations require that the educational institution treat an employee's or faculty member's pregnancy the same as any other temporary medical disability "for all job related purposes," with regard to students the regulations do not go beyond the requirement of equal treatment in medical services.[19] Thus, the regulations appear to allow for a different treatment of pregnancy versus other temporary medical disabilities for students. In crafting policies, then, educational institutions might differ in their approaches. Stanford University, for example, recently announced a "Childbirth Accommodation Policy," which gives up to six weeks of paid maternity leave for female graduate students.[31] Stanford's more general medical-leave policy, however, does not provide a similar accommodation for other types of medical issues faced by either male or female graduate students in that it allows leave for medical reasons, but does not guarantee the continuation of funding during the student's time off.[32] Stanford's policy does, however, clearly articulate the reason for the distinction between maternity leave and medical leave, acknowledging "that a woman's prime childbearing years are the same years she is likely to be in graduate school, doing postdoctoral training, and establishing herself in a career. The [policy] is designed to partially ameliorate the intrinsic conflict between the 'biological' and the 'research' and 'training' clocks for women graduate students."[32] This limited policy that draws a line between pregnancy and other temporary medical disabilities differs from a broader and more cautious approach recently adopted in the spring of 2005 by the University of Notre Dame. Notre Dame's policy gives graduate students up to two, six-week, paid medical leaves for *any* temporary medical disability, including pregnancy.[33] Notre Dame's approach surely would survive Title IX scrutiny, but it is less clear whether Stanford's approach, however well reasoned, would.

Of the twelve regulations that govern employment practices at educational institutions, three present the general admonition that educational institutions may not engage in gender discrimination in either the hiring process or in providing employment benefits.[19] These regulations apply to faculty and non-faculty employees alike. Many of these regulations parallel the regulations aimed at preventing discrimination against students both in the recruiting and admissions processes and in the provision of educational programs and activities.

These regulations exist independently of and do not alter any institutional obligations under any other federal law, such as Title VII of the Civil Rights Act of 1964,[34] which governs gender-based discrimination in employment generally. Moreover, Title IX may also impact certain institutional obligations under state or local law, because Title IX supersedes state and local laws that prohibit or limit employment for members of one gender but not the other, and requires that educational institutions that provide any compensation, service or benefit to members of one gender pursuant to state or local law also provide that compensation, service or benefit to members of the other gender. While certain state laws such as California's Proposition 209[35] or Washington's Initiative 200[36] may prevent the use of hiring preferences at a state university, Title IX does allow affirmative action to remedy a persistent under-representation of women if an educational institution has been found to have engaged in gender-based discrimination in its hiring practices.[19] The regulations also allow gender to enter into an employment decision when gender is a bona fide occupational qualification, such as when hiring an attendant in a single-sex locker room or a resident assistant in an single-sex residence hall.[19]

An under-representation of women on a particular faculty does not, by itself, violate Title IX. If that imbalance results from factors outside the educational institution's control, such as a persistent under-representation of women among Ph.D. recipients in certain disciplines or because some women who do earn Ph.D.s choose not to work in an academic setting, the educational institution does not violate Title IX if it hires few, or no, women – although it is important to note that a limited number of available female candidates still does not absolve an educational institution from its responsibility to attempt to hire from that small pool.[4,19] But if the imbalance is caused or exacerbated by biased hiring practices, the educational institution likely does violate Title IX.

Certain institutional hiring practices that do not intend to cause discrimination may, nevertheless, violate Title IX if they affect men and women differently. For example, an educational institution may routinely recruit junior engineering faculty from a core group of research universities that produce good numbers of qualified graduates whose research interests align well with the research programs of the hiring university. But if the research universities in that core group have a poor record of graduating female Ph.D.s in engineering, then the hiring institution should either broaden its recruiting activities to encompass more female-friendly graduate programs or risk a Title IX violation. As with students, an educational institution may not use employment tests or other criteria that have a disproportionately adverse effect on members of one gender, unless such tests or other criteria validly predict successful job performance and no other gender-neutral alternatives exist.[19] The regulations also limit certain pre-employment inquiries, prohibiting inquiries into, or different treatment on the basis of, an applicant's marital or parental status.[19] The regulations do permit asking a potential employee's gender, but only if that information does not enable discrimination in the hiring process.[19]

An educational institution must treat its male and female faculty and employees comparably in all of the benefits and conditions of employment, including: compensation, *particularly for similarly situated employees who perform similar functions*; seniority status, promotions and tenure opportunities; and fringe benefits such as insurance or retirement plans.[19] As with students, an educational institution may not discriminate on the basis of marital or parental status. But, the regulations treat pregnancy of employees and faculty differently from that of students, requiring that the recipient institution treat pregnancy as a temporary medical disability for all job-related purposes including leaves-of-absence and other medical benefits.[19] While it may seem backward, in the 21st century after forty years of feminist activism, to treat pregnancy as merely a woman's medical condition rather than as a family event requiring the involvement of both parents (including the one who did not give birth), this framework actually can serve to protect female faculty members better than an "enlightened" family-leave policy might. Medical leave ensures that a new mother has time to recover from her pregnancy and care for her new child and, at the same time, protects her from other disadvantages she might suffer if pregnancy were treated differently. As the 2004 GAO Report notes, for example, "relief from teaching duties [to deal with family issues such as the birth of a child] may benefit male faculty more than female faculty. In connection with the arrival of a child, to the extent that male faculty may have less involvement in caring for newborns, male faculty may use the extra time to do additional research or laboratory work."[12] Thus, while either family or medical leave for pregnancy may give new mothers the time they need to fulfill their obligations to their own health and the care of

their children, using a family-leave framework to give new fathers similar time off may simply allow them to improve their research portfolios during a time when they would be unencumbered by their usual teaching responsibilities and do not have the same medical/physical issues that new mothers face. Thus, a family-leave view of pregnancy might actually disadvantage female faculty (new mothers) in relation to their similarly situated male counterparts (new fathers).

As with all other aspects of Title IX compliance, determining whether an educational institution has violated Title IX in its employment practices requires looking beyond, for example, the numbers of female faculty in a particular program, such as engineering, and looking beyond mere compensation figures. An over-representation of women in the lowest faculty ranks may indicate some form of discrimination in the promotion and tenure process, or it may simply reflect recently stepped-up efforts to increase the representation of women on an engineering faculty by hiring larger numbers of new Ph.D. recipients.[37] Similarly, a salary differential between male and female faculty members of apparently similar rank and responsibility may result from some form of discrimination in the compensation process, or it may reflect some other intangible factors not readily apparent from reviewing a salary spreadsheet.[12,37] For example, some compensation differences can be justified on the basis of different levels of experience and the different impact two outwardly similar employees might have on an educational institution. The men's and women's basketball coaches at a particular university may appear to have similar responsibilities because they both coach teams of approximately twelve student-athletes and have similarly demanding competitive schedules. But, if the male coach of the men's team has many more years of experience, a notable winning record, an extensive list of coaching honors, and fund-raising responsibilities that the female coach of the women's team does not have, the university could, consistent with Title IX, pay him more than it paid her.[38] Similarly, two full professors could, consistent with Title IX, command different salaries if one brings to the university a well established research portfolio, significant research grants and world renown in a particular field, despite the fact that both must teach the same number of courses and supervise the same number of graduate students each year. On the other hand, some compensation differences that might not look discriminatory actually might be, once the reasons for the difference are fully explored. For example, female assistant professors at an educational institution, as a group, might earn higher average salaries than male assistant professors. Perhaps these women legitimately commanded higher salaries because of their experience and overall value to the institution. Or, perhaps their higher salaries result from their longer time-in-rank when compared with their male colleagues.[37]

Interestingly, the 2004 GAO Report suggests that as much as 90 percent or more of the salary differences between male and female faculty members can be explained by "differences in experience, work patterns, seniority, and education levels," along with what the report calls "personal choices" to, for example, focus on teaching rather than research, or work less than full time to care for family members.[12] A recent book supports this view, attributing salary inequities to women's "lifestyle" choices – that is, the decisions many women make to sacrifice pay for more control over their own lives.[39] A National Science Foundation (NSF) study came to the same conclusions.[40] But rather than characterizing those "personal" decisions as powerful statements of the control women seek and exert over their own lives as posited in Farrell,[39] the NSF report describes those choices as responses to "family pressures" that significantly influence the career decisions of female, but not male, faculty members.[40] And a recent study of graduates

of the Georgia Institute of Technology confirms that, at least among that surveyed population, women bear a disproportionately high burden of childcare responsibilities compared to men of similar age, education and employment.[41] Yet, while women's different work patterns may, indeed, result from "personal," as opposed to "professional," choices, and regardless of whether those choices result from a desire to take control over their lives or as the result of family pressures, such "choices" might also result from pressures imposed by the educational institution. The 2004 GAO Report, in fact, pointed out that some female faculty members felt that they faced tremendous challenges in "juggling family life with a tenure track faculty positions," and some could not see themselves meeting the challenge of the tenure process while also caring for their families.[12] When women, but not men, feel *forced by the educational institution* to make a "personal choice" to alter their career paths or sacrifice family time to strike an appropriate balance between professional and family obligations, the educational institution should reevaluate its employment practices, including tenure decisions, to ensure that women have the same opportunities as men to achieve both their personal and their professional goals. It is the actions of the educational institution that impact personal decisions, not the personal decisions individuals make to pursue a particular career/family balance, which can give rise to a Title IX violation.

The GAO Report points out that some universities have policies to extend the tenure clock by one year or one semester when a junior faculty member has a child. The report also offers a laundry-list of practices that can help to make STEM faculty positions more attractive to women, including on-site child care, inclusive hiring processes, monitoring and tracking the status of female faculty, addressing climate issues, funding additional education to facilitate promotions or higher-level work, and more flexible work schedules. But the report also noted that such policies "may not be evenly implemented in all departments. Moreover, assistant professors seeking tenure must have many recommendations from established academics in their field, some of whom may not be aware that the tenure candidate stopped the clock. Therefore, some tenure recommendations may criticize resulting gaps in a résumé."[12] Similarly, the report notes that some universities might relieve faculty of teaching duties for a semester or more to deal with family issues. But the report also indicates that, for those faculty members involved in scientific research, laboratories must still operate.

In an effort to address this issue, some universities have creatively used NSF ADVANCE grants to help ease the burdens on those with child-care or other serious family responsibilities. The University of Washington (UW), for example, has used NSF ADVANCE funds to establish a Transitional Support Program (TSP) that, among other things, provides financial support to faculty members who need to care for newborns or ailing family members, or to cope with personal illness. TSP funds allow faculty members to develop distance-learning courses that they can teach while on leave, and fund ongoing research activities in the faculty member's absence. The confidential TSP grant application process identifies faculty members – both male and female – who need such support to balance the needs of family and career. This program provides a good example of a flexible way to support the faculty members who need time off for serious personal reasons. The application process also helps to identify those faculty members who truly need the time off, thus mitigating the inequities inherent in the blanket family-leave policies noted in the GAO Report. UW also has implemented a part-time tenure track and a temporary part-time option that allows partial leave and extends the tenure clock; both options

provide full benefits to faculty members who work at least half-time. UW does not count a year that includes six months or more of medical or family leave toward a faculty member's tenure review calendar. The university also promotes dual-career hiring. Nevertheless, this extensive program still presents challenges. One commentator has indicated that "(1) communication about policies and programs is inconsistent; (2) decentralized decision making at the departmental level influences how policies are implemented; and (3) inconsistent tracking and evaluation make it difficult to monitor the effectiveness of policies and programs."[42] These identified problems mirror those noted in the GAO report.

Clearly, to function effectively, any such programs or policies must be clearly and frequently communicated to a broad audience, consistently applied across various academic departments, and monitored for effectiveness. For consistency and tracking purposes, such programs probably should be administered through a centralized university office, such as the provost's office, rather than in individual departments. Yet, this centralized administrative does nothing to change a departmental culture that would discourage the applications in the first place. But educating faculty and employees about these policies should help to create an institution-wide culture of support for such initiatives.

Apart from salary inequities, disparate employment *conditions* may also violate Title IX. Gender-based discrimination occurs when, for example, a female coach has significant responsibilities for two teams, while her similarly paid male counterparts have responsibility for only one team each,[43] or when female faculty members, who might comprise 10 percent of an engineering faculty, bear the burden of advising all female undergraduates, who might comprise 20 percent of an engineering student body. Perhaps in the days of an all-male engineering faculty, relegating the newest faculty members to the worst offices or labs or teaching schedules might have served as a sort of rite-of-passage into the academy. But today, following these same practices and assigning new female faculty members to undesirable offices or labs or teaching schedules might violate Title IX if such practices limit their ability to integrate fully with their colleagues, to engage in meaningful research or to have an adequate chance for success in the classroom. Furthermore, activities that might exclude women from meaningful participation in the departmental culture, such as a men-only basketball league, might also violate Title IX, especially if collegiality is among the qualities evaluated in the tenure-decision process.[44]

The Limited Transformative Power of Title IX in STEM Disciplines

As the above examples in both the student and employee/faculty contexts show, Title IX has limited transformative power. It is a law that focuses not on the *results of a process*, but on the *process itself*. The results of a process may provide evidence that something is wrong with the process itself, and Title IX provides a way to evaluate and change the process, not a way to change the results of a process. Title IX cannot increase the percentage of female students in an engineering program, but can inspire a review of admissions procedures and educational program components to ensure that they do not adversely affect women. Title IX cannot justify a gender-based hiring decision in the absence of prior discriminatory conduct on the part of the hiring institution, but can inspire a review of recruitment procedures, compensation practices and work environments to ensure that female and male faculty members have equivalent chances to succeed.

Some commentators have seized upon the success of Title IX in the athletics context to promote the idea that the law actually can alter the results of admissions/retention and employment processes in the academic context.[45] But for the purposes of Title IX compliance and enforcement, athletics differs from academics in several meaningful ways, including:[20,46]

- The implementing regulations that govern athletics contemplate the segregation of male and female student-athletes on separate teams.[19] Academic programs typically do not, and actually cannot,[19] segregate male and female students.

- In athletics, typically women compete for spots on women's teams and men compete for spots on men's teams, and the competition between women and men at the institutional level involves a competition for institutional resources such as funding or access to facilities. In academic programs, on the other hand, men and women individually compete against each other for opportunities, making the operation of Title IX in academic more like the operation of Title VII in the employment context.

- Because of the team nature of athletics participation, Title IX compliance inquiries and enforcement efforts focus on whether the educational institution has distributed benefits equivalently to men's and women's *teams*.[5] In the academic context, Title IX compliance and enforcement focus on the treatment of *individuals* albeit within an identifiable group.

- The discrimination that occurs in athletics cases results primarily because the educational institution must allocate a limited resource (money) and usually not because of any actual intent to provide lesser athletic participation experiences to women than to men. Ending the discrimination usually requires nothing more than a reallocation of financial resources, although many factors certainly complicate this facially simple remedy. The discrimination that occurs in academic cases, on the other hand, results from policies, procedures or even informal practices that disproportionately disadvantage students or faculty of one gender. Ending such discrimination requires more effort than simply shifting money from one program to another. It may require more active intervention such as educating employees and students about their rights and responsibilities, and engaging in persistent oversight to make sure that the discriminatory conduct does not recur. The chair of the physics department at Duke University, for example, may state a policy forbidding sexual harassment of female students and faculty members, but must also back that policy with actions aimed at ending the harassing conduct.[47]

- In the athletics context, the institutional discrimination necessary for a Title IX violation is readily apparent, because the educational institution decides where and how to spend its money and allocate other resources, so the educational institution has the power to remedy the discrimination. In the academic context, on the other hand, it can be more difficult to attribute the discriminatory conduct to the educational institution when it might occur because of the conduct of unenlightened individuals who themselves are beyond the reach of the law.

$ The 1994 Equity in Athletics Disclosure Act (EADA)[48] requires educational institutions to make available to "students, potential students, and the public . . . financial, participation, and other information concerning the institutions' women's and men's intercollegiate athletic programs."[49] Such reports typically include the number of male and female student-athletes on various teams, the number of full-time and part-time coaches on each team, financial aid distribution to male and female student-athletes, and other resources expended on men's and women's athletic programs. The academic realm has no comparable reporting requirement.

These points collapse into two very significant differences between academics and athletics. First, athletic programs operate under a "separate but equal" scheme in which the Title IX goal is to ensure that men and women are treated equally, although in separate programs. Academic programs do not operate in such a segregated manner and, at any rate, Title IX requires equitable treatment of men and women within a unified academic system. Second, in athletics, gender-equity reviews actually do focus on equality of *result* – that is, equitable sharing of resources between men's and women's teams – rather than on equality of process, because the regulations presume equity exists when the results of the resource-allocation process treat men and women comparably. In academics, on the other hand, gender-equity reviews focus on equality of *process* – that is, whether the educational institution has set up a systems and processes that give women an equal chance with men to succeed, or whether institutional policies, procedures, and formal and informal practices treat men and women equitably, regardless of whether a balanced male/female participation ratio exists.

With this understanding, then, the question becomes: How can Title IX transform the engineering academic environment to make it more hospitable towards women? Or, more directly, if Title IX cannot force equality of results in the academic context, how can the law help to make improvements in the policies, procedures and practices by which educational institutions admit, train and evaluate students and employees alike?

Title IX Compliance and Enforcement Schemes

Because Title IX has only limited power to alter the environment for women in STEM disciplines, the question then turns to how best to ensure that educational institutions that receive federal funds satisfy the requirements of the Title IX statute and implementing regulations. The answer, though, depends on whether an educational institution chooses proactively to effectuate fully the spirit of the law in its policies, procedures and practices, or whether it chooses reactively to comply reluctantly or grudgingly with a government-devised remedial scheme ordered in response to a complaint investigation or unsatisfactory compliance review, or in response to widespread noncompliance with the law across a multitude of educational institutions. The choice should be clear, because the proactive approach provides the best opportunity for preserving institutional autonomy, while the reactive approach merely invites intrusive government involvement in higher education.

The government can become involved in enforcing Title IX compliance in one of three ways. Each way, however, has some drawbacks and, in trying to solve one problem, can create additional problems for educational institutions.

$ A federal funding agency can, on its own, initiate a Title IX compliance review at an individual educational institution. These reviews can have a broad scope, such as an investigation into all of the programs and activities at an educational institution or group of institutions, or these reviews can focus more narrowly on specific aspects of Title IX compliance, such as the 2004 review conducted by DED of Title IX grievance procedures at postsecondary institutions.[13] In any case, waiting for a governmental review may not offer an educational institution the best option for identifying ways to comply with Title IX, because such reviews will only satisfy the government's purpose, and any ordered remedial actions might not take into account the unique circumstances of individual educational institutions. Moreover, the wait for such a review could be long. As the 2004 GAO Report points out, DED, NSF, the National Aeronautics and Space Administration (NASA) and the Department of Energy (DOE), all have claimed to lack sufficient personnel and financial resources to engage in widespread compliance reviews of funding recipients. More recently, however, NSF and NASA have initiated selective Title IX reviews: NSF has announced plans to review the science departments at four postsecondary institutions during 2006, but will not publicize the names of the institutions reviewed or the questions asked; and NASA has announced plans to review the aerospace engineering and physics departments at the University of Michigan.[50] Thus, while widespread governmental reviews seem unlikely any time soon because of resource constraints, the reviews conducted at these particular educational institutions may identify some areas of concern relevant to STEM disciplines at a wide range of postsecondary institutions. Or, these reviews may merely expend governmental resources on investigations limited in scope that serve no useful purpose outside of the confines of the unique institutions investigated. Such reviews might not even involve educational institutions with Title IX compliance problems. Clearly, this process does not offer a timely, friendly or broadly useful approach to identifying areas needing remedial attention at a wide range of educational institutions across the country.

$ A federal funding agency or a court can act in response to a complaint filed by an aggrieved individual or group of individuals. While this might be the best way for an individual to achieve a particular goal relevant to her specific situation, this is not the best way for an educational institution to ensure that all of its students have appropriate and equitable access to educational programs and activities in a way that suits that institution's particular educational mission. Such proceedings often become contentious very quickly, as the opposing parties strive to justify their positions. In the process, both sides often establish and hold onto diametrically opposed viewpoints, and expend considerable effort on "winning" in an adversarial proceeding rather than on compromising to solve what could be a real problem. Moreover, individuals who file such complaints often focus only on redressing the wrong they have suffered, and courts often order remedies only to redress that particular wrong, rather than to effect any meaningful change.

$ Congress, too, can act to improve Title IX compliance on the part of educational institutions. To hold educational institutions publicly accountable for their gender-equity records in athletics, Congress enacted the EADA,[48] which requires annual reports that

detail items such as the number of male and female student-athletes, the funds earned by and spent on each team, coaches' compensation, athletic scholarship allocation and other resource-distribution matters. While such reporting would shed light on which educational institutions have achieved acceptable *results* from a gender-equity perspective, relying on such reported statistics still can mask underlying problems. For example, an EADA report could show that the men's and women's basketball coaches receive equivalent salaries, but does not disclose whether those coaches provide similar experiences for their student-athletes. Or, if those coaches receive noticeably different compensation, nowhere does the EADA report provide any insight into the reasons for the difference. Extrapolating this logic to the academic context, an EADA-like reporting scheme might show that female faculty, on average, receive lower compensation than male faculty, but any such report likely would not allow for an explanation of the reason for that difference, and would tell little or nothing about whether that difference actually violated Title IX. Additionally, such reporting schemes merely encourage educational institutions to work toward achieving certain numerical goals or quotas or *results*, rather than to work toward developing appropriate *processes* to create an overall equitable academic environment.

These more confrontational methods of Title IX enforcement may solve some problems. But each creates additional problems for educational institutions, specifically in terms of forcing certain practices onto an educational institution, whether or not those practices are appropriate to that educational institution's mission. On the other hand, an educational institution that takes a proactive approach to Title IX compliance and uses the law as a means to transform its policies, procedures and practices, has the ability to work toward gender equity in a manner consistent with its unique educational mission.

The question then becomes: Where do we start? The answer, quite simply, lies in education – that is, educating students and faculty of their rights under the law, because they cannot enforce rights they do not know they have. It is interesting to note that very few court cases have addressed Title IX in the academic context over the last three decades. And the 2004 GAO Report pointed out that the federal agencies that grant the most money to science and engineering research – DED, NSF, NASA and DOE – received "very few" Title IX complaints. The report attributed this lack of complaints to "a lack of awareness that Title IX covers academics," as a result of failures on the part of educational institutions to establish or disseminate the required policies and procedures and, unfortunately, as a result of the attention paid to Title IX in the athletics context. The report further noted that "scientists and students at most schools [indicated] that they thought Title IX covered only sports and did not know [that] the law also encompassed academic issues."[12]

Educational institutions must, at a minimum, designate a Title IX compliance officer and establish and disseminate Title IX grievance policies.[19] DED has noted that many educational institutions have not properly discharged these obligations.[13] One first, simple step in the right direction, then, would be for educational institutions to comply with their obligations and establish and disseminate information to students and employees alike about their rights and obligations under the law. This requires:

$ *Identifying the distinct human being named as the educational institution's Title IX compliance officer.* Some institutions may actually have more than one, for different purposes. The University of Notre Dame, for example, actually has two: one who focuses on issues related to athletics, and another who addresses all other instances of Title IX compliance. Moreover, Notre Dame periodically sends out an e-mail listing the names of these individuals and their responsibility. If it takes more than a phone call or an e-mail to the general counsel's office, or more than a couple of mouse clicks on the institution's web site, to find out the name of the Title IX compliance officer, the educational institution – probably through the general counsel's office – should be encouraged to disseminate the information more freely.

$ *Finding the educational institution's nondiscrimination policy.* Generally, this will take the form of a general nondiscrimination statement that contains a laundry-list of all of the protected classes of individuals the institutions promises not to discriminate against. Again, this policy should be readily available, whether through print materials or on the institution's web site.

$ *Determining whether the educational institution has established a Title IX grievance procedure, and finding the source of that procedure.* In some instances, as at Notre Dame for example, the procedure may reside not in one place, but in a variety of places and in a variety of forms to address different types of gender-based discrimination. For example, sexual harassment is a form of gender-based discrimination prohibited by Title IX, and Notre Dame has different procedures for students, faculty and employees to follow when reporting instances of sexual harassment. Gender-based discrimination in other contexts, such as in hiring employees or in promoting faculty, may also be covered in different documents – perhaps a human resources policy manual for employees, and the faculty handbook or academic articles for faculty. Ideally, however, all such procedures should be accessible through a common interface – whether through information obtained from the educational institution's Title IX compliance officer, or through a web site that contains links to all of the relevant procedures.

$ *Creating culture that allows Title IX (and other civil-rights) violations to be addressed in a supportive environment.* An educational institution can have satisfied all of its legal requirements, but still have a campus culture that discourages actively pursuing legitimate claims of discrimination. Unfortunately, the 2004 GAO Report suggested that the small number of Title IX complaints filed with the federal funding agencies may have resulted from personal decisions not to file legitimate complaints. Faculty and students expressed a fear of retribution coupled with concerns that resolving a Title IX complaint would detract from time spent on research.[12] This requires something of a balancing act on the part of the educational institution, however, in providing an environment that supports those with legitimate grievances while also discouraging spurious complaints filed in response to, for example, a deservedly poor grade. A faculty or staff ombudsman could possibly serve as an appropriate mediator in such disputes, at least in the early stages of a complaint until it can be determined whether a gender-discrimination claim has merit and should be pursued more diligently.[51]

Beyond following these requirements, an educational institution must ensure that the policies, procedures and practices that impact the admission and retention of students, and those that impact the hiring and retention of employees including faculty, are free of bias. As noted in the examples above, such bias might be overt, such as a male faculty member refusing to work with any pregnant female graduate students. Or, it may be subtle, such as a hiring process that uses a recruiting network that encompasses primarily educational institutions that do not treat female Ph.D. candidates properly. And while inequality of result – that is, a disproportionately low representation of female on an engineering faculty, for example – is not, in itself, a Title IX violation, such a situation might inspire to an evaluation of the procedures used to hire, retain and promote all faculty members in a particular department.

It should be noted that laws such as Title IX cannot impact the "personal choices" of women who have no interest in engineering. Nor can a law change the entrenched attitude of an individual engineering faculty member who refuses to work with female colleagues or students. But, when used properly as a tool for evaluating policies, procedures and practices, the law can create an environment in which women believe that engineering education presents a viable career choice.

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