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Lobbying & Law - 'Gender Bias' in the Labs

Neil Munro

Advocates for women are rallying behind a House bill that would prod agencies to aid female scientists and would also help extend Title IX gender-bias enforcement from the athletic fields to the nation's top scientific research laboratories and the grant-making decisions of federal agencies.

The pending bill puts the nation's research universities in an awkward position. They support sexual equality but object to intrusive regulation of their sector, in part because their practices produce discoveries such as novel drugs but also because they compete against overseas research centers.

The Gender Bias Elimination Act, H.R. 3514, is sponsored by Rep. Eddie Bernice Johnson, D-Texas, a member of the House Science and Technology Committee. "It is not lack of talent but unintentional biases and outmoded institutional structures that are hindering the access and advancement of women" in the science field, according to the bill. It directs several federal entities to enforce a variety of sexual-equality laws, collect data on grants given to women, extend the duration of grants held by "caregivers" who have responsibility for children at home, and conduct mandatory educational meetings on discrimination. The bill authorizes $5 million a year for these efforts and targets the Pentagon, the National Science Foundation, the Energy Department, the National Institutes of Health, and NASA. The barriers to women are "sorely underrated," Johnson told National Journal. "We have to break those habits."

The bill has some support on the Democratic side, but it may be narrowed to exclude the Pentagon and NIH, a Hill staff member said. The outside advocates are also backing a provision in the pending education bill that would help establish a group to monitor gender equity in university science departments.

Most senior scientists are men, largely because few women won degrees decades ago. Women received 40 percent of the science and engineering doctorates awarded in 2006. But "the proportion of women getting hired into the most junior positions is roughly 20 percent," said Phoebe Leboy, president of the Association for Women in Science. "It's very difficult to set up laws to prevent this, but what one can have are government programs to have people understand what they're doing." Johnson's bill is backed by many women's groups, including the American Association of University Women and the National Women's Law Center.

Currently, research universities train students for a decade, during which they provide cheap labor for laboratory work that is simultaneously stressful and mundane, such as monitoring cells to gauge their response to a potential drug. This means that scientists typically don't get a federal grant until age 43, on average, when they face pressure to establish themselves in a competitive niche, to earn a decent living, and to support a family. At this point, many often choose a different career. Also, male students from Asia can afford to work long hours because their wives traditionally rear the children, Leboy said, and "it is having a disproportionate impact on women" competing in the field.

"The funding agencies could make [equity] happen by making it clear to [university] department chairs that they won't tolerate a single-sex science in the United States," said Donna Shalala, president of the University of Miami, who has set up a process to aid female students.

But the bill is also intended to provide a foundation for future Title IX lawsuits against the universities, said one advocate who asked to remain anonymous. The suits would be aimed at institutions that give women less financial support, less laboratory space, fewer graduate assistants, or fewer promotions than they give men, the advocate said. In athletics, Title IX lawsuits have increased university funding for women's sports but have also resulted in the downsizing of many men's programs, prompting much controversy and additional suits. The proposed bill "is a similar concept, but the details are not firm," the advocate said.

The universities will probably oppose the bill, at least quietly, because the increased regulation and the potential for lawsuits would threaten their business model.

NIH, the federal government's primary science agency, has already launched an effort to reduce attrition among younger scientists of both sexes, Director Elias Zerhouni told National Journal. Possible remedies include changes to the grant-review process and informal limits on the number of grants that older scientists can hold concurrently, he said. But people will choose careers that match their preferred lifestyle, Zerhouni said. "Quotas are not going to help, [and] I have never seen lawsuits help that much."

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LIFE'S WORK

The Feminine Critique

By LISA BELKIN

DON'T get angry. But do take charge. Be nice. But not too nice. Speak up. But don't seem like you talk too much. Never, ever dress sexy. Make sure to inspire your colleagues — unless you work in Norway, in which case, focus on delegating instead.

Writing about life and work means receiving a steady stream of research on how women in the workplace are viewed differently from men. These are academic and professional studies, not whimsical online polls, and each time I read one I feel deflated. What are women supposed to do with this information? Transform overnight? And if so, into what? How are we supposed to be assertive, but not, at the same time?

"It's enough to make you dizzy," said Ilene H. Lang, the president of Catalyst, an organization that studies women in the workplace. "Women are dizzy, men are dizzy, and we still don't have a simple straightforward answer as to why there just aren't enough women in positions of leadership."

Catalyst's research is often an exploration of why, 30 years after women entered the work force in large numbers, the default mental image of a leader is still male. Most recent is the report titled "Damned if You Do, Doomed if You Don't," which surveyed 1,231 senior executives from the United States and Europe. It found that women who act in ways that are consistent with gender stereotypes — defined as focusing "on work relationships" and expressing "concern for other people's perspectives" — are considered less competent. But if they act in ways that are seen as more "male" — like "act assertively, focus on work task, display ambition" — they are seen as "too tough" and "unfeminine."

Women can't win.

In 2006, Catalyst looked at stereotypes across cultures (surveying 935 alumni of the International Institute for Management Development in Switzerland) and found that while the view of an ideal leader varied from place to place — in some regions the ideal leader was a team builder, in others the most valued skill was problem-solving. But whatever was most valued,

women were seen as lacking it.

Respondents in the United States and England, for instance, listed "inspiring others" as a most important leadership quality, and then rated women as less adept at this than men. In Nordic countries, women were seen as perfectly inspirational, but it was "delegating" that was of higher value there, and women were not seen as good delegators.

Other researchers have reached similar conclusions. Joan Williams runs the Center for WorkLife Law, part of the University of California Hastings College of the Law in San Francisco. She wrote the book "Unbending Gender" and she, too, has found that women are held to a different standard at work.

They are expected to be nurturing, but seen as ineffective if they are too feminine, she said in a speech last week at Cornell. They are expected to be strong, but tend to be labeled as strident or abrasive when acting as leaders. "Women have to choose between being liked but not respected, or respected but not liked," she said.

While some researchers, like those at Catalyst and WorkLife Law, tend to paint the sweeping global picture — women don't advance as much as men because they don't act like men — other researchers narrow their focus.

Victoria Brescoll, a researcher at Yale, made headlines this August with her findings that while men gain stature and clout by expressing anger, women who express it are seen as being out of control, and lose stature. Study participants were shown videos of a job interview, after which they were asked to rate the applicant and choose their salary. The videos were identical but for two variables — in some the applicants were male and others female, and the applicant expressed either anger or sadness about having lost an account after a colleague arrived late to an important meeting.

The participants were most impressed with the angry man, followed by the sad woman, then the sad man, and finally, at the bottom of the list, the angry woman. The average salary assigned to the angry man was nearly $38,000 while the angry woman received an average of only $23,000.

When the scenario was tweaked and the applicant went on to expand upon his or her anger — explaining that the co-worker had lied and said he had directions to the meeting — participants were somewhat forgiving, giving women who explained their anger more money than those who had no excuse (but still less money than comparative men).

Also this summer, Linda C. Babcock, an economics professor at Carnegie Mellon University, looked at gender and salary in a novel way. She recruited volunteers to play Boggle and told them beforehand that they would receive $2 to $10 for their time. When it came time for payment, each participant was given $3 and asked if that was enough.

Men asked for more money at eight times the rate of women. In a second round of testing, where participants were told directly that the sum was negotiable, 50 percent of women asked for more money, but that still did not compare with 83 percent of men. It would follow, Professor Babcock concluded, that women are equally poor at negotiating their salaries and raises.

There are practical nuggets of advice in all this data. Don't be shy about negotiating. If you blow your stack, explain (or try). "Some of what we are learning is directly helpful, and tells women that they are acting in ways they might not even be aware of, and that is harming them and they can change," said Peter Glick, a psychology professor at Lawrence University in Appleton, Wis.

He is the author of one such study, in which he showed respondents a video of a woman wearing a sexy low-cut blouse with a tight skirt or a skirt and blouse that were conservatively cut. The woman recited the same lines in both, and the viewer was either told she was a secretary or an executive. Being more provocatively dressed had no effect on the perceived competence of the secretary, but it lowered the perceived competence of the executive dramatically. (Sexy men don't have that disconnect, Professor Glick said. While they might lose respect for wearing tight pants and unbuttoned shirts to the office, the attributes considered most sexy in men — power, status, salary — are in keeping with an executive image at work.)

But Professor Glick also concedes that much of this data — like his 2000 study showing that women were penalized more than men when not perceived as being nice or having social skills — gives women absolutely no way to "fight back." "Most of what we learn shows that the problem is with the perception, not with the woman," he said, "and that it is not the problem of an individual, it's a problem of a corporation."

Ms. Lang, at Catalyst, agreed. This accumulation of data will be of value only when companies act on it, she said, noting that some are already making changes. At Goldman Sachs, she said, the policy on performance reviews now tries to eliminate bias. A red flag is expected to go up if a woman is described as "having sharp elbows or being brusque," she said. "The statement should not just stand," she said. "Examples should be asked for, the context should be considered, would the same actions be cause for comment if it was a man?"

In fact, Catalyst's next large project is to advise companies on ways they can combat stereotypical bias. And Professor Glick has some upcoming projects, too. One looks at whether women do better in sales if they show more cleavage. A second will look at the flip side of gender stereotypes at work: hostility toward men.

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THINKING BIG

The wage gap

EVELYN MURPHY AND E.J. GRAFF

Why women are still paid less than men

If you are a woman working full time, you will lose between $700,000 and $2 million over your working lifetime — just because of your sex. Is that fair? No. Can it be stopped? Absolutely.

In 1964, when Congress passed the Civil Rights Act that banned workplace discrimination based on race or sex, women working full time made 59 cents to a full-time working man's dollar. That made sense at the time: As a group, women had less education, less experience, and less opportunity, in part because they were flatly banned from a wide range of occupations. At the time, many people thought the wage gap would close on its own, as the education, experience, and opportunity gaps went away.

But today, 40 years later, the wage gap stands at 23 cents. Women working full time — not part-time, not on maternity leave, not as consultants — still earn only 77 cents to a full-time working man's dollar. That's an enormous gap, and it has been stalled in place for more than a decade. It's not closing on its own. It affects women at every economic level, from waitresses to lawyers, from cashiers to CEOs. Many women have a sneaking suspicion that they're unfairly overlooked and underpaid. But do they realize *how* underpaid?

Let's look at the economic losses a woman will suffer over her lifetime:

A high school graduate loses $700,000. A young woman who graduated from high school last spring and went straight to work would, over her lifetime, make $700,000 less than the young man who graduated next in line.

A college graduate loses $1.2 million. A young woman who graduated from college last spring and went right to work would, over her lifetime, make $1.2 million less than the young man who received his diploma next to her.

A professional school graduate loses $2 million. A young woman who got a degree in business, medicine, or law would, over her lifetime, make $2 million less than the young man at her side.

That graduate may be you. Or she may be your wife, daughter, niece, granddaughter, or friend. Whoever she is, the wage gap will take a heavy toll. That missing 23 cents is a personal loss: vacations not taken or dental work that's put off or health insurance that cannot be afforded.

A female worker can lose up to $2 million over a career.

Few women think this way about the wage gap. Women don't talk about what they should have earned, or how each year's missing lump of money — whether $1,000, $10,000, or $50,000 — would have added up over a lifetime. Have you ever heard a woman let herself add up how much she was deprived of overall or how much more her male coworker could afford that she could not?

Surely that attitude is personally sensible: No sane person wants to dwell on what she believes she can't have. But as a nation that believes in fairness, self-reliance, and rewards for hard work, Americans as a whole must consider what the wage gap means for working women's daily lives: the missing retirement fund, the nonexistent car, the precarious mortgage, the food budget that doesn't quite deliver enough fresh produce to the kids. Maybe an unexpected change in financial circumstances — especially the loss of a husband's income through layoffs, divorce, or death — cuts the shoestring on which a woman has been hanging financially, so that she and her children are faced with dire financial choices. Why should families be punished simply because the breadwinner is a woman?

Precisely because our nation believes so firmly in fairness and personal responsibility, many Americans assume that our workplaces do offer equal opportunities for all. And so, for the last 40 years, most theories about the wage gap have blamed women for underearning. Obviously, the older theory has had to be tossed out: Women earn as many degrees, have roughly as many years on the job, work as hard, and need money just as much as men do. So why do women still get paid less?

The most popular current theory is that women "opt out" of the workforce to have children. Those nonworking moms' nonwages are supposed to bring down women's average wages. But that's not how the wage gap is figured. The wages of women who are staying home with the kids or working part time are not counted in that official Labor Department average: Only full-time workers' wages are added in.

A variant on that theory is that women work less hard once they get pregnant or have children. But is that really true, or are women unfairly penalized just because, for no good reason, their bosses and colleagues assume that female employees can't think both about daycare dropoffs and third-quarter deliverables? Men have children too, after all — and they're rewarded for it, even if their productivity goes down during those early months of late-night feedings. Social scientists have documented a "mommy penalty" and a "daddy bonus" right after a child is born: Women's wages go down, and men's wages go up, simply because they have children. Do women choose a mommy track? Or are they "mommy tracked" against their will — or subtly coerced into accepting less pay while working just as hard?

Let's look at a few other popular theories: Women "choose" lower-paying jobs, because they don't want to do the dirty work that makes more money. But is that true— or are women tracked, without their agreement, into being waitresses or cashiers, and refused interviews for those higher-paying slots as journeyman plumber or as bank manager?

Here's another theory: Women don't negotiate as well as men. But are all men born knowing how to negotiate, or do they sweat bullets while they learn?

Here's unsubstantiated theory number four: Women aren't as ambitious as men, and prefer more balanced lives. But who said all men were ambitious? Sure, some women don't want to work 60 or 80 hours a week, and would rather put in their time, do a good job, get paid and promoted fairly, and go home. But that's also true for many men. Meanwhile, plenty of men and women are ambitious, talented, and driven enough to reach the top — but up there, men have an unfair advantage.

Here's the real reason women get paid an enormous percentage less than men: because they're women. In other words, because of sex discrimination.

Sex discrimination isn't necessarily intentional; much of it happens through mindless bias and careless stereotyping. But however it happens, it's unfair, illegal, and widespread.

Take a look at sex discrimination cases, never before collected, which you can now find at www.wageproject.org. You'll be shocked if you look at how much employers have to pay out each year in sex discrimination cases, through awards or settlements — not 10 or 20 years ago, but in 2002, 2003, 2004, and 2005. These cases show how deeply entrenched discrimination is in every region of the country and every sector of the economy.

Each year, American employers are paying out hundreds of millions of dollars — in 2002, alone, more than $263 million — every year, year after year, for treating women with extraordinary unfairness. Employers still flatly refuse to hire fully qualified women into a wide variety of jobs: forklift drivers, firefighters, salespeople, electricians, regional managers, stockbrokers, senior executives. Or they hire women, but refuse to promote them — as happens to grocery clerks, police officers, university professors, and management analysts.

Think that kind of behavior is impossible in the 21st century United States? Think again. A look at the case files shows that even when men and women have equal experience, responsibilities, and qualifications, employers refuse to pay women equally: as janitors, skilled woodworkers, truck dispatchers, municipal managers, senior scientists. Or they demote or fire women who get pregnant — waitresses, shuttle drivers, sales clerks, executive secretaries, lab researchers, corporate lawyers — even before those women go on maternity leave. Or they refuse to do anything about it when women — nurses, factory workers, Air Force cadets, television producers, bank managers, police officers, deputy attorneys general — are being groped, grabbed, sexually taunted, or assaulted on the job. (While most of us think of sexual harassment as personally repulsive, the reason it's illegal is that sexual harassment damages women's ability to earn a fair day's pay.)

Every single day, women are being outrageously discriminated against, at every level of the American workforce. Unfair discrimination happens in tiny dentists' offices and in factories that are several city blocks long. It happens in manufacturing, retail, nonprofits, government, finance, education, media, medicine, and law. Unless you look through the WAGE Project database, it's hard to believe how many women are being treated so unfairly that they're driven to sue, even though they know that by doing so they're endangering their paychecks and their careers.

Unfair pay means all women lose. All women — rich and poor, whatever their race or color or native language — are being cheated by wage inequity. Sex discrimination is far more entrenched in the American economy than most people realize. And it won't stop unless, with the help of each other and of sympathetic men, women act. We must prove to American employers that we will not accept the depth and breadth of wage discrimination within our own workplaces. By chipping away at one deeply embedded form of discrimination, we can also tear down bigotry and bias based on race, religion, sexual orientation, age, and physical ability. We can transform America into a society of people who genuinely value and respect one another.

It's been more than a quarter-century since the women's movement brought women fully into the workforce. The time is right for the next step: getting even.

Evelyn Murphy, *a former lieutenant governor of Massachusetts, is the author of "Getting Even: Why Women Still Don't Get Paid Like Men—And What To Do About It," on which writer* **E.J. Graff** *collaborated.*

WORKING MEN VS. WORKING WOMEN

He's late; there must be a traffic jam.	She's late; she's probably shopping.
He's still on the phone; he must be closing a deal.	She's still on the phone; she's such a gossip.
He's very thoughtful and deliberate.	She has trouble making up her mind.
His last project turned out well; promote him fast before someone else gets him.	Her last project turned out well; she's lucky that she had such an easy customer.
He's assertive and a natural leader; he motivates people to get things done.	She's too aggressive and abrasive; her coworkers think she's a witch.
He went to lunch with the boss; he must be up for a promotion.	She went to lunch with the boss; they must be sleeping together.

THE DADDY BONUS VS. THE MOMMY PENALTY

He just had a baby; give him that big project since he'll be working harder now that he has to support a family.	She just had a baby; don't give her that big project, she won't be able to travel or even get here on time anymore.
He's late; he must have had a breakfast meeting.	She's late; she must have childcare problems.
He stays late every night; he's really dedicated.	She stays late every night; what a heartless mother.
His performance is down; he must be helping his wife with that colicky baby. He'll be back to normal in a few months.	Her performance is down; women are useless once they have kids, always putting their families before work.
He just had a baby; give him that raise, he's really going to need it.	She just had a baby; wait on that promotion offer since she'll want to go parttime soon.

Book Group

"Unbending Gender: Why Family and Work Conflict and What To Do about It"
By Joan Williams

"Tales from the Boom Boom Room: Women vs. Wall Street"
By Susan Antilla

"Making all the Difference: Inclusion, Exclusion and American Law"
By Martha Minow

"The Price of Motherhood: Why the Most Important Job in the World is Still the Least Valued"
By Ann Crittenden

Resources

www.wageproject.org
The WAGE Project.

www.thewomensunion.org
The Women's Union (Boston).

www.catalystwomen.org
Catalyst (New York).

www.iwpr.org
The Institute for Women's Policy Research (Washington, D.C.).

www.womenemployed.org
Women Employed (Chicago).

boston.com

THIS STORY HAS BEEN FORMATTED FOR EASY PRINTING

The Job Without Benefits

The Boston Globe

Yes, some wives have been outearning their husbands for years. But now it's one in every three. So why, in their dogged fight for gender equality, are women their own worst enemy?

By Kris Frieswick | March 11, 2007

Susan Luongo is exhausted, and after listening to what she goes through every day, I am too. She runs her own firm, Stellar Technology Consulting in Boston, and works between 40 and 80 hours a week, depending on how many projects she has going. Luongo, 41, who lives in Revere, earns double what her husband, Peter, 42, makes as a systems analyst for State Street Corp., but she's still the one who usually picks up their 9-year-old son at his after-school program each day, comes home and makes dinner, does some laundry, helps her son with his homework, and gets him ready for bed. "By the time he and my husband are asleep, I'm working on projects again," she says.

I've heard rumors of a mysterious race of neat freaks who enjoy housework, although I've never met one. Many men and women genuinely love full-time parenting. Single working parents do both whether they like it or not. This article is not about any of them. This is about breadwinning wives like Susan, uber-women who claim they want their husbands to carry their own weight around the house – but, well, Susan's very particular about how things get done, and she's better than her husband at housework, and he likes to relax more than she does, and so she just does it herself.

"OK, I don't know what drives women like me to do it all," she says. "We're crazy. We don't know how to stop. I do get that I'm letting this situation continue."

Susan is locked in a prison that she designed and built herself. She even has the key. She just won't use it. And she's not alone in there.

Women are the maids-in-chief in the average American home (18 hours a week of housework on average, about 40 percent more than men, according to a 2001 study by University of Maryland sociologists). This made sense, sort of, back when women's occupations were limited to variations on caring for other people, usually the ones living at home with them. But it makes no sense today. Women, who compose 49 percent of the American workforce, are now outearning their husbands in 32.6 percent of American married couples, up from 23.7 percent in 1987. Wives brought home 34.8 percent of the average family's annual bacon in 2004, up from 26.7 percent in 1980. In another generation, if this pace of change continues, wives will contribute half. Although there are no local statistics, it would seem likely that Boston has an even larger percentage of these women who earn more than their husbands, thanks to a saturation of industries, like financial services and healthcare, in which women are statistically more likely to be top company earners.

Some might argue that the paid hours each spouse works, not salary, should dictate the distribution of housework. Some dual-earner families, mine included, divvy it up this way. But we're the anomaly. For years, men have used their higher incomes as the rationale for not doing more at home. Now that more women are in the financial driver's seat, these breadwinning wives are positioned to claim some of that power, and have every right to expect a more equitable division. But they're not getting it. Research indicates that even in homes where women dramatically outearn their men, housework is still broken down based on traditional gender roles. In other words, women do most of it.

After 16 years of marriage, Kate Adams, 39, a staff scientist at a nonprofit foundation, now makes twice as much money as her husband, David, a junior high school teacher. Because of his schedule, he's head child-wrangler for their two kids, age 9 and 11, during the week. But housework?

"During the course of the week, the house just gets into a progressively bigger disaster area. It's a race to the bottom," says Adams, who lives in Medford. "Men don't intend to do less housework, they just don't notice that

they are doing less, and it's a matter of standards." She adds: "Women notice there's a mess and take ownership of it. Men aren't programmed for it."

It's the breadwinner wife's mantra – I'm so busy at my job, but somebody has to do the work at home, and I'm the only one who seems to notice that it needs to be done, and he doesn't do a very good job, and it's easier to do it myself than have a big fight over it, blah, blah, blah.

Breadwinning wives, of all women, should be demanding, protesting, striking for a fair division of household labor. But instead there are excuses and the sound of vacuum cleaners at 11 p.m. So why should other women care if these control junkies choose to do it all to the point of delirium? Because the home is site of the final skirmish in the battle for gender equality, a struggle whose outcome profoundly affects all women. And many breadwinner wives, who have the power to lead the charge, are giving in without a fight.

Despite women's strides in equality throughout society, one aspect of our lives remains stubbornly resistant to change: gender roles. These have traditionally defined what it means to be a man or a woman – although a chicken/egg argument still rages. Some say we're biologically programmed to embrace these roles (a contention that my own profound disinterest in housecleaning and reproduction, shared by millions of American women, argues against). Some say we're all gender-role slaves to society and the media. However we got stuck with them, gender roles are still the predominant socially acceptable ways to express our femaleness or maleness.

"It's not so much the biology" that forces women to take on the gender roles, says Sara Raley, a researcher in the sociology department at the University of Maryland who has studied gender distribution of income among married couples. "It's all the expectations about what you're going to do as a mother, and what fathers are supposed to do."

These rules dictate that women tend the hearth, home, and children, and men provide – precepts since the dawn of civilization, even though the tonnage rule (loosely translated, "the biggest and strongest calls the shots") is no longer in effect in most of the developed world. "No matter how successful we are at work, women are judged by the condition of our households. We feel guilty if our homes aren't beautiful," says Randi Minetor, author of Breadwinner Wives and the Men They Marry. "We assume we're the point person for this stuff. We've got hundreds of years of tradition telling us that we are."

It wasn't supposed to work this way. When women embraced the role of providing for the family, they were also expected to take on some of the family power that flows from economic might, and men were supposed to start acting like co-caregivers by performing more of the female roles, tending home and offspring. Sociologists predicted they'd see the effect of an "exchange theory" in families: The more money a wife contributed to the family till, the more unpaid household and childcare work she could "buy" out of. They long believed that exchange theory would eventually be the undoing of gender roles. They were wrong. Some husbands of breadwinner wives have embraced their role as keeper of the hearth and home, but they are few and far between.

Exchange theory works to a point. Men increased their housework by a maximum of 2.5 hours a week (to 20 hours) when their wives' contribution to family income rose from zero percent to 50 percent, according to a study done by a team of Australian and US sociologists, published in the July 2003 issue of the American Journal of Sociology. But even when they earned 50 percent of the household income, wives in this study group did 40 hours of housework a week, double what their husbands did at their peak housework performance.

So why aren't men taking on an equal share of the housework, even in homes in which women are now equal providers? You don't need a study to figure it out. Why do something you don't want to do if the person who was doing it before is still doing it, and bringing home more money?

The same study showed that when women start contributing more than 50 percent to the family income, the amount of housework the husband does actually begins to fall and continues to fall as the wife's earnings climb. And here's the really depressing part: The study also reported that when a wife becomes a family's sole provider, she often does even more housework than when she contributes half the income.

Some experts attribute this phenomenon to what they call "gender deviation neutralization." By "deviating" from established gender roles by outearning the husband, the wife believes she is emasculating him. Men largely define their maleness by rejecting femaleness, so he refuses to be further de-maled by doing housework. The wife, meanwhile, feels so guilty for emasculating her husband that she overcompensates by taking on even more of the traditional female roles to act more "feminine" so her husband will feel more "masculine." Et voila! We've got a female CEO cleaning her toilets at 2 a.m. because she feels too guilty to hire a housekeeper or demand that her husband do it.

Witness gender deviation neutralization theory in action. Marney (who asked that her last name not be used) is a sales operation manager in New Hampshire. She is the primary breadwinner in her family. Her husband, who earns half of what she does, handles the after-work child care for their young daughter because he gets home hours earlier than his wife. But when it comes to housework, she still does it all. She says she'd like him to contribute more, but "that's a conversation that hasn't happened because it's just understood because of how tired he is after a day at work and time with our daughter that he's just too tired to do the housework, so I do it." Isn't she tired, too, after a 12-hour day at work? "Yeah, but I still manage to get things done around the house."

But there's more to the story, and it explains why Marney's voice is taut, controlled, and flat, yet on the verge of tears as we speak. "My husband is from a family of stay-at-home moms with husband breadwinners," she says. "They don't understand what my life is like." She says her mother-in-law has "called me selfish to my face" for working so many hours, and the entire family is highly critical of the amount of child care her husband does, especially when she travels for work. I ask why they don't respect the fact she's the primary breadwinner. Turns out her husband's family has no idea she's the breadwinner because neither she nor her husband has told them. "I promised my husband we would never have that conversation with his family," she says. (Hence her request not to use her last name.) "I don't want to embarrass him. He doesn't want that information to get out."

Here's a woman willing to put her sanity in jeopardy to protect her husband's ego. She is convinced she is setting a good example for her daughter by working so hard and because her husband feeds her dinner every night. It doesn't occur to her that she's also teaching her daughter that protecting a man's ego is more important than defending her own right to pursue a satisfying career and, oh yeah, support the family. This is how gender roles get perpetuated.

"Women are nurturers and caregivers, and that is their undoing," says finance guru Suze Orman, whose latest book, Women & Money, explores the reasons that many women put their own interests behind those of others. "They need to be takers to thrive financially. But women cannot say no if we think that saying no is going to hurt somebody."

Women are making a lot of money, she adds, "but we haven't emotionally adapted to what that means, and neither have the men we live with, so we are in true crisis. We are in a power crisis." She doesn't blame men. "This isn't male bashing. They're going through as much of an identity crisis."

Orman argues that inequality in the home will continue until women start valuing themselves and their time the same way that men do, and stop putting themselves "on sale." "What I'm trying to get women to understand is what the airlines try to get you to understand. You have to put the oxygen mask around your own face before your kid's face," she says. "You have to turn that nurturing instinct on yourself. I'm not asking you to go from nurturer to narcissist. But we can't continue to pass this message of 'We're less' on to [our daughters]. When you undervalue who you are, the world undervalues what you do."

The implication of that thought – that women undervalue themselves, and that's why they continue to do most of the unpaid work even though their time is increasingly valuable in the paid workplace – may go a long way in explaining the persistent wage gap, a gap that affects all women and has stalled the cause of economic gender equality. Even when statisticians adjust for all variables between men and women, women still made 80 cents for every dollar earned by a man in 2000. Experts cannot definitively explain it. A 2003 study by the General Accounting Office, an internal government watchdog, concluded that if this difference is due to work/life personal choices by women, the gap doesn't really represent much of a social problem, since it's the result of free will. However, the study also supposes the gap might stem from some inherent bias against women in the workplace.

The study never states what I believe, and some research suggests, to be the cause of the gap: that one fuels the other in a perpetual cycle. The inherent discrimination, in the form of an unconscious socially ingrained undervaluation of women's contributions, is a direct result of the choices women (and not men, overwhelmingly) keep making – to reduce hours, lower career aspirations, stay home with the kids – all in an effort to fulfill these gender roles because they can't shake the programming that tells them that no matter how successful they are, their time and energy is less valuable than their husbands'.

When it's 10 p.m., and a breadwinner wife and her husband are sitting on the couch exhausted after a long day at work, and there's a sink full of dishes, and eight loads of laundry, and the wife gives in and does it all anyway again even though it's his turn, it doesn't feel like undermining the cause of equality. It feels like doing the dishes and laundry.

That is the moment when the personal becomes political. Women have to learn to stay on that couch.

Randi Minetor, the author, says women are afraid to take hold of the power that being the breadwinner gives them. They don't tell their husbands what they need done because "we don't look for power. We look for partnership, which is why we're so successful in business." But breadwinning women are disasters in assigning responsibility for a task and then letting go of it. "We plead, we mask the order as 'Please do me a favor.' We don't say, 'You are now responsible for the laundry.'"

The solution, says Minetor, is not to ask for help. That language signals that the asker realizes she is still fundamentally responsible for those things. Breadwinner wives, or any wife packing a 36-hour day into 24 hours while her husband watches ESPN, must learn to slice off everything she can't handle and assign it elsewhere – housecleaner, husband, kids, errand boy, whoever. "She needs to sit down and tell her husband what she needs," says Minetor. "Don't walk away without his commitment to take over those things."

Then let the chips fall where they may, for better or worse. Minetor suggests women who try this prepare for "worse."

"Let him do things his way, and if he fails, lower your standards," she bluntly says. The key to making it work is not to sweat the small stuff.

Lisa Silva, a 33-year-old insurance broker from Weymouth, is her family's sole breadwinner. Her husband, Carl, stays at home to care for their three children, ages 6, 3, and 5 months. "I had to learn to let [things] go, and he had to learn to up his standards," Silva says. "You have to learn to see the bigger picture." She says that even though he's at home, she still does about half the housework.

Kate Adams, the scientist, is starting to see the light. "I said at one point, 'I'm doing all I can here.' I don't see it as my job to do more because he's doing all he can do. If two people can't do it all during the week, it's an impossible job. I have had to learn to walk away from a mess."

It might not be a feminist march on Washington, but in the final fight for gender equality, walking away from a mess might be the most effective protest march of all.

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the graphs to move the story. It is, he says, just as predicted by his wise former professor Roger Revelle (*8*). Then, in a denouement worthy of a detective novel, he shows that the temperature record over 600,000 years matched the record of CO_2 concentration over the same period. "Aha!" concludes the viewer. CO_2 is exposed as the cause of the deadly hurricanes, the spreading disease vectors, and the vanishing landscapes. Gore leaves the viewer with the mistaken impression that CO_2 is the driver of climate change in that historic record. Nonetheless, it is true that climate models including the CO_2 concentration as a coupled feedback provide excellent retrospective fits, and it is reasonable to accept the models' prediction that a CO_2 concentration several times greater than recorded in that record will result in temperatures similarly off scale.

Gore identifies CO_2 as the cause, though not the culprit. Gore creates flesh-and-blood heroes and villains. Revelle is presented as a modern day Paul Revere sounding the alarm. For villains, Gore invokes comparisons with the tobacco companies, who by sowing doubt about the epidemiology of smoking caused the deaths of many people (*9*), including Gore's beloved sister. Similarly, he says, those who would ruin our planet are sowing doubt about climate change. The film and book present a compelling story reminiscent of Rachel Carson's *Silent Spring* (*10*), which by dramatizing science changed public perception and policy.

Using the conceptually simple "wedge model" of Robert Socolow and Stephen Pacala (*11*), Gore suggests that a half-dozen approaches to energy efficiency, alternative energy generation, and carbon capture could collectively pull our planet back from the brink of runaway climate change. The responses he calls for are not so much advanced technology as immediate, extensive, even bold, applications of methods currently available for reducing carbon in the energy mix: stop energy waste, choose efficient transportation, insulate buildings, use renewable energy, and capture and store CO_2. Gore has since gone on to propose an immediate freeze on new emissions, taxes on carbon emitters, a ban on incandescent lights, increased fuel efficiency requirements for American cars, and a mortgage association to help homeowners save energy (*12*). He tells the viewers that they are now part of the story. He intends to leave his audience with a sense of responsibility and empowerment, not despair.

Through *An Inconvenient Truth*, Gore has personalized the climate change debate and made it accessible in a way that has not only reversed public apathy but also motivated citizens to seek real policy changes. It is a lesson for all of us who believe science can serve public policy, giving us a clear understanding of how to engage people in a debate.

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WOMEN IN SCIENCE

Can Evidence Inform the Debate?

Marcia C. Linn

Almost everyone has an opinion about the relative dearth of women in science. *Why Aren't More Women in Science?* offers evidence to enrich, strengthen, question, or even refute commonly held views. The 15 essays bring to life recent findings on the involvement of women and men in science courses and careers. Editors Stephen Ceci and Wendy Williams, developmental psychologists at Cornell University, enticed 19 leading researchers on gender differences in ability to contribute succinct, informative essays summarizing their studies. The contributors present their strongest arguments, support those with their best data, and articulate their beliefs about the current participation of women in science. I encourage readers to note their views about the issue, read the essays, reflect on their own beliefs, and then take advantage of the editors' cogent introduction and thoughtful conclusions.

Why Aren't More Women in Science?
Top Researchers Debate the Evidence
Stephen J. Ceci and Wendy M. Williams, Eds.
American Psychological Association, Washington, DC, 2007. 274 pp. $59.95. ISBN 9781591474852.

My main quibbles with the book are the focus on exceptional scientific attainments (Ph.D. level) and the emphasis on small differences between males and females. Although important, these discussions overshadow the stunning increases in participation of women in science and may reinforce stereotypes that affect selection and career decisions.

In recent decades, the participation in science of women relative to men has increased dramatically. For example, in her essay Janet Hyde reports that, in 1966, women earned only 4.5% of the U.S. doctoral degrees in physical sciences but by 2000 this percentage had risen to 24.6%. For the biological sciences, women earned 12% of the doctoral degrees in 1966 and 42% in 2000. Similarly, Diane Halpern reports that in the biological sciences (including medicine, from which women were actively excluded not very long ago) the participation of men and women in Ph.D. and medical programs is now approximately equal. However, as Virginia Valian notes, women progress through the ranks less rapidly and get fewer of the most prestigious jobs and promotions after completing their final degree.

Against this encouraging backdrop of women's increasing participation in science, the essayists focus on three main areas of scholarship. They largely agree that subtle beliefs about who can participate in science—held both by those who instruct and select participants and by those who decide whether to participate—affect participation and persistence. They offer disparate interpretations of well-documented findings about cognitive abilities that might contribute to success in science, as indicated by mathematics test scores and spatial reasoning scores. They discuss the emerging methodologies and findings about a wide range of biological indicators, including prenatal hormones, brain development, brain lateralization, evolutionary processes, and brain activation patterns measured while individuals engage in science-related tasks.

Many essays showcase the role of subtle beliefs in decisions concerning the participation of men and women in science. A series of studies of selection decisions illustrates these phenomena. These studies provided respondents with a portfolio, a job application, an

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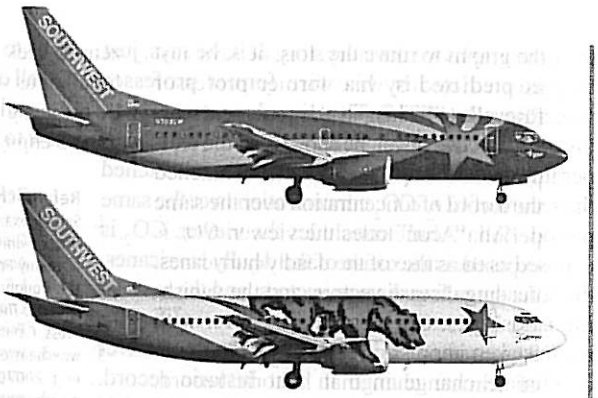
BROWSING

AirCraft. The Jet as Art. Jeffrey Milstein. Abrams, New York, 2007. 104 pp. $29.95, C$35.95, £15.95. ISBN 9780810992856.
Photographer Milstein presents 60 precise digital images of current long-distance and regional airliners, air freighters, and corporate jets. Most of the photographs were taken looking directly up from the end of the runway at planes about to touch down. All are printed without any background, to emphasize the planes' engineering details and graphic designs. Many of the jets bear standard, if sometimes striking, airline paint schemes. Others display customized treatments—such as these Boeing 737-700s that Southwest Airlines patterned after state flags.



individual essay, or other information that was attributed to a male or a female. Whether the task is to admit someone to a graduate program, to select someone for tenure, or to assign a grade to an essay, the studies demonstrate that documents associated with a male name consistently get a higher rating than the same documents associated with a female name. For example, Elizabeth Spelke and Ariel Grace report on a study of a tenure decision for a candidate with an average record. When the dossier was associated with a male name, 70% of the reviewers recommended tenure; when it was attributed to a female name, only 45% recommended tenure. In their separate chapters, Carol Dweck and Jacquelynne Eccles discuss how subtle beliefs about who should participate in science affect admission, hiring, promotion, and funding decisions as well as career choices.

Several of the essays consider performance on competitive mathematics tests, such as the Scholastic Aptitude Test (SAT) and the Trends in International Mathematics and Science Study, often offering rather divergent interpretations of such evidence. Mean differences in performance of men and women on mathematics assessments have narrowed over the years, which leads Hyde to argue for gender similarities rather than differences. Many authors focus on the performance of males and females at the extremes of the distribution, where the gap is large but again narrowing. The chapter by David Lubinski and Camilla Benbow is one of several that mentions the 1980s talent search by Benbow and Julian Stanley, in which they recruited students under 14 to take the SAT and found that for scores over 700 (two standard deviations above the mean), the ratio was 13 boys to 1 girl. By 1997, the ratio had dropped to about 4 to 1 (*1*); it has recently fallen further to 2.8 to 1 (*2*). These large differences motivate some contributors to criticize others for ignoring the evidence for males' superior abilities in science. In the most dramatic statement, Doreen Kimura argues that giving special scholarships or grants exclusively to women "bribes them to enter fields they may neither excel in nor enjoy."

A number of essayists provide very provocative findings about sex differences in the level of prenatal hormones, brain architecture, and brain activity patterns—factors that may play roles in determining people's aptitudes and interests in science. These studies are, of necessity, conducted with relatively small samples and often reach conflicting conclusions. For example, Ruben Gur and Raquel Gur draw attention to the rapidly developing techniques and methodologies in neuroscience and conclude that "biology can only offer a limited perspective."

Through their efforts, Williams, Ceci, and the contributors offer readers the opportunity to explore important issues in the ongoing debates surrounding the participation and persistence of women in science. The volume provides thoughtful and lucid viewpoints from essayists who disagree with each other and differ in their interpretations of the same evidence. It also draws attention to neglected variables that may affect gender differences in science, such as the hours per week that individuals report in pursuing their careers and trade-offs between financial and intellectual rewards in career decision-making.

Despite the disagreements among the contributors, they all concur that scientific talent is desperately needed to address the challenges facing us. They express in delightful, thoughtful, and encouraging ways their commitment to the goal of attracting able and interested individuals to science. At the same time, they endorse research on the full range of factors that might contribute to success in science. *Why Aren't More Women in Science?* raises important questions. The volume will stimulate all readers to think more deeply about their own beliefs, commitments, and activities as they consider participation in science and how we can ensure that all individuals have the opportunities they deserve.

Increased participation. In 1997, the AAAS Board of Directors included (left to right) physicist and electrical engineer Mildred S. Dresselhaus (president-elect), microbiologist Rita R. Colwell (chair), and ecologist Jane Lubchenco (president).

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