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## Women scientists on the debate over women in science

Maggie Koerth-Baker at 9:08 AM Friday, Jun 11, 2010



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Earlier this week, the New York Times published the first part of a two-part series by John Tierney looking at the current state of women in the sciences—in particular, [whether the playing field can ever really be level](#), or whether innate neural differences mean there will always be more men getting ahead in science and math careers than women.

When Dr. Larry Summers raised the issue to fellow economists and other researchers at a conference in 2005, his hypothesis was caricatured in the press as a revival of the old notion that "girls can't do math." But Dr. Summers said no such thing. He acknowledged that there were many talented female scientists and discussed ways to eliminate the social barriers they faced. Yet even if all these social factors were eliminated, he hypothesized, the science faculty composition at an elite school like Harvard might still be skewed by a biological factor: the greater variability observed among men in intelligence test scores and various traits.

Men and women might, on average, have equal mathematical ability, but there could still be disproportionately more men with very low or very high scores. These extremes often don't matter much because relatively few people are involved, leaving the bulk of men and women clustered around the middle. But a tenured physicist at a leading university, Dr. Summers suggested, might well need skills and traits found in only one person in 10,000: the top 0.01 percent of the population, a tiny group that would presumably include more men because it's at the extreme right tail of the distribution curve.

There've been a lot of responses to this article since it came out, but I wanted to know what *actual* female scientists thought. After the cut, you can read the perspectives of four smart women who have four different, insightful takes on the issue:

Dr. Carolyn Porco is a planetary scientist, and the leader of the Cassini spacecraft imaging team.

Dr. Kirsten Sanford is a neurophysiologist who left the lab for a career in science journalism.

Dr. Esther Takeuchi is the Greatbatch Professor in Power Sources Research in the University at Buffalo School of Engineering and Applied Sciences, and a winner of the National Medal of Technology.

Dr. Isis is a physiologist at a major research university who blogs about succeeding as a woman in academia.

#### **Dr. Carolyn Porco: Standardized tests vs. real world success**

With regard to the recent news that, after decades of 'gap narrowing', differences still exist in standardized test performance between boys and girls at the extreme end of the distribution of test scores ... I think that this result, even if permanent, has little bearing on which gender will be better equipped to succeed in scientific careers. There is so much more involved in doing scientific research than just raw mental abilities.

Given an adequate to above-average measure of analytical ability, it next comes down almost entirely to personality. Traits like drive, persistence, focus, confidence, insightfulness, emotional intelligence, ability to rebound from setbacks, ability to accept criticism, enjoyment of solitude, and an abiding, intense desire "to know" that will separate out those who succeed from those who don't. In any 'big science' enterprise, like planetary exploration, where you must work in big teams of similarly driven people, it is important also to know how to work alongside others even when they may be your fiercest competitors. I've known males whose analytical abilities were off the charts—the ones on the extreme end of the curve that we are now discussing—but who just couldn't cut it in the world of scientific research, because they lacked some important personality trait.

So, I don't agree that we can find excuses in the results of standardized test scores for the uneven distribution of males and females in academic departments and other science-related positions. There are other legitimate reasons why the male/female numbers don't reflect the general population, but the new findings are probably not among them.

It might be that females, who tend to be more sociable, don't gravitate to a lifestyle that requires a great deal of solitude.

Also, child-rearing is still, to my viewpoint, a largely female responsibility, and it's not easy to be very dedicated to a career—any career—and be a mother also. Women do it, but it's just not that easy.

I think a large factor is the barrage of messages that girls receive from their surroundings ... parents, friends, internet, advertisements, the culture at large. I'm thrilled to see that amidst the cacophony of messages that we all receive (but that young people are most susceptible to) we find the pitch that girls can be capable at analytical thinking, mathematics, science, politics, and just about everything else that has been traditionally available to males. This has been growing since I was a young woman and it's been encouraging to see.

But, it is still the case: being a scientist is not as socially acceptable as other pursuits. It's true still for boys; it's far, far more prevalent for girls. For instance, we have over a thousand Cassini-interested individuals who are members of the CICLOPS Alliance—a group that interacts with each other and with other Cassini scientists in a forum (of sorts) that takes place on the CICLOPS website. And the vast majority of these folks are males. And the audience profile for the entire CICLOPS website is largely male. And even my being a female and leading this experiment hasn't drawn the same numbers of women as it has men.

Also, let's not forget: females have a special challenge when entering a male-dominated field that operates on male cultural norms and requires male traits—assertiveness, even aggressiveness, competitiveness, etc.—to be successful. When males act like males, they are doing what is expected and are rewarded for it. When a woman acts like a male (which is what she HAS to do to be successful), she is very much regarded otherwise. How many women will be able to handle that? The threshold for those in the vanguard is awfully steep. We still have a long way to go.

However, things ARE improving. There are SO many more women in the field of planetary science, my field, than there were when I was young, and that's a great sign. And with more and more entering these male-dominated fields, the threshold will get lower. The

culture of behaviors will change, and with that, expectations will change and will be more accommodating of females. It will get easier.

I do think that putting too much credence in the results under debate could frighten away young women who aren't so confident to begin with. How should we be judging whether or not the sciences have been made more inclusive? Make education more accessible to women—ALL women, not just Americans. Reward them as much for their work as you reward the males, and they will fill all niches eventually, and that will change the complexion of the whole enterprise. I think the numbers are growing and that it has become more inclusive already. I don't worry too much about there not being the proper ratio between males and females near the top. It will happen eventually.

**Dr. Kirsten Sanford: "Different" doesn't mean "better" or "worse"**

I agree with Tierney that Summers was pilloried for some unfortunate statements on a very touchy subject. After going back to read the transcript again, I think he was really trying to start a conversation (so many prefacing disclaimer-like statements leading up to his main ideas). However, it's very difficult to publicly address the possible reasons that we see such an obvious imbalance between women and men in academic hiring. Suggest that it might be for biological reasons as opposed to strictly social reasons, and you risk opening an unmanageable can of worms, which Summers discovered all too late.

But, in discussing the extreme right tail, Summers did and Tierney does miss the bigger point. Is the academic institution too entrenched in its devotion to those few scientific individuals who make up the extreme right tail? The scientific and academic enterprise is much larger than the physics departments of the top 10 top tier universities. Yet, we see the hiring biases persist throughout the system.

About five years ago, I spent a lot of time looking at the University of California's hiring practices, and speaking with people who had worked on the issue since the 70's. The consensus was that hard work over the preceding three decades at changing systemic awareness by implementing workshops and hiring practice protocols (i.e. affirmative action) had significantly improved the ratio of women to men across the board, but that a **recent complacency had led to dramatic drops**. Just looking within the UC system, we can therefore see evidence that systemic adjustments do decrease the gender hiring bias. It might not solve the problem, but it certainly can't hurt.

We have to seriously think about the reasons that the extreme right tail individuals are seen to succeed in the sciences. Of course, there is a natural propensity for analytical thought, but isn't there also a systemic bias, a social bias to be impressed by and favor individuals with higher test scores? Does science tend to value the higher math test scores over higher verbal test scores? If so, is this smart considering that most of research involves creativity and communication in addition to data collection and analysis?

Back to hiring again, we know there is currently no shortage of female undergrads in the sciences, and numbers of male applicants are decreasing. Similarly, more and more women are pursuing PhDs. Also, as Tierney stated, women are promoted and get grants as often as men. Why are fewer women than men getting hired for academic tenure-track positions? There is something wrong here, and I don't think it is explained by the extreme right tail.

Yes, there is plenty of research that supports the idea that women's brains generally collect and process information differently from men's. But, as has been stated many times before, different doesn't mean better or worse. Science stands to lose significantly if it refuses to productively address the biases that currently exist in the system. It's worth a try to see if awareness workshops initiate a change in attitudes because, really, we can collect data until we are drowning in it and generate alternative hypotheses until we gorge ourselves on them, but we will never know if we can change things unless we try.

**Dr. Esther Takeuchi: Encouraging women in science isn't just good for the women—it's good for the science**

I would like to respond to the article by making two points. The first point is that participation of women is good for science. The second point is that it is now time to act to resolve the continuing lack of participation by women.

The first point: participation of women is good for science and may help in addressing the many technical issues that still face the world today. Perspective may be an important aspect of problem solving in science. Scientific problems often are revisited over time by a variety of scientists with each individual making a small but unique contribution towards the solution. What is considered creativity on the part of an individual may in fact be a different perspective.

In order to solve problems which are currently considered intractable, it may be critical to involve people who are traditionally not participants in the scientific process, especially women because of the unique perspective that they bring. The current numbers that I have seen demonstrate that there are still far too few women in science. I submit that anybody who can bring a different perspective brings a new level of creativity, precisely because they think about solutions in different ways.

The second point: it is now time to act. Often, situations arise where it is obvious that action rather than further study is needed. If your house is on fire, you do not want to commission a study on the nature of matches and their relationship to wood. Rather, you want to take action and put out the fire.

In parallel or subsequent to extinguishing the fire, it is certainly valuable to understand more about its cause. The situation with women in science is similar. Roughly 50% of the population is underrepresented in scientific fields of growing importance for the 21st century. It is not good for science or the country to continue this trend. It is now time for action rather than to rationalize further delay in action by requiring further causal analysis.

In closing, the low participation of women and some ethnic groups in science may be more grounded in the culture of science than in the ability of the women and other groups. It is important that the culture of science, math and engineering be inclusive rather than exclusive. In order to solve problems which are currently considered intractable, it may be critical to involve people who traditionally have not been participants in the scientific process.

#### **Dr. Isis: I am bored to tears with this "debate"**

John Tierney titles his article "Daring to Discuss Women's Potential in Science," as though he is bravely daring to out the dirty little secret that we all supposedly know deep in our hearts. Girls suck at math and science. The truth is, they really don't. It's just that John Tierney sucks at googling.

Tierney wrote his article in response to the passage of the America COMPETES Reauthorization Act of 2010 by the US House of Representatives. Section 124 of Subtitle C under Title I of this 248 page bill is titled "Fulfilling the potential of women in academic science and engineering" (see page 68 of the bill). This section requires that:

...the Director of the Office of Science and Technology Policy shall develop a uniform policy for all Federal science agencies to carry out a program of workshops that educate program officers, members of grant review panels, institution of higher education STEM department chairs, and other federally funded researchers about methods that minimize the effects of gender bias in evaluation of Federal research grants and in the related academic advancement of actual and potential recipients of these grants, including hiring, tenure, promotion, and selection for any honor based in part on the recipient's research record.

He then continues to outline the evidence that boys tend to be the top scorers in math and science when measured via standardized aptitude tests, even if there is no difference between the means.

Yet, he clearly has ignored the fact that this phenomenon is unique to the United States. Indeed, in countries with more gender equal cultural norms, the divide disappears. In Iceland, girls out perform boys in math and science. Japanese girls out perform American boys. Maybe in his next column Tierney will argue some type of evolutionary difference between the boys and girls in these other countries and American boys and girls.

Personally, I would find it much more interesting if he would start posting recipes for pies we could make with all the cherries he's picking.

When he brings up the evidence that the gender gap in aptitude tests has not shown the same rate of closing that it once did, he misses the evidence that the performance of elementary school aged girls on these tests is related to the level of anxiety displayed by their almost exclusively female teachers, who have been socially pre-conditioned with this anxiety. This anxiety remains abundant.

But, thank goodness for all of us that Tierney is daring to ask the tough questions. Maybe next time he'll also dare to completely research a topic before he writes an article. However, where he really fails, and fails hard, is here:

But a tenured physicist at a leading university...might well need skills and traits found in only one person in 10,000: the top 0.01 percent of the population, a tiny group that would presumably include more men because it's at the extreme right tail of the distribution curve.

Even when you consider only members of an elite group like the top percentile of the seventh graders on the SAT math test, someone at the 99.9 level is more likely than someone at the 99.1 level to get a doctorate in science or to win tenure at a top university.

Can we all agree that Tierny pulled this completely out of his ass? Someone who scores in the top 99.9% of an aptitude test is more likely to get tenure than someone who scores in the top 99.1% in the seventh grade? Really?

As my dear brothers PhysioProf and Drugmonkey have discussed [on their blog](#), scientific knowledge, per se, does not predict one's success as a tenured academic researcher. Managing a lab as a principal investigator at a major research university requires management skills, the ability to effectively communicate to the scientific community and obtain grant dollars, the ability to effectively teach and mentor more junior scientists, and the ability to creatively outline novel research directions. I would argue that these things are not necessarily predicted by an aptitude test taken in the seventh grade.

Which, brings us back to the idea of gender bias and culture. This is where we need to be looking in order to close the gender gap in STEM. Recently ScienceMama from the [Mother of All Scientists](#) sent me a link to [this article](#) from Science about how successful academic women learn to outsource daily tasks like housekeeping, childcare, and laundry. While, I think the advice is generally good, ScienceMama picked up on the underlying social message of the article. She wrote to me:

I can't exactly put into words why this article bothers me so much. I understand the general intention of the article, but for some reason the take home message for me seems to be "If you're a female scientist, you need to hire a housekeeper, whereas if you're a male scientist you can just get a wife."

By focusing just on female scientists, it seems like what the article is saying is that domestic chores are a woman's responsibility. Why shouldn't male scientists also be encouraged to get a housekeeper to cover all the work they are clearly neglecting at home?

Again, I understand that the article was well-intentioned (spend your limited free time with your family or on a hobby instead of mopping your floors), but the fact that it's aimed only at female scientists seems to reinforce the idea that all of the domestic chores are the woman's responsibility.

She's exactly right. We can spend our time discussing SAT scores, but I worry that we are missing the most important thing that keeps women out of science—the cultural attitudes that teach women that if they choose a demanding career, they aren't fulfilling their duties as wife and mother.

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[Share](#)**90 Comments • Add a comment****Stephen • #1 • 9:23 AM Friday, Jun 11, 2010 • Reply** 

The statistical distribution argument may or may not be valid. But it is not specific to the sciences. So clearly something else is involved in the disproportionate representation in the sciences.

**sparkdale • #2 • 9:29 AM Friday, Jun 11, 2010 • Reply** 

Great post Maggie.

**caseyd • #3 • 9:29 AM Friday, Jun 11, 2010 • Reply** 

Dr. [Caroline Simard's response](#) should be added to this discussion.

**Wassermelone • #4 • 9:29 AM Friday, Jun 11, 2010 • Reply** 

Everything I would have wanted to say was stated wonderfully by the four scientists above.

**Yamara • #5 • 9:38 AM Friday, Jun 11, 2010 • Reply** 

There's also the factor that having to push back against the predominate culture makes the women who succeed in science all the more honed for challenges.

And some messages are getting out there that geek girls wrestling their way through a snotty patriarchal culture have their own [countercultural cool](#)...

**AnthonyC • #6 • 9:46 AM Friday, Jun 11, 2010 • Reply** 

This was an excellent article.

I will add one thing: as a student at one of those top schools, I frequently heard the same refrain from my female classmates in the sciences: their perception was that male professors treated them the same as the guys, whereas female professors were harder on them than the guys. The best explanation we came up with was that maybe the women, who had clearly fought very hard against a male-dominated culture to get where they were, felt they needed to train the new generation to do the same. Just food for thought.

**Mr. Gunn • #7 • 9:46 AM Friday, Jun 11, 2010 • Reply** 

Thanks for getting these opinions together, Maggie, but I fear that calling it a debate will lead to misunderstanding. A debate implies there are two clear and opposed positions, and that's manifestly not true in this case. Here's just a selection of the various ideas in play here:

Is intelligence one-dimensional?

If so, does a particular dimension of intelligence predict success in scientific research?

If so, should grants be awarded strictly on the likelihood of success of the person as predicted by the test, with no regard to the culture this creates?

That there's a greater variability among males in the test scores is pretty well established, so mathematically that implies that you can find a point on the far right tail where males predominate. However, is it right for people on the far right tail of the distribution to be targeted?

I agree entirely with Dr. Sanford when she says that different doesn't mean better or worse, however, try that line out in a discussion of not gender but race and intelligence and let me know how that works for you. Let me link to two people who have looked at the statistics around these phenomenon and are quite expert at the kinds of subtle interpretations required. Hopefully, the fact that both (presumably) have penises won't prejudice them too much.

<http://www.gnXP.com/blog/2008/07/summers-part-29476.php>

<http://infoproc.blogspot.com/2008/06/asian-white-iq-variance-from-pisa.html>

**Anon • #8 • 9:51 AM Friday, Jun 11, 2010 • Reply** 

I love Dr. Isis' point that the true evidence here is that Americans as a whole suck so badly at math in grade school that if that were to continue, no American would be qualified to do any math-related career.

Obviously, this is somewhat repaired in university. Still, how difficult it must be to catch up so late in the game.

Also agree with her assertion that Tierney believes male aversion to housework to be universal and 'natural'. He needs to meet a few happy househusbands (like mine)

**Xeni Jardin • #9 • 9:52 AM Friday, Jun 11, 2010 • Reply** 

Huge thanks for posting this, Maggie.

**Anon • #10 • 9:55 AM Friday, Jun 11, 2010 • Reply** 

"By focusing just on female scientists, it seems like what the article is saying is that domestic chores are a woman's responsibility. Why shouldn't male scientists also be encouraged to get a housekeeper to cover all the work they are clearly neglecting at home?"

The issue between this gap is men are happy enough living in far nastier messes than women are. So women end up doing the work because men would happily live as a slob. They do the work because otherwise it wouldn't get done to their level of satisfaction.

Do I think there needs to be a balance? No. I think MOST COUPLES of any means should be looking to hire staff to help with many of the household chores

I mean, you don't hear a group of men complaining about the "plumbing imbalance", the "lawncare imbalance", or the "handman imbalance", no, they \*just hire someone if they don't have the time, skill or inclination\* to do the work they care about in their household.

**Lobster • #11 • 10:05 AM Friday, Jun 11, 2010 • Reply** 

I once heard a very interesting interview with a female scientist, not about being a female but about the science. During the Q&A part, a very shrill-voiced woman gave a long speech about feminism in the sciences and ended it with a "do you agree?" to make it technically a question.

The scientist said she didn't find that subject very interesting and would rather talk about the science.

That is what feminism is about. Women doing what interests them because it interests them, not just to prove that women can do it too.

**MadMolecule • #12 • 10:09 AM Friday, Jun 11, 2010 • Reply** 

Very interesting post, Maggie. One thing in Dr. Takeuchi's reply has me puzzled, though: "...especially women because of the unique perspective that they bring."

She repeats several times that women bring a "unique perspective," but doesn't really elaborate on the notion. I'm curious as to what, specifically, she identifies as unique about women's approach to science and/or problem-solving.

I'm not arguing with her, of course; I'm just wishing I had fuller understanding of what she means, as the statement on its face seems open to (mis)interpretation as a reversion to Mars-vs-Venus thinking.

**Brainspore • #13 • 10:13 AM Friday, Jun 11, 2010 • Reply** 

Now to address the staggering gender gap among monster-truck drivers.

**Anon • #14 • 10:17 AM Friday, Jun 11, 2010 • Reply** 

When I was a grad student doing my Ph.D., there were female profs in my department on the "tenured" track. However, it was always clear that the male and female profs were if not treated differently, definitely viewed differently. Those at the same age were as above

quote: "If you're a female scientist, you need to hire a housekeeper, whereas if you're a male scientist you can just get a wife." Many of the male profs spent all hours at the lab as their "wives" could take care of things at home. The female profs in general chose to spend more hours at home. The work output thus obviously differed. I'm not sure how much this has or can change.

**Anon • #15 • 10:18 AM Friday, Jun 11, 2010 • Reply** 

Dr. Isis is my new hero.

Signed,  
Another woman working at a large medical research facility.

**joelfinch • #16 • 10:22 AM Friday, Jun 11, 2010 • Reply** 

I'm a grey-eyed brown-haired married middle-aged atheist heterosexual caucasian male programmer with socialist leanings, size 9 shoes, O+ blood, and a son.

Which of those is my primary characteristic? Why?

Should I be up in arms that middle-aged people are under-represented somewhere?  
There's not enough gay firefighters! Too many atheist bakers! Blood type O+ doesn't have equal representation in government!

You know what I want? I want everyone who wants to be a scientist to be a scientist, every poet to be a poet.

I don't give two hoots if it happens that they're all men, all catholics, all mothers, all tall, all gay. It's utterly irrelevant.

Making an exclusive team out of gender is why we're in this damn mess, and we're not going to fix it by smuggling more of either team into any given profession.

Disband the team, stop looking at statistics about personal characteristics, and start looking at each whole person.

**Brainspore replied to comment from joelfinch • #17 • 10:41 AM Friday, Jun 11, 2010 • Reply** 

**I don't give two hoots if it happens that they're all men, all catholics, all mothers, all tall, all gay. It's utterly irrelevant.**

So you'd be totally cool if we went back to the days when all elected representatives in the country were (or pretended to be) straight white christian males?

**KungFuBar • #18 • 10:46 AM Friday, Jun 11, 2010 • Reply** 

Successful people in the sciences are generally around the 98th percentile in IQ, give or take. There are plenty of women at this level--plenty as in millions. To look at it another way, you could replace every male university-faculty scientist in the world with a female scientist (now THAT's affirmative action), and the world of science would not lack for brainpower.

Dr Isis nails this when she notes that Tierny "fails, and fails hard," when he suggests a tenured physicist at a top university needs to be in the 99.99th percentile. Tierny is off by several orders of magnitude, and does indeed appear to have pulled this number out of his posterior. It's not hard to find the right percentile... maybe he should have consulted a scientist first. In any case, the actual numbers make it clear that a (purported) preponderance of men at the upper extremes of IQ does nothing to explain skewed gender distributions in the sciences.

**Anon • #19 • 11:07 AM Friday, Jun 11, 2010 • Reply** 

I enjoyed the responses, particularly Dr. Isis. I did want to comment on Dr. Porco's comment on solitude. In the life sciences, researchers work together in a lab in a very

social way. Many graduate students are surprised at the level of interaction, and find that the level of talking about science and just chatting about life exceeds many other jobs.

**Anon • #20 • 11:27 AM Friday, Jun 11, 2010 • Reply**



@ Dr. Isis,

YEAAAAAAAAAAAAHHH!! xD

- A female scientist who left academia cause she was fed-up with the double-standard culture

**Gunn • #21 • 11:29 AM Friday, Jun 11, 2010 • Reply**



Excellent response to Tierney's subtext-heavy article. Much thanks to Maggie and to the scientists who responded.

John Tierney used to be the right-wing op-ed writer for the NYTimes, and I don't see any change in his POV (or MO, for that matter) now that he's reporting on science.

**joelfinch replied to comment from Brainspore • #22 • 11:31 AM Friday, Jun 11, 2010 • Reply**



My point is not to go back to anything, it's to change things going forward.

Right now, today, start telling your children, all of them, regardless of gender "you can pursue any interest you want, do any job you want". Help them believe it.

All this focus on gender does is help the next generation to focus on gender too. Let's worry about making sure the best person gets the job, not what's between their legs when they do.

**Brainspore replied to comment from joelfinch • #23 • 11:49 AM Friday, Jun 11, 2010 • Reply**



You don't think the next generation is going to notice if their field is completely dominated by one group? I don't see how ignoring an obvious gender imbalance is a better tactic than having a reasoned, thoughtful discussion about it. "You can be anything" is a great message, "nothing to see here!" isn't.

Also, as one straight white middle-class male to another: avoid complaining about how everybody makes such a big deal about race/gender/orientation in this country. Downplaying the problem makes us look like clueless fools to the people who have fought for generations (and continue to fight) for the rights and respect that we often take for granted.

**Anon • #24 • 11:53 AM Friday, Jun 11, 2010 • Reply**



I always encouraged women friends in engineering school out of professional pride. I wanted engineering to be respected, therefor I wanted its ranks to be filled with quality people. Looking around, there were more than a few guys who didn't fit the bill. Encouraging women was my way of shifting the curve upward.

Plus if engineering and science were totally male, how could you make jokes like telling a female fertility specialist to get back to making babies?

That's right, you can be for gender equality because it's self serving and a source of bad jokes.

**cinemajay replied to comment from joelfinch • #25 • 11:53 AM Friday, Jun 11, 2010 • Reply**



"All this focus on gender does is help the next generation to focus on gender too."

I'm not so sure that ignoring the problem is the best way to deal with it. A person's identity greatly affects how they experience life and vice versa.

**Anon • #26 • 11:54 AM Friday, Jun 11, 2010 • Reply**



When was the last time you saw a man teaching 1st grade? Why do you suppose that is?

**Anon • #27 • 12:23 PM Friday, Jun 11, 2010 • Reply** 

It's very refreshing to hear female opinions on this discussion - it hadn't occurred to me before now, but this may be the first time I've seen an article by women scientists discussing the gap.

Thanks for a very interesting article.

**Doctor Zen • #28 • 12:34 PM Friday, Jun 11, 2010 • Reply** 

"Can we all agree that Tierney pulled this completely out of his ass? Someone who scores in the top 99.9% of an aptitude test is more likely to get tenure than someone who scores in the top 99.1% in the seventh grade? Really?"

The *Times* linked to this article:

Wai J, Lubinski D, Benbow CP. 2005. Creativity and occupational accomplishments among intellectually precocious youths: An age 13 to age 33 longitudinal study. *Journal of Educational Psychology* 97(3): 484–492. doi: 10.1037/0022-0663.97.3.484

The numbers Tierney gives are from that journal article, not his rectal orifice.

**SamSam • #29 • 12:35 PM Friday, Jun 11, 2010 • Reply** 

Personally, I would find it much more interesting if he would start posting recipes for pies we could make with all the cherries he's picking.

That's a great line, and I'm going to have to remember it the next time I argue with a cherry-picker over something like global warming.

**Felton replied to comment from SamSam • #30 • 12:54 PM Friday, Jun 11, 2010 • Reply** 

Heh! I was thinking the same thing. We should convert it into a subtle reference in the presence of such cherry-picking, like "yeah, that's an interesting argument. When is that pie going to be ready, anyway?"

**Sluisifer • #31 • 1:08 PM Friday, Jun 11, 2010 • Reply** 

Best bOING bOING post ever.

Seriously.

And I do mean that that's saying a lot.

**joelfinch • #32 • 1:14 PM Friday, Jun 11, 2010 • Reply** 

You say there's an obvious gender imbalance.

I say gender is not a useful thing to balance on in the first place.

The goal is equal opportunity for all people, judged on personal merits relevant to the profession, not homogenous participation by every measurable human trait.

You can call it ignoring, you can call it downplaying. I'm going to teach my son not to concern himself with gender when assessing a person's worth, and to not limit his own interests because of his gender. I'm going to model that for him in my behaviour and talk to him about it explicitly when he's old enough, and that's addressing the issue head-on.

**Sekino • #33 • 1:21 PM Friday, Jun 11, 2010 • Reply** 

I had already read that article a few days ago on NYTimes. It's awesome to see the scientists' responses!

I still think many kids are raised, consciously or not, in very gender-specific ways. Who's most likely to be given a set of dinosaurs or a book on rockets in most households; a boy or a girl? Boys are very naturally encouraged to do more exploring (touching, playing with

moving objects, building things...) early on. But unless a girl is surrounded by geeky types or scientists, it can take years until she may have her first opportunity to develop interest in sciences and have scientific materials available. Girls are often more encouraged to be social, have playdates and make friends than stay in the basement/backyard alone and goof off with their chemistry set.

That said, aside from gender alone, there should be more importance placed on differences in personalities and skills in *individual* children instead of cramming them into one or two subsets. There should be more attention paid to recognize the visual, kinetic, analytical, introvert and verbal (etc.) types *early on* and encourage them to explore and develop their natural skills.

Of course, there should then be more recognition of various skill sets and different expressions of intelligence in the educational and professional world. We're probably missing out on lots of amazing new scientists (of either gender) because our models/measurements for skills and intelligence is so rigid and narrow.

**joelfinch replied to comment from cinemajay • #34 • 1:29 PM Friday, Jun 11, 2010 • **  
**Reply**

We don't have to go straight from "focus" to "ignore", there's plenty of space in the excluded middle.

I agree that identity is important, I just don't think gender is the only, or even generally speaking the most important, part of identity.

Would you rather be a bad man, or a good person?

**Brainspore replied to comment from joelfinch • #35 • 1:29 PM Friday, Jun 11, 2010 • **  
**Reply**

How can we be sure there IS equal opportunity for all people if we don't bother to consider why the numbers are so skewed toward one group the first place?

I'm not saying that the system is hopelessly broken if less than 50% of all scientists are women. I'm saying that it is valid and useful to discuss the possible reasons why that is not the case.

**Anon • #36 • 1:36 PM Friday, Jun 11, 2010 • **  
**Reply**

I've got a problem with the title of this article, "Women Scientists on the debate over women in science". I don't think there is anything to "debate over". It is a given that women can be in science.

**joelfinch replied to comment from Brainspore • #37 • 1:43 PM Friday, Jun 11, 2010 • **  
**Reply**

You're still taking gender as a valid way to group people for this purpose, and I reject that premise.

There are as many different groups of people as there are measurable traits in the statistics you're looking at.

Explain to me why gender is one worth balancing in a professional situation, and all the others aren't?

**Brainspore replied to comment from joelfinch • #38 • 1:50 PM Friday, Jun 11, 2010 • **  
**Reply**

You seem to be willfully ignoring my point.

I'm not saying that any one trait, including gender, necessarily *should* be something we balance. I'm saying that when something IS way out of balance that it is useful for us to understand WHY instead of pretending such an imbalance doesn't exist.

**Anon • #39 • 1:55 PM Friday, Jun 11, 2010 • **  
**Reply**

"The numbers Tierney gives are from that journal article, not his rectal orifice"

You can read my response [here](#). He really did pull that sentence out of his ass.

Isis the Scientist

**Anon replied to comment from Anonymous • #40 • 2:03 PM Friday, Jun 11, 2010 • **

**Reply**

I actually had a male 1st grade teacher. And he was pretty awesome. But then again, all my other elementary school teachers were female, so point taken.

**Anon • #41 • 2:14 PM Friday, Jun 11, 2010 • Reply **

I

**Anon • #42 • 2:14 PM Friday, Jun 11, 2010 • Reply **

[http://gladwell.com/1997/1997\\_05\\_19\\_a\\_sports.htm](http://gladwell.com/1997/1997_05_19_a_sports.htm)

[http://gladwell.com/2007/2007\\_12\\_17\\_c\\_iq.html](http://gladwell.com/2007/2007_12_17_c_iq.html)

**Antinous / Moderator replied to comment from Brainspore • #43 • 2:17 PM Friday, **

**Jun 11, 2010 • Reply**

I call myself Blindness, but my real name is Privilege.

**Brainspore replied to comment from Antinous / Moderator • #44 • 2:24 PM Friday, **

**Jun 11, 2010 • Reply**

Good line!

**Pteryxx replied to comment from joelfinch • #45 • 2:57 PM Friday, Jun 11, 2010 • **

**Reply**

"Explain to me why gender is one worth balancing in a professional situation, and all the others aren't?"

Because gender, along with race and class, shows significant imbalances due to perception and opportunity instead of actual capability. In other words, bias. Which to scientists means something to be corrected for.

**Anon • #46 • 3:02 PM Friday, Jun 11, 2010 • Reply **

The definitive work on the question of whether women can do science as well as men is the book "The Mathematics of Sex" written by two prominent research psychologists who did an extensive review of the existing research. It is possibly the most well-done book on gender research that I have ever read (and I have read a LOT--it's one of my specialties; I taught Psych of Women for many years). There is a review of it that I wrote on Amazon. Their answer? Yes. See why. Read my review.

Sharon Presley, Ph.D.

**Thalia replied to comment from joelfinch • #47 • 3:09 PM Friday, Jun 11, 2010 • **

**Reply**

You first get rid of that professor who asked me whether I was there for my Mrs. degree, and the professor who told the class that this is the first time he had a woman in his class, and he is sad he no longer is teaching at an all male university. Don't forget the professor who accused me of cheating when my homework was correct, and no one else got everything right. Then we can tackle the coworker who suggested that someone "as pretty as me" shouldn't work late. And the supervisor who gave the challenging project to my co-worker because "now you're married and maybe you'll become a stay-at-home wife." Last but not least, we can discuss the customers who preferred to work with a male intern whom I was in the process of training, instead of working with me directly.

Once we've handled these types of issues, we can try to ignore gender in figuring out why men get promoted.

**Kai Jones • #48 • 3:17 PM Friday, Jun 11, 2010 • Reply **

It's not as if we have any evidence about what it's like if you change sex but not your job.

Oh wait, we do. In [How the Sex Bias Prevails](#), Shankar Vedantam shares the experiences of two scientists at Stanford University, one a transman, the other a transwoman. At MIT, Barbara Barnes thought it wasn't about feminism, until one text:

*"I got an A. I went to the professor and I said, 'I solved it.' He looked at me and he had a look of disdain in his eyes, and he said, 'You must have had your boyfriend solve it.' To me, the most amazing thing is that I was indignant. I walked away. I didn't know what to say. He was in essence accusing me of cheating. I was incensed by that. It did not occur to me for years and years that that was sexism."*

By the time she was done with MIT, Barbara had more or less decided she wanted to be a neuroscientist. She decided to go to medical school at Dartmouth in New Hampshire. Gender issues at med school were like the issues at MIT on steroids; one professor referred Barbara to his wife when she wanted to talk about her professional interests. An anatomy professor showed a slide of a nude female pin-up during a lecture.

After transitioning midway through a successful career, Ben Barres reports:

*A friend relayed a comment made by someone in the audience who didn't know Ben Barres and Barbara Barres were the same person: "Ben Barres gave a great seminar today, but, then, his work is much better than his sister's."*

Joan Roughgarden, a transwoman, had an easy time as a young scientist.

*"It was clear when I got the job at Stanford that it was like being on a conveyer belt," Roughgarden told me in an interview. "The career track is set up for young men. You are assumed to be competent unless revealed otherwise."*

Before transition, a revolutionary idea Roughgarden proposed was accepted and debated, but after transition:

*But in contrast to the response to her earlier theory about tide pools and marine animals, few scientists engaged with her. At a workshop at Loyola University, a scientist "lost it" and started screaming at her for being irresponsible. "I had never had experiences of anyone trying to coerce me in this physically intimidating way," she said, as she compared the reactions to her work before and after she became a woman. "You really think this guy is really going to come over and hit you."*

...

*With a touch of wistfulness, she compared herself to Ben Barres. "Ben has migrated into the centre whereas I have had to migrate into the periphery."*

**Anon replied to [comment from Anonymous](#) • #49 • 3:18 PM Friday, Jun 11, 2010 • **  
**Reply**

men are more slovenly than women? guess you've never been to my place ...

**Anon** • #50 • 3:19 PM Friday, Jun 11, 2010 • **Reply** 

Only someone who's really never been the only (Insert your group of choice) in the room for more than a couple of minutes at a time could argue that it really makes no difference whatsoever whether you've got a homogenous or heterogeneous group, and what the composition of that group is.

There are certain experiences white straight men never have. Certain things they'll never see. Which is true of every other variety of human there is, but the thing about white straight men is that they are considered, unconsciously by most people, to be the "default" human. I believe Stephen Colbert used those exact words while speaking to a historian who had written a book about the history of white people and whiteness as a concept. In any case, if your group is homogenous then you're going to be missing MANY perspectives, which is a disadvantage in science as it is in any other field.

The fact that people can unselfconsciously insist that they're white and male and it really doesn't matter if everyone in the room where important work is being done, work that will affect all our lives, is white and straight and male. Because "it doesn't matter!" Well, yes, if you're white and straight and male then naturally this system is likely to be working well for you.

And these guys want us to believe that they're good at logic?

**Anon • #51 • 3:24 PM Friday, Jun 11, 2010 • Reply** 

Brainspore, I think you're forgetting the dogma. Remember, the only thing that perpetuates sexism or racism is discussing it. And the only people who are worse than misogynists or racists are the people who call them out.

**yer\_maw • #52 • 3:26 PM Friday, Jun 11, 2010 • Reply** 

Children children children

having kids is not compatible with the ridiculous obsession with publication rate.

**SamLL • #53 • 3:38 PM Friday, Jun 11, 2010 • Reply** 

Dr. Isis, your contribution here was great, thank you for sharing it with us.

**Anon replied to comment from yer\_maw • #54 • 3:46 PM Friday, Jun 11, 2010 • Reply** 

Clearly the solution is to prohibit scientists from having children.

**jafi • #55 • 3:53 PM Friday, Jun 11, 2010 • Reply** 

Plus get rid of the professor who stood in front of class on the first day and flat out said women don't belong in science. (In the 80's!!). None of the 6 women in the class dared take him on - you had to pass the class to graduate, might have to take an in-major elective with him as well and he was tenured.

And get rid of the people who asked why are you majoring in science? You're not ugly. Oh, you must trying to land a better husband (in the 80's!)

Or get rid of the math professor that was known for flunking women in his advanced math classes. One woman complained to the e-school assistant dean. His answer - he's tenured and we just assume women tell each other about him through the grapevine (in the 90's!!)

And get rid of the customers who would call and when they got me on the phone would assume I was the administrative assistant, and would not believe me when I told them I was the technical professional they needed to talk to. And this was in the 00's!!!

A friend ended up leaving a EE Ph.D. program because her advisor consistently under supported and underfunded her compared to male students. He even asked her to pay her own way to a conference to present - when her paper was the one accepted over all the male students, who he'd offer to pay for travel if accepted.

More subtle gender bias is also alive and well in science and engineering in the form of Competence Bias and Micro-inequities. I have to prove my bona-fides repeatedly - all my male colleagues get the automatic benefit of a doubt. They're assumed competent till proven others. The vast majority of women I know in STEM professions talk about how much energy it sucks to have to continually keep proving they know what they're talking about anytime someone new (customer, colleague, superior, etc.) is introduced into their work sphere. Men can bullshit they know something and then go figure it out. Most women have to demonstrate in advance they know it and rarely have the luxury to wing it.

The other thing I've noticed - guys get rewarded/promoted for the "big save" - saved the customer, fixed the huge problem, etc. Women rarely get the same level of recognition for noticing the problem before it got to the customer and preventing the need for the "big save" in the first place.

**bkad • #56 • 5:31 PM Friday, Jun 11, 2010 • Reply** 

Most people want to live in a society of equal opportunity -- the trouble is, how do you measure opportunity?

The debate, if there is one, is "can you measure opportunity to become a scientist by measuring the number of people who become scientists?" In other words, does equal opportunity -> equal achievement, and ~equal achievement -> ~equal opportunity?

Arguing that women and men are equally capable, either on average or in the tails, is only part of that question. Desire (either innate or cultural) is a part. So are more subtle things, like how friendly grad school and post doc positions are to having kids, and how much that might factor into men's decisions vs women's decision.

My other point:: I'd encourage people to be careful. What if someone someday unequivocally proves that men and women are differently suited for different intellectual work? (Similar arguments for people hailing from different parts of the world.) I think focussing too much on proving physical capability could end up burning people if it is proven not be. You don't want arguments for equal opportunity to be depend on something like that.

Analogies: You don't want your arguments about civil rights for gay men and women predicated on the belief that homosexuality is not a choice, because if someone invents a magic drug that changes peoples' sexual orientation, your arguments collapse. Or, you don't want to base your arguments for God's existence to be based on a fossile record gap that may someday close.

**bkad • #57 • 5:40 PM Friday, Jun 11, 2010 • Reply**



**In any case, if your group is homogenous then you're going to be missing MANY perspectives, which is a disadvantage in science as it is in any other field.**

**I realize this is more a ideal truth than a practical truth, but I think if you are doing science correctly then who you are and your background should matter very little. The whole point of science is to remove the influence of the scientist on the result; that's the benefit of quantitative measurement, controlled experiments, etc.**

It is hard not look at a field like mine (an engineering team that is probably ~0.5-1% women) and not think, "there is something wrong here." (Recognizing that 'feelings' are not 'proof'.) But what if I saw a field with a 60:40 split. Or a 55:45 split. Would such an inequality reflect unequal opportunity? Would it matter?

Equal opportunity should be the goal, but what is the metric?

**bkad • #58 • 5:46 PM Friday, Jun 11, 2010 • Reply**



**Or a 55:45 split. Would such an inequality reflect unequal opportunity? Would it matter?**

Sorry, I meant, "would it matter that there was a 55:45 split", NOT, "would it matter if there was inequality"

**Anon • #59 • 6:12 PM Friday, Jun 11, 2010 • Reply**



These replies remind me why I'm getting my PhD in Engineering Education after my Aerospace undergrad and working on various STEM projects to encourage underrepresented groups into the sciences.

All it really took for me was one good science teacher to tell me that what I liked wasn't unnatural, even if I might hear it was unnatural from other people.

Love all of you, I hope when I get older I can do as much awesome as you!

**Anon • #60 • 6:16 PM Friday, Jun 11, 2010 • Reply**



I recommend this video entitled "Minority Women in Science"  
<http://www.youtube.com/watch?v=l69EIRoxXX8>



**joelfinch replied to comment from Thalia • #61 • 8:26 PM Friday, Jun 11, 2010 • Reply**

I am all for getting rid of sexist dinosaurs, but short of mind-reading or a bullet, there's no instant solution. The next generation is where change can be still be made on a useful scale.

I am sorry that you are treated badly by some people who are men, but they're not every man, and my point is that no-one is, it's an irrelevant grouping.

My concern is that by focusing on gender statistics which are way out of "balance", we're masking the real issue.

They're sexist bigots, and that's their key characteristic, the fact that they're male is not.

What I really want to see is people stop saying "male-dominated" like it says something useful. I'm a male, I'm not a sexist or a bigot, and I'm as tired of my gender being used to imply something about me that's not true as you are.

Science and many professions are provably sexist-dominated, yes, and that's something worth measuring and fighting. "Male-domination" is a statistical curiosity.

**Antinous / Moderator • #62 • 8:50 PM Friday, Jun 11, 2010 • Reply**



I'm not a sexist or a bigot

Everyone is bigoted. Even queers have internalized homophobia, even Jews have internalized antisemitism, even women have internalized sexism. It's part of being raised and living in a paradigm of bias and inequality. It's part of the human condition. The meaningful question is whether or not you acknowledge it and try to keep it from doing any damage.

**joelfinch replied to comment from Anonymous • #63 • 8:50 PM Friday, Jun 11, 2010 • Reply**



"In any case, if your group is homogenous then you're going to be missing MANY perspectives, which is a disadvantage in science as it is in any other field."

Your mistake is thinking that any group composed only of straight white men is actually homogenous.

I reject the idea that those three things are the only facts worth measuring about me, and I encourage every person, regardless of orientation, colour or gender to reject it too.

**joelfinch replied to comment from Antinous / Moderator • #64 • 9:17 PM Friday, Jun 11, 2010 • Reply**



Perhaps we have different understandings of the word bigot then. To me the definition is someone who keeps the own views in the face of contrary evidence. I'm not a bigot.

**benher • #65 • 9:46 PM Friday, Jun 11, 2010 • Reply**



I think I have a goggles and labcoat fetish now.

**Antinous / Moderator replied to comment from joelfinch • #66 • 10:10 PM Friday, Jun 11, 2010 • Reply**



To me the definition is someone who keeps the own views in the face of contrary evidence.

I don't give a free pass to unexamined beliefs. Mindless prejudice does a lot of damage.

**japroach • #67 • 10:39 PM Friday, Jun 11, 2010 • Reply**



<http://www.smbc-comics.com/index.php?db=comics&id=1883#comic>



**Anon replied to comment from Anonymous • #68 • 10:59 PM Friday, Jun 11, 2010 • Reply**

I agree that men, like women, are often trapped by gender roles. However, tradition generally (though not always) favors men. I don't think that women should stop fighting to be able to enter the sciences because men aren't expected to like small children. If anything, men unhappy with the status quo should work with feminists to change the way gender is perceived. That way it's win-win.

**Anon replied to comment from Anonymous • #69 • 11:09 PM Friday, Jun 11, 2010 • Reply**

I can't really agree with you on this. I just spent a year living in a co-ed dorm. Although I'm only working with a sample size of thirty, I can honestly say that I didn't notice any correlation between cleanliness and gender. And, despite being female, I absolutely hate cleaning. However, I have heard multiple men joke about how much they used to cook and clean before they got married. Wives take on more housework than their husbands because of gender roles. There's no housework gene associated with the x chromosome.

Also, very few people can take care of serious house repairs or plumbing issues. Whereas most people have the skills necessary to handle a housekeeper's duties.

**joelfinch replied to comment from Antinous / Moderator • #70 • 11:18 PM Friday, Jun 11, 2010 • Reply**

Agreed.

I'm not clear on whether you think my beliefs are unexamined? Or how you would know?

**Anon • #71 • 11:18 PM Friday, Jun 11, 2010 • Reply**

As one of those women who is in science and (just) finished her PhD from a top-tier school I wanted to weigh in a bit.

First, the number of women has increased, both in receiving PhDs, and in continuing to a post-doctoral position (consult ISP statistics). The real drop off is in tenure track positions. I've found numerous women who are put off the by the unfriendly family policies at most schools. This impacts women primarily, but families in general. Paternity leave exists in numerous developed countries but not ours.

Second, my experience was in some ways more difficult being a woman. You can chalk it up to my research group, my program, or even somewhat to my own personality. But the comments, the attitudes I faced were reflected by gender. I'd also say it makes you more aware of being different-- no matter what the difference (race, gender, sexual orientation, disability, etc.) when you look about a conference or a meeting and see no one like you.

Lastly, I realize this seems immodest, I've always tested quite while. I was always that student who was motivated, and breaking up the bell curve. I was not the best graduate student. The assumption that SATs correlate to tenure-track performance lacks proof. Research is a combination of being stupid enough to keep trying something crazy and smart enough to know when to stop. My adviser took a long time at a lower tier undergraduate institution, drinking, womanizing and the like but upon graduate school became a force to be reckoned with. I add this link to an anecdote in a blog I read as I believe it sums up my point

<http://blog.regehr.org/archives/147>

**Anon • #72 • 11:32 PM Friday, Jun 11, 2010 • Reply**

This is of relevance to the discussion, though a slightly different context:

<http://www.theatlantic.com/magazine/archive/2010/07/the-end-of-men/8135/>

**Antinous / Moderator replied to comment from joelfinch • #73 • 12:14 AM Saturday, Jun 12, 2010 • Reply**

You are making irony. Everyone has unexamined beliefs. Lots of them. If you could describe them, they would no longer be unexamined.

**Chrs replied to comment from joelfinch • #74 • 12:30 AM Saturday, Jun 12, 2010 • **

**Reply**

I shouldn't be taking my white male grad student time away from finishing up a paper for this.

You are getting on my nerves. I appreciate your idealism, it's a wonderful thought, but it is important that you realize that it is not accurate.

See, humans are truly remarkable in their social abilities, and I refer specifically to how quickly we pick up what someone thinks of another person. Consciously or unconsciously, to use an example from above, if someone doesn't trust target person to do something right on their own, you will doubt it yourself.

Unless you are autistic, you pick up these cues effortlessly. Without conscious thought. Failing to do so *renders you socially disabled*. We acquire so much information from other people that it's impossible to process it all consciously.

Well, unless you're autistic. Then you don't pick up that information. You are, most likely, not seriously autistic.

And yet, even autistic people show bias. It's such a basic function that even people who really don't work right socially pick up that information.

You have biases that you pick up from people around you, without conscious thought. So do I. So does practically every human being not currently in a coma.

The end.

**Chrs replied to comment from Chrs • #75 • 12:41 AM Saturday, Jun 12, 2010 • **

**Reply**

Urrgh, it is late. Logical inconsistency of fourth through sixth paragraphs should be, "you would assume autistic people don't get bias, since they don't pick up social cues well at all, but they do."

**Anon replied to comment from Anonymous • #76 • 1:43 AM Saturday, Jun 12, 2010 • Reply **

I think that science jobs in general can be very social. But you can't ignore that fact that if you want to be the next Marie Curie or Descartes, you need long, continuous periods of solitude. Once you get into problems that require heavy thinking, interruptions (by friends, meetings) can set you back light years.

**Anon replied to comment from Lobster • #77 • 4:43 AM Saturday, Jun 12, 2010 • **

**Reply**

Thanks for this comment. I am hopefully going to Uni this year to do a Physics degree, and there has been a lot of comments from people around me about how successful I will or won't be, or if there is any point in me doing it at all, because I am a woman. One friend even asked me if there was any point in me even getting any kind of degree at all as I will end up cooking and cleaning with kids eventually.

But this has just reminded me that I enjoy Physics, and that is a good enough reason to pursue it in itself.

Sod everything else.

**Anon replied to comment from joelfinch • #78 • 6:22 AM Saturday, Jun 12, 2010 • **

**Reply**

Ack, joelfinch, if only it were that easy. Your argument exactly mirrored my thoughts through high school, but having been in the real world and academia for the last decade, it's painfully obvious that that scenario is just wishful thinking. Ask the mother of your child.

**Anon • #79 • 7:16 AM Saturday, Jun 12, 2010 • Reply **

It is great to read thoughtful, fact based information on this topic. I am a woman in a technology field and face a lot of cultural bias. I am encouraged by the discussion on this site.

**Dewi Morgan • #80 • 8:16 AM Saturday, Jun 12, 2010 • Reply**



There seem to be some strawmen in this article. As I understand it (and I've no expertise here), the "one in ten thousand" idea wasn't so much that the top 1/10kth of \*grades\* would make it as scientists: that was a simplification.

If every male scientist could be replaced by a female scientist of equal IQ (and by extension, also by a male non-scientist of equal IQ), then it's clear that there are people who are *not scientisty enough*. "Scientistiness" as a trait encompasses a bajillion other traits: IQ, drive, grades, and all the things that people gave as alternatives to grades, while they were busy completely missing the point.

The point is that if only one person in N becomes a scientist, then to be a scientist, you must be in the top 1/Nth of the people with enough scientistiness.

There are elements of scientistiness that can be gender-balanced. "Being in the right place at the right time" for example.

But for those things do have distributions that are wider for men, you can't realistically gender-balance them.

And there may be areas of scientistiness that men on average just do more of. It's been quite convincingly suggested by [Roy F Boumeister](#) that risk-taking is the one that men do overwhelmingly more of (or is there just a wider spread of risk-taking for men?).

But while the opinions in the article and Baumeister's were all very nice, I say: now show us your DATA.

Show us graphs that either support these cases, or destroy them. Explain how you came up with them. Show us the ways in which men are more likely to take risks, and how they affect career progression. Show us the graph of distribution of grades and wages and so forth, and whether it matches the predictions of greater spreads.

If it's a bounded graph with two curves having the same average but different spread, then at the bound, there should be a peak that is the sum of the values that would have been above the bound. If the bound is above the average, then the peak should be higher for the wider graph. If the peak's below average, the opposite.

Do wage, grade and IQ graphs follow this prediction? What about other variables?

DO THE SCIENCE, scientists!

**joelfinch • #81 • 8:23 AM Saturday, Jun 12, 2010 • Reply**



Antinous, you've made several sweeping generalisations with no supporting evidence, which I don't consider any kind of genuine argument, and Chrs, you're arguing bias against an individual based on reactions to that individual, instead of widespread gender-based group bias which is what I thought the discussion was about.

Guys, thanks, I've enjoyed the discussion.

**Anon replied to [comment from Anonymous](#) • #82 • 10:35 AM Saturday, Jun 12, 2010 • Reply**



Implying that women are whining while men delegate better with their issues is dismissive and misinformed. Women's load of housework in traditional setups is far far more than men's. Barbecue-ing and mowing lawns, and fixing a pipe should it happen to burst in total probably takes three hours a week, and is easy to delegate to a trained professional/neighborhood kid. Organizing piles of paperwork/doing taxes/rearing children etc. is something that oftentimes can't be delegated because of its personal nature. No one wants their house to be organized if they can't find their stuff because the cleaning personnel don't know where you put stuff. Also, all of that stuff requires at least three or four hours a day, which is like a part-time job for seven days a week. Societal constructs make it very easy for a man to unintentionally dump a load of dookie in his wife's lap, and

since someone needs to do it, and fighting sucks, oftentimes she'll just do it, and be like "whatever" just because she herself doesn't notice what a giant personal toll it takes, and how it curtails her professional life.

**Doctor Zen replied to comment from Anonymous • #83 • 10:50 AM Saturday, Jun 12, 2010 • Reply**

Thanks, Isis, for the additional criticism of the article Tierney cited in your blog. It helps.

**Anon replied to comment from Anonymous • #84 • 10:53 AM Saturday, Jun 12, 2010 • Reply**

Yeah, and arguably first grade teachers are more important than scientists (arguably, that's not for me to discuss). The male stigmas in certain careers need to be adjusted as well.

I interpret your comment as sarcasm, trying to dismiss the importance of this discussion, but you bring up a valid point. Gender roles affect the composition of every field, and the sooner we dismiss them, and actually achieve parity, the sooner our children will actually have an equal shot at EVERYTHING, even a job as deglamorized and stigmatized as teaching.

**DoctressJulia replied to comment from Brainspore • #85 • 12:47 PM Saturday, Jun 12, 2010 • Reply**

THIS. Thank you. Love, a feminist scientist.

**DoctressJulia replied to comment from joelfinch • #86 • 12:48 PM Saturday, Jun 12, 2010 • Reply**

Are you going to teach him about his male privilege while you're at it?

<http://www.amptoons.com/blog/the-male-privilege-checklist/>

**Mr. Son • #87 • 1:08 AM Sunday, Jun 13, 2010 • Reply**

I liked Saturday Morning Breakfast Cereal's take on this:

<http://www.smbc-comics.com/index.php?db=comics&id=1883#comic>

(Note: Many of SMBC's comics are NSFW, though this particular one is fine.)

**Anon • #88 • 6:47 AM Sunday, Jun 13, 2010 • Reply**

Great post by Dr. Isis.

Signed,  
a philosophy professor

**DirkSJ • #89 • 10:43 AM Sunday, Jun 13, 2010 • Reply**

I can see merit in the theories posed by both the original male author and all the of the female scientists that responded. They all had very interesting points. The problem with this is the problem with intelligence in general...it's too qualitative to have any reasonable argument about.

There is no perfect (or probably even GOOD) standardized test that will tell you who would be a good scientist in any given field. Science is a slow process of working things out with "aha!" moments of understanding/breakthrough that cannot be coaxed out in some test. There is simply no good way to determine if men or womens' brains are better at that.

The only statement that I don't agree with from the above is the ones that says "different doesn't mean better or worse". I would argue that different ALMOST ALWAYS means better or worse. In this specific instance, defining "better" in a fairly science oriented way as "more capable of making progress toward understanding things we don't understand" there is simply no good way to measure better or worse.

Since there is no reliable measure the entire discussion seem pointless. Women should be given an equal shake. Where possible any hiring decisions should be made without knowing the sex of the individual. I don't believe any group should be given any special treatment due to race/sex...those factors should simply be removed completely from the process through use of 3rd party interviews and raw data that doesn't include those classifications. It may be a little less efficient and you may end up firing people that you don't get along with and have to rehire but it's far more fair for all involved.

Given how broad the entire field of science is, and how deep each field is, the most rational conclusion to me is that men and women will each be better at different parts. The corollary to that is that since there is no reliable measure for it we'll never know which parts.

**wavicle • #90 • 12:06 AM Monday, Jun 14, 2010 • Reply**



I am a female physics PhD student. I guess I am lucky, but no one has ever told me I can't do math or physics because of my gender, and the thought never even occurred to me until I became aware of the gender disparity in physics only late in high school, and it seriously surprised me.

The gender disparity is disappearing in biological sciences rapidly compared with physical sciences. My mom is a biologist, and her department has plenty of women (at the lecturer and professor level too). In contrast, my department has one female associate professor, one research fellow, teaching fellow, and a handful of PhD students (including myself). I have always been treated on par with my male counterparts and have always felt welcome. They certainly aren't the types who scare away females!

The physics (and engineering) gender gap has deeper roots. What those roots are, I don't know. I do know that there are misconceptions floating around that you have to be some kind of socially inept genius to do physics (that 99.9th percentile?), which is completely untrue.

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