Gender Tutorial #4 *updated 13 June 2006*

Total Time [20:95 - approximate]

Slide 1 [00:29]
Welcome to Gender Tutorial number 4. I'm Virginia Valian and in this tutorial I'll be providing remedies to address the problems I discussed in the previous tutorials. This tutorial concentrates on what undergraduates, graduate students, and post-docs can do to improve the situation for women and men in science.
I will say "next slide" when the narration for each slide has finished.
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Slide 2 [00:42]
The first thing to recognize is that young people have power – even though they often think that they don't! Faculty are eager for young people – males and females – to become scientists. If you are specializing in science, your faculty are making an investment in you. They want that investment to yield a return and are disappointed when students leave science. If you can make specific suggestions for how to improve the environment – improve it so that you will want to continue in science – your faculty or the chair of your department or the dean of your college will be receptive. You can be effective.
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Slide 3 [00:31]
Knowledge is power. The first part of being effective is understanding how gender schemas work and how the accumulation of advantage works. Gender schemas help you see the myriad small ways that men are likely to be slightly overrated and women are likely to be slightly underrated. The concept of the accumulation of advantage helps you see that those small events matter. Know the data and know the theory.
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Slide 4 [00:36]
Use the information you have to predict where problems are likely to arise and to figure out solutions. Here's one example: students – males and females alike – who are taking a science course are likely to see a male teaching assistant as more competent than a female teaching assistant. Students may thus be more critical of female TAs than of male TAs. That will have a predictable result: male TAs will anticipate that they will be fine at the job; female TAs will have some doubts.
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Slide 5 [01:17]
What is a good solution for that problem? The answer lies in an experiment by Brown and Geis [1984]. In that experiment, undergraduate students watched a video of group of graduate students having a discussion. At the beginning of the video, a faculty member introduced one of the graduate students as the leader. One set of undergraduates saw a version of the video in which the faculty member simply said that Susan, let's say, would be the leader. Another set of

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undergraduates saw a version in which the faculty member vouched for Susan's expertise, theoretical knowledge, and ability. Except for the introduction, the videotapes were identical. When the students were asked afterwards to evaluate how good a leader Susan was, they rated her more highly when the faculty member had vouched for her ability than when the faculty member had only said that she would be the leader. As is usually the case, there were no differences between female and male undergraduates; they were both affected to the same degree by the faculty member. It also did not matter whether the faculty member was male or female. And it didn't matter whether the graduate student leader was male or female.
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Slide 6 [00:50]
Two things were going on in that experiment. First, if we have orienting information, we use it to interpret later information that we receive.   If a credible source tells us that the person we are about to see is competent, we interpret her behavior in that light. That gets to the second thing: you need a credible source, and a faculty member is a credible source of information about a graduate student. Faculty should thus introduce teaching assistants to the class, vouch for their competence, and indicate their confidence in the assistant's ability. Leaders – in this case faculty members – create other leaders by vouching for them. Make sure your faculty vouch for you.
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Slide 7 [00:35]
Knowing what we do, we can go further. Undergraduates need to learn what kinds of mistakes they are likely to make in evaluating males and females. They also need to learn what counts as a professional evaluation. For example, it's not appropriate to comment that a female faculty member "would make a good mom" or is a "snappy dresser". An orientation session for first-year students can alert them to the ways that gender and race are likely to influence their evaluations.
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Slide 8 [01:40]
Gender also is likely to influence letters of recommendation. Trix and Psenka [2003] analyzed 312 letters of recommendation for 103 successful applicants for faculty positions in a large medical school. Thirty percent of the people hired were women. Trix and Psenka found that letters for women were shorter than letters for men, which meant that fewer of the women's credentials were being described. More worrying, letters for women contained twice as many doubt raisers as letters for men; doubt raisers are statements like "she has a somewhat challenging personality"; "she worked hard on projects she accepted"; her "personal life was in turmoil and in view of the difficulties she was experiencing ..., her performance was especially impressive". Letters for women also contained more grindstone adjectives, words like "hardworking", "conscientious", "dependable", "diligent". There is nothing wrong with those traits, but unless they are balanced by words that suggest research excellence, it will seem as if the person works hard but isn't especially talented. And the letters for women did not contain as many stand-out adjectives as did letters for men. Stand-out adjectives are words like "superb", "outstanding", "excellent". Letters for women did not stress their research abilities as much as letters for men did.

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Slide 9 [00:50]
Strong letters of recommendation are important components of successful applications for graduate school admission, for post-docs and for jobs. Trix and Psenka's study has implications up and down the ladder. It suggests that faculty letters of recommendation for undergraduates, graduate students, and post-docs might unintentionally put women at a disadvantage. Students and faculty can work together to develop procedures that will ensure that faculty do not put the female students they think well of at a disadvantage compared to the male students they think well of.

You can also see that who your department hires will be affected by letters. You can make sure hiring committees understand how they are likely to overrate male candidates.
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Slide 10 [00:51]
As we know, gender schemas represent men as more professionally competent than women. Among the benefits for men are greater ease at speaking up in public – they know that they will be heard – and greater ease in speaking to people about their work in informal situations – they know that they will be taken seriously. Imagine now that you are developing a list of potential speakers for your department's colloquia or thinking about whom to put on a journal's editorial board. Whose names will be more cognitively available – men's or women's? (That's a rhetorical question!) Cognitive availability thus plays a role in invitations to give talks, invitations to be on the editorial boards of journals, and invitations to be on review panels for grants.
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Slide 11 [01:07]
Use your own department as an example. Look at the speakers who have given colloquia over the past three years in your department. Does the percentage of women reflect the percentage of women in that discipline? If not, do something about it. Here's why it matters: first, an under representation of women gives a misleading picture of the field; second, it implicitly suggests that women are not important and do not count; third, it deprives people of the opportunity to see good performances by a wide range of people; fourth, it of course deprives people who are doing good work of the opportunity to present it to their peers. Students themselves may have organized or co organized some or all of these colloquia. What can students and post-docs do? It's pretty simple: ensure that the percentage of women speakers reflects the percentage in the field. Both faculty and students should be concerned if their colloquium series paints the field male.
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Slide 12 [01:16]
How would you go about seeing if your department has a reasonable percentage of women? First use NSF data [include link] to estimate the current percentage of full-time tenure-track or tenured women in the field. In the case of psychologythe percentage of female assistant

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professors, associate professors, and full professors was 43% for 2001. Now there is a tricky bit, where you have to think about whether your school primarily asks full professors to speak or asks people from all ranks to speak. If your school primarily asks full professors, the percentage of women will be smaller because women have been in academia for less time than men have. In the case of psychology, almost 30% of full professors are women and a little over 60% of assistant professors are women. So we should expect somewhere between 30% and 60%. Second, calculate the percentage of female colloquium speakers over at least a 3-year period. Any single year could be a fluke; you want to see if there is a pattern.
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Slide 13 [01:44]
I looked on the web and found a psychology department at University X which had posted speakers for 6 years, 1998 to 2004.   University X is an Ivy League school. In 2004, 40% of the full-time tenure-track faculty were female and 70% of the graduate students were female. (In 2001, 70% of psychology PhDs nationwide went to women, so University X is typical.) The psychology department at University X has invested in women as students and faculty. Yet, as you can see from the graph, for the past 3 years the representation of women speakers has been considerably below the representation of women in psychology. It's even been below the representation of women full professors in psychology. There were 2 good years – 1999/2000 and 2000/2001 – in which the percentage of women speakers was similar to the representation of women in the field. But as the trend line – the dotted line – shows, progress has been negative.

Students in that department can be heartened by the department's investment in women, as seen by the percentage of women graduate students and faculty, and as seen by the percentage of women speakers from 1999 to 2001. The faculty would probably be receptive to the story the numbers tell and would make more of an effort to include a more appropriate percentage of women.

Academic Year	Number of Women	Number of Men	Percent Women
1998/1999 1		7	13
1999/2000 5		5	50
2000/2001 5		6	45
2001/2002 2		8	20
2002/2003	1	11	8
2003/2004	1	11	8

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Slide 14 [00:31]:
Should women be invited to give talks because they are women? Of course not. But tutorials 1 and 2 argued that women are – inadvertently and unintentionally – losing out because they are women. University X looks like a good example. To change a situation in which women are losing out because they are women, we need keep track of the markers of success and stop inadvertently giving men more advantages than women.

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Slide 15 [01:38]
Again using psychology, look at the percentage of women giving invited addresses at the American Psychological Society, an organization for researchers that holds annual meetings. Over its 16-year history, 7 women have been elected president and 9 men; women are 50% of the current 6 members at large; both the secretary and treasurer are female.

But the percentage of women giving invited addresses from 1989 to 2004 is lower. In most years there are about 20 invited addresses. There are other types of invited presentations but I chose to focus on the category of invited addresses because they have been relatively constant in format over the years and have enough data points each year to give meaningful results. I thank the APS for providing the data for most points on this graph. As you can see, the percentage of women has been relatively constant, hovering around 28 % over the 16-year period. Since most people giving invited addresses are at the rank of full professor, one would expect more men than women. But the two presenters in 2004 with a rank below full professor were men. The APS is not doing too badly overall, but it could do better. Students and post-docs could explain to the program committees, using data from psychology, why it is important to have an important representation of women.

Year	Percent Women
1989	30
1990	33
1991	25
1992	17
1993	36
1994	27
1995	35
1996	34
1997	12
1998	36
1999	34
2000	14
2001	31
2002	25
2003	29
2004	27

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Slide 16 [00:46]
As with the data I reviewed in tutorials 1 and 2, we do not need to suppose that the program committee is intentionally biased against women. We only need to understand that good intentions are not enough. Program committees, colloquium organizers, journal editors – they all need a policy: keep track of who is invited; ensure that the end result is representative of the people in the field. In the same way that committees try to have an appropriate range of the various sub areas within a field – social psychology, neuroscience, cognition, and so on – they can work to have an appropriate range of sexes and ethnic groups.
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Slide 17 [00:40]
To make change, people need allies – male and female allies, allies at different stages of their careers.   Why would men want to ensure that women are well represented? For one thing, most men are surrounded by women. They have female friends, siblings, children, and students. They have an interest in the futures of all of those groups.   Further, both young men and women will – one day – be in leadership positions where equity will be a concern. Getting practice at the start of one's career in working for equity will pay off down the line.
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Slide 18 [00:41]
Another reason for men and women to be allies is that they want a lot of the same things out of life. Men increasingly want the balanced life that women also want. If men are going to be working fathers, they want to spend time at home as well as time at work.   A recent study showed that 82% of men under age 30 and 83% of women under age 30 wanted a work schedule that would allow them to spend time with their family.   Men and women can work together to make the sure that the workplace is fair and takes account of people's need for a personal life.
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Slide 19 [00:46]
Young women scientists in particular may see a high-powered science career as incompatible with a full personal life. There are two parts to this perception of incompatibility. The first part is that young men and women are often told that science requires a 24/7 commitment: 24 hours a day, 7 days a week.   Does it? There are no systematic data to back this up. And we know that creativity cannot be pursued 24/7. Taking breaks from working on a problem improves creativity. Young women and men can take the lead on questioning the belief that 24/7 is a necessity instead of accepting it as a given.
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Slide 20 [01:49]
The second part to the perception of the incompatibility between a high-powered science career and a full personal life is that both men and women continue to see women as the major providers of child care.   Perhaps the strongest component of gender schemas is the notion that women are nurturant and concerned about others – which means more nurturant than men, and that men are active and independent agents – which means more active and independent than women.

Here, too, young women and men can take the lead and question gender schemas. Why should women give up a fulfilling professional life? Why should men give up a fulfilling personal life? Why should children in two-parent households have, in effect, only one parent? Everyone is entitled to more.

One solution is to learn how to negotiate with one's romantic partner. There are couples, both hetero- and homosexual, who have equal relationships. There is some evidence that equal relationships (Steil, xx) are happier than unequal ones, even though they require more discussion and negotiation. As one man said: "Maybe you end up having certain arguments that you might not have had, arguments about whose responsibility it is to do this, that, and the other. But I think, in a way, if you don't have those arguments, you end up having arguments about other things sooner or later. The arguments you have about responsibilities are not as vicious as the ones you have later about resentment."

Young men and women can learn from discussions with equal couples how they negotiate, what kinds of compromises they make, what the rewards are, and what the costs are.
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Slide 21 [01:34]
Throughout this tutorial I have emphasized working with others to change practices and perceptions that, despite people's good intentions, result in more professional disadvantages for women than for men.

Perhaps the most important way to work with others is to have one's own personal board of advisors. I prefer this term instead of the term mentor, since a mentor suggests a single person who will help with everything. More recently, recognizing that no single person can do it all, people have begun speaking of a mosaic mentor, or composite mentor, or network mentor, or multiple mentor.

The idea is that you identify what you need – someone to read your papers and give you constructive criticism, someone to be happy about your successes, someone to challenge you to do more, someone with information on a special topic. That's just one possible list. Then you try to think of different people who can meet those needs. Sometimes it will be a personal friend, sometimes someone who is further along in their career than you are, sometimes a peer, sometimes a family member. Your board of advisors will change over time as your goals and needs change, but you will always have a board. What's important is that you're in the driver's seat: *you* are thinking about what you want and what advice and information and support you need.
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Slide 22 [00:04]
This ends the narrative portion of Gender Tutorial number 4.