

TEACHER-FACILITATOR MATERIALS FOR

CORNELL INSTITUTE FOR WOMEN IN SCIENCE VIDEO SERIES

DEFINING THE PROBLEM

Academic scientists were asked why they thought women were in short supply in some fields of science. They were given three choices: women lack scientific/math ability, they lack interest in these fields, or they face discriminatory treatment. As can be seen in the figure below, they almost never chose a lack of ability as the reason women are underrepresented in male-dominated fields. Rather 25% chose discriminatory treatment and the remaining 75% chose lack of interest in male dominated fields. These scientists were of the opinion that women were less interested in certain fields (e.g., engineering) but this had nothing to do with lack of ability or bias against them. Of the 25% who felt that discriminatory treatment had a role in the lack of women in some fields, female scientists were twice as likely to express this view as male scientists.

Universities can do something about discriminatory treatment of women but they are helpless to combat lack of interest. If females are not pursuing degrees and jobs in math-heavy fields, we must ask. Is it because they are more excited by other fields where women are found in large numbers currently, such as medicine, veterinary medicine, and biology? Or is it because they do not see these fields as leading to exciting jobs? Or, finally, is it because women are “turned off” by what they perceive to be a chilly climate (competitive, aggressive, non-collegial) in math-heavy fields? If the lack of women is due to a failure to see these fields as leading to interesting careers, then an intervention to increase adolescent girls’ interest in math-heavy fields might pay dividends by explaining the variety of interesting jobs that a degree in, say, engineering makes possible (see video of energy engineer, Nicole Ceci).

Various surveys indicate that women professors are less satisfied with their positions than are men. This is not limited to scientific fields, however. Women in fields in which females thrive also express somewhat lower satisfaction than their male colleagues. It appears, based on one university’s longitudinal data, that there has been a narrowing of the satisfaction ratings of men and women in recent years. However, given the differing roles and expectations, it seems likely that women in all academic fields will continue to experience greater stress than men. Why? Put simply, women who are mothers of preschool-aged children are expected to do the lions’ share of childcare. When a child is home sick, the mother is more often the stay-at-home parent. In several large-scale national surveys of scholars, women report working fewer hours per week at their university jobs and more total hours when combined with other responsibilities (child and elder care). Typically, women in these surveys report working 3-5 hours per week less at their jobs but 10-20 hours per week more overall, when home duties are added.

Strikingly, childless women are very similar to childless men in the number of hours they work; both groups work more at the office/lab than mothers but fewer hours overall. The

final graph was created by David Leslie using a national survey. It is one of three graphs he prepared, one for Ph.D.-granting institutions (not shown), one for 2-year colleges (not shown) and one for 4-year institutions (shown). As can be seen, for each child a female professor has, she works slightly less at her academic job each week. A female professor with 3 children works about 1 hour less than her male colleagues and roughly 2.5 hours less than her childless female colleagues. For male professors, the presence of children is associated with working more hours per week!

Some Questions for Discussion:

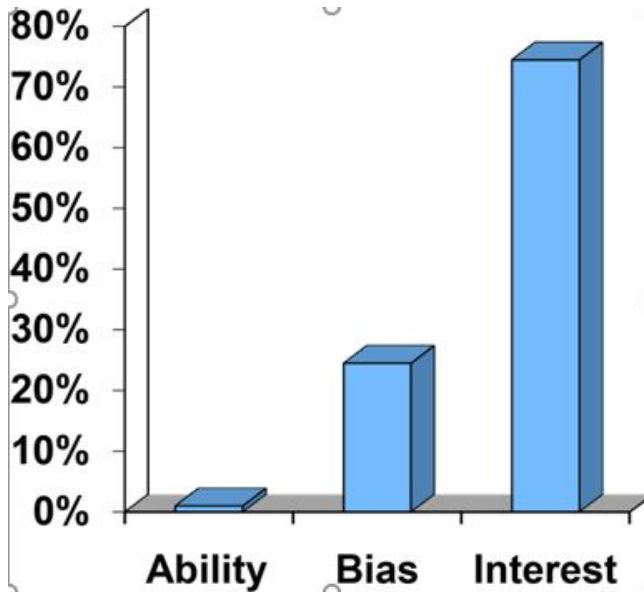
- Why do you think male professors work longer hours in the lab when they have children whereas females work fewer hours? (Are males staying late at the lab/office to avoid the chaos that occurs in families with many young children?)
- If female professors who are mothers work fewer hours each week—in some surveys as much as 4 hours less per week—then shouldn't they earn less and be promoted more slowly than their colleague who work more, assuming that a few extra hours per week translates into an extra publication per year?
- If female professors work more hours per week overall, how could institutions reduce this source of stress on them, or is it a private matter between a woman and her partner to work out more equitable child care and elder care arrangements?

Recommended Readings:

Ceci, S. J. & Williams, W.M. (2011). Understanding Current Causes of Women's Underrepresentation in Science. *Proceedings of the National Academy of Sciences*, 108, 3157-3162.

Williams, W.M. & Ceci, S.J. (2012). [When Scientists Choose Motherhood](#). *American Scientist*, 100 (2), 138-145. (Feature article).

Gross & Simmons (2007) surveyed 1,414 full-time professors. Only 1% support differences in ability; only 25% blame discrimination; 74% cited sex differences in interests. (Women are twice as likely as men to blame discrimination--33.8 % vs. 17.1 %.)



Linear trend, hours worked per number of dependents, full-time faculty at non-doctoral 4-year institutions, NSOPF--2004

