Gender discrimination a reason why females choose careers outside the hard sciences

October 22 2012, by Amy Hodges

(Phys.org)—Both male and female scientists view gender discrimination as a major reason women choose to pursue careers in biology rather than physics, according to new research from Rice University.

"Gender Segregation in Elite Academic Science," which appears in the October issue of *Gender and Society*, reveals differences in the way male and female scientists view disparities in the proportion of women in some science disciplines. The study surveyed 2,500 biologists and physicists at 30 elite institutions of higher education in the United States. Researchers also interviewed a smaller scientific sample of 150 scientists one on one about the reasons they believe there are gender differences in scientific disciplines.

"The distribution of women and men across various science-related occupations has long drawn both popular and scholarly attention," said lead study author and principal investigator Elaine Howard Ecklund, an associate professor of sociology. "In our research, we're interested in how scientists explain the different proportions of men and women in biology and physics.

"We know from various pieces of research that people's perceptions of the way things are really influence how they act with other people," she said. "When mentoring students, they might pass these views along. This makes their opinions extremely important, as they can have a significant impact on future scientists and research."

The study's key finding is that both male and female scientists view gender discrimination as a factor in women's decision not to choose a science career at all or to choose biology over physics. However, the two sexes still have differences in opinion about when discrimination occurs.

"During interviews, men almost never mentioned present-day discrimination, believing that any discrimination in physical science classes likely took place early in the educational history (primary school), which they believe explains women's predisposition to biological sciences," Ecklund said. "However, female scientists believe that discrimination is still occurring in present-day universities and departments."

Regardless of gender or discipline, approximately half of all the scientists interviewed thought that at some point in women's educational lives, they are discouraged from pursing a career in physics.

Other reasons scientists gave to explain the different numbers of women that pursue biology when compared with physics include mentorship of students in the fields of biology and physics and "inherent differences between men and women."

One female scientist said, "I think women … want to have more of a sense that what they are doing is helping somebody. Maybe there are more women in … biology (because) you can be like, 'Oh, I am going to go cure cancer.'"

Whereas women often explained sex differences between the disciplines using reasons of emotional affinity, men stressed neurological differences as being responsible for personal choices. One male scientist suggested that there are "some brain differences between men and women that explain (the gender differences between the disciplines)."

Ecklund said, "It's extremely important to understand how scientists at the kind of top research universities we studied feel about this topic, as they train the next generation of researchers and leaders in the sciences and will pass on their ideas to these young scholars."

Ecklund authored the article with co-principal investigator Anne Lincoln of Southern Methodist University and former Rice University undergraduate Cassandra Tansey. The paper is part of Ecklund's larger study with Lincoln titled "Perceptions of Women in Academic Science," which examines how male and female biologists and physicists in the U.S. differ in regard to important influences in their science career.

More information: gas.sagepub.com/content/26/5/693.abstract

Provided by Rice University