Gender bias found in how scholars review scientific studies

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A scientist's gender can have a big impact on how other researchers perceive his or her work, according to a new study.

Young scholars rated publications supposedly written by male scientists as higher quality than identical work identified with female authors.

The research found that graduate students in communication—both men and women—showed significant bias against study abstracts they read whose authors had female names like "Brenda Collins" or "Melissa Jordan."

These students gave higher ratings to the exact same abstracts when the authors were identified with male names like "Andrew Stone" or "Matthew Webb."

In addition, the results suggested that some research topics were seen as more appropriate for women scholars—such as parenting and body image—while others, like politics, were viewed as more appropriate for men.

These findings suggest that women may still have a more difficult time than men succeeding in academic science, said Silvia Knobloch-Westerwick, lead author of the study and associate professor of communication at The Ohio State University.

"There's still a stereotype in our society that science is a more

appropriate career for men than it is for women," Knobloch-Westerwick said.

"Even among young graduate students, the faculty of tomorrow, such stereotypes are still alive."

Knobloch-Westerwick conducted the study with Carroll Glynn, professor, and Michael Huge, research associate, both in the School of Communication at Ohio State.

Their results appear online in the journal *Science Communication* and will be published in a future print edition.

Knobloch-Westerwick said this is the first experimental investigation she is aware of on a gender bias in science communication.

The findings of bias are significant because it didn't take much to elicit these results, she said.

"The participants were reading abstracts of 150 words or so and rating their quality. The author names were not displayed prominently and the grad students probably barely glanced at them—but still they had this effect," Knobloch-Westerwick said.

The study involved 243 graduate students in communication—70 percent of them women—from universities around the country.

The participants were asked to read and evaluate 15 abstracts (short summaries) of actual studies that were presented at an academic conference in communication. In some cases, two male authors were listed and in some cases two female authors. The authors' names were rotated so that the same abstract was listed with male authors for some participants and female authors for others.

Participants rated the abstracts on 10 dimensions related to quality, such as whether they thought the abstract was "important" and "innovative." Abstracts were rated on a 10-point scale from "not at all" to "very."

Overall, participants rated abstracts with male authors more highly than those with female authors. Surprisingly, female participants did not differ from male participants in how they rated the abstracts. However, Knobloch-Westerwick noted that nearly three-quarters of the participants were female, so they may not have had enough men in the study to find a difference.

Participants also reacted differently depending on the topics covered by the abstracts. Some abstracts concerned research in areas associated with women, such as children, parenting and body image. Others involved areas associated with men, such as political communication, computers, news and journalism.

Results showed that abstracts on male-typed topics received significantly higher ratings if they were associated with male authors rather than female authors. And abstracts associated with male authors received significantly higher ratings if they pertained to male-type topics as opposed to female-type topics.

Participants were also asked, after they read each abstract, if they would like to discuss research with the authors as well as collaborate with them on future projects.

Female authors attracted more collaboration interest if they worked on the female topics such as children and parenting. Male authors attracted more collaboration interest if they worked on male-type topics.

"If the women authors on the abstracts were studying parenting or body image, that at least fits with what society thinks women should be

interested in, and they attracted more collaboration interest," Knobloch-Westerwick said.

The participants also took a short measure of their gender role attitudes, which asked them how much they agreed with statements such as "It is more important for a wife to help her husband's career than to have one herself."

Results showed that stronger support for gender equality led to higher quality ratings for female-authored abstracts.

"This suggests that the favoritism for male authors is at least partially the result of conservative gender norms," she said.

Knobloch-Westerwick said the gender bias found in this study may not operate the same in other areas of science. In fields that are more male-dominated than communication, gender bias may be even more of a problem.

She noted that gender bias will have important implications over the course of a woman's career in science.

"In grant proposals, promotion and tenure reviews, hiring decisions and so on, a scholar's sex will be a relevant factor in how she or he is evaluated," she said.

"All of these small factors will add up over the course of career and may prevent some women from reaching the same career heights as men."

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