Nearly half of all women scientists and one-quarter of male scientists at the nation's top research universities said their career has kept them from having as many children as they had wanted, according to a new study by Rice University and Southern Methodist University (SMU).

The study, "Scientists Want More Children," was authored by sociologists Elaine Howard Ecklund of Rice and Anne Lincoln of SMU and appears in the current issue of the journal PLoS ONE.

For the past three years, Ecklund and Lincoln have been studying what junior and senior scientists in physics, astronomy and biology think about discrimination, family life and the state of their careers. They found that both men and women say having a science career means they will have fewer children than they wanted.

"In short, academic science careers are tough on family life because of the long hours and the pressure of publishing and grant-getting needed to get tenure," Ecklund said.

Survey data from more than 30 research universities and 2,500 scientists indicated that twice as many women (45.4 percent) as men (24.5 percent) reported that they had fewer children than they wanted as a result of having a science career. The researchers expected to find that women would be harder hit by this reality than men. However, when they did more analysis, they found that women were actually more satisfied with their lives than were men. And having fewer children than wanted has a more pronounced effect on life satisfaction for male scientists.

"The fact that having fewer children than desired has a greater impact on men's life satisfaction is an important finding because most research on the relationship between family life and pursuing a career in science has focused almost exclusively on the lives of women," Ecklund said.

The study also provides insight into the impact of family factors on the projected career track for those just entering the profession. Among junior scientists (graduate students and postdoctoral fellows), a greater proportion of women than men worry that a science career will prevent them from having a family. When surveying graduate students, the researchers found that 29 percent of women but only 7 percent of men worry that a science career will keep them from having a family.

"It is not surprising that by the time scientists reach the postdoctoral level, women are much less likely than men to report considering a tenure-track academic job at a research university," Lincoln said.

Ecklund and Lincoln also confirmed earlier work done on family life and science careers. They found that in contrast to men (11.5 percent), a greater proportion of women (15 percent) were dissatisfied with their roles as faculty members. Both men and women with children work fewer hours than those without children. But Ecklund and Lincoln said they were surprised to find that women with children do not work fewer hours than men with children (54.5 hours for women vs. 53.9 hours for men).

The study also shows that about 25 percent of both men and women are likely to consider a career outside of science entirely due to what is perceived as constraints on their family lives because of their science careers.

"Graduate students who have had fewer children than desired are 21 percent more likely to report considering a career outside science, and postdoctoral fellows are 29 percent more likely to report the same interest," Lincoln said. "Having had fewer children than desired due to a science career is the only factor that predicts seeking a career outside science."
Data for the study was collected from the nation’s top 20 Ph.D. programs in astronomy, biology and physics. The programs were ranked by the National Research Council (1995) and correlated with the rankings of U.S. News & World Report (2008).

"This study has particularly important implications for early career scientists at top research universities, those who will guide the future of science in the U.S.,” Ecklund said. "Given these findings, universities would do well to re-evaluate how family-friendly their policies are."

For example, the researchers said that top universities might leverage additional resources to help foster scientists' work-family balance, such as providing on-site day care. "Mentoring programs -- for both men and women -- may need to focus more on how to balance academic science work with family life," Ecklund said.

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Provided by Rice University

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