

WHY “CHRISTIAN WOMEN IN SCIENCE”?

- PROBLEMS, GAPS, AND INSPIRATIONS

Nashville Jam Session

Saturday, July 20, 8:00 pm – 10:00 pm

ASA 2013 National Meeting

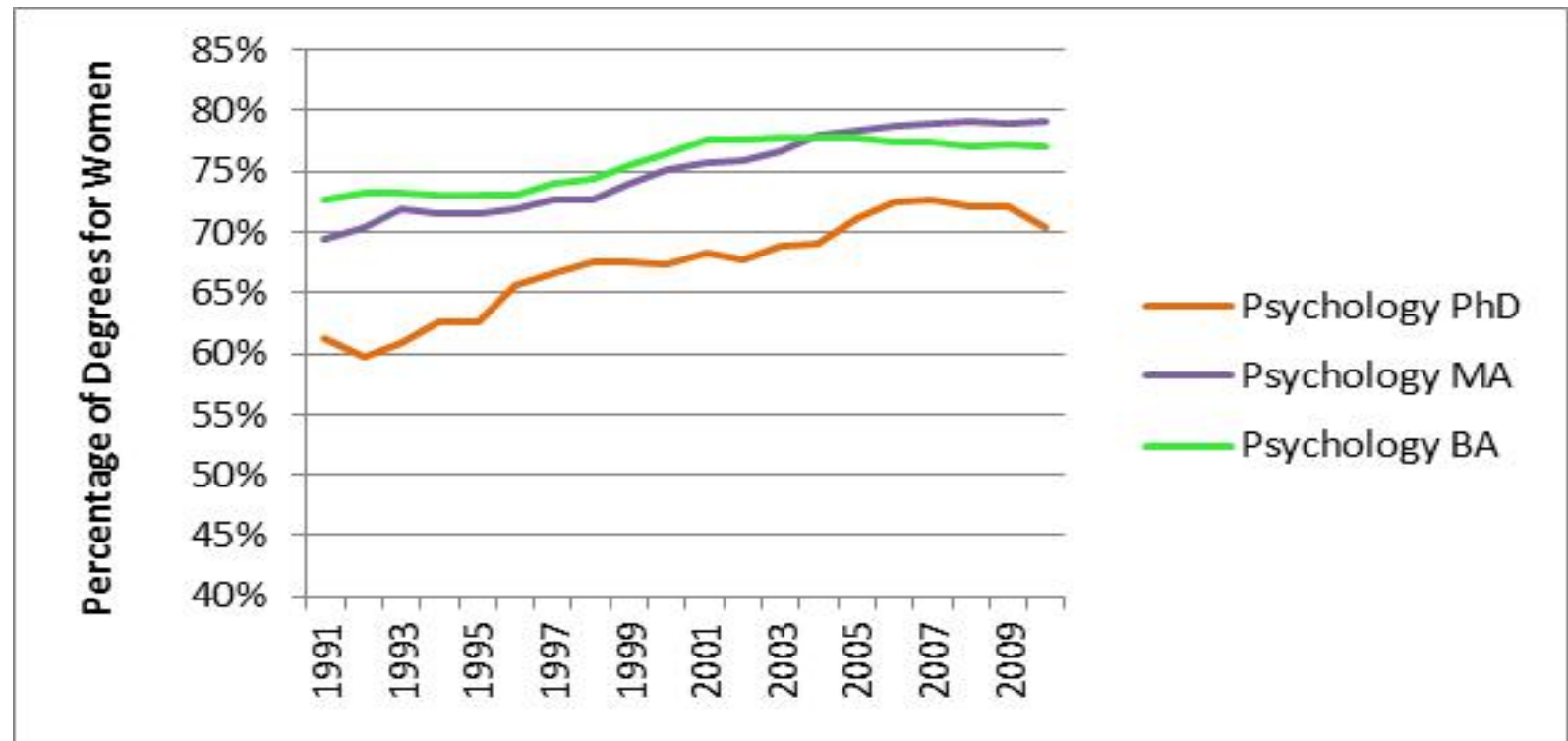
Nashville, Tennessee

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The Good News!

In most fields, women's participation has risen since 1991. Women's participation in science and engineering fields is highest in psychology.



The Bad News

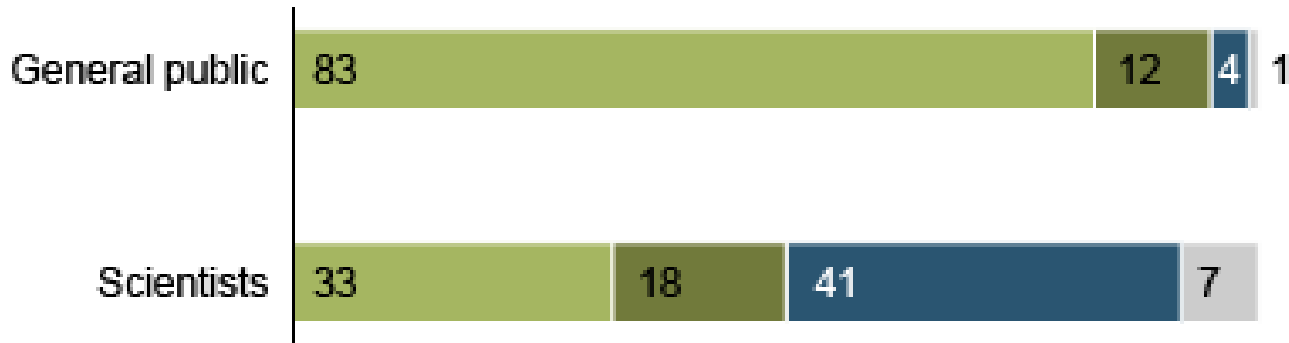
- Christians are a minority in science fields in the United States.
- Women are a minority in degrees awarded in most science and engineering fields, and in all direct S&E occupations.
- Christian women in science?
 - No reported data for U.S.
 - In ASA, women are a significant minority

The “God” Gap

83% of the public believes in God, but only 33% of scientists

Religious Belief Among the General Public and Scientists

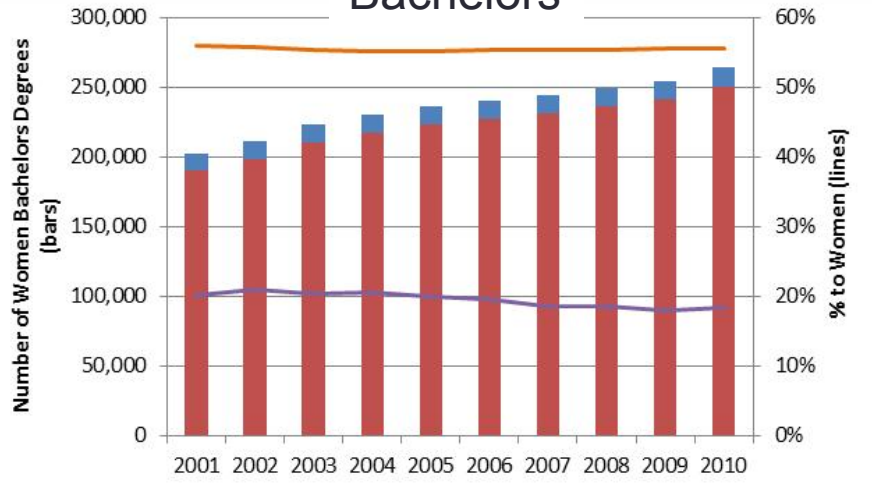
- % Who believe in God
- % Who don't believe in God, but do believe in a universal spirit or higher power
- % Who don't believe in either
- % Don't know/Refused (VOL.)



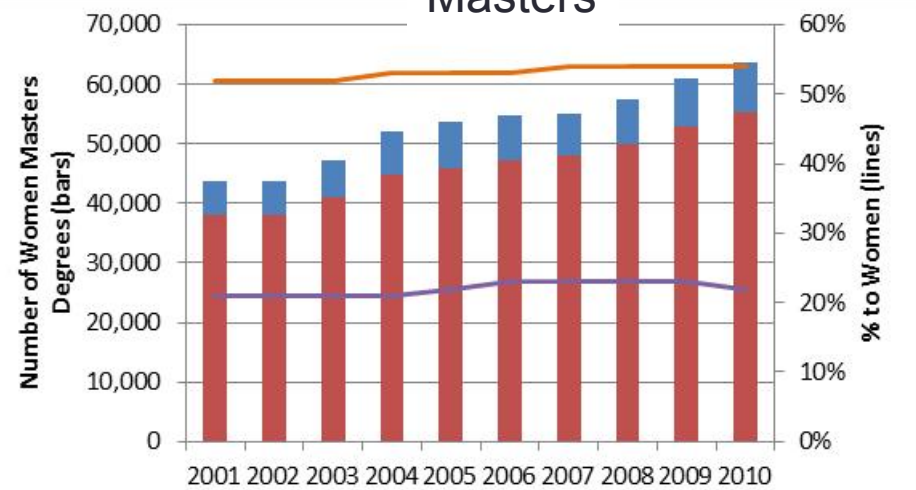
Source: Scientists data from Pew Research Center for the People & the Press [survey](#), conducted in May and June 2009; for complete question wording, see survey [topline](#). General public data from Pew Research Center [survey](#) conducted in July 2006; for complete question wording, see survey [topline](#). Numbers may not sum to 100 due to rounding. <http://www.pewforum.org/Science-and-Bioethics/Scientists-and-Belief.aspx> (accessed 6/24/13)

Science and Engineering Degrees for Women are Encouraging...

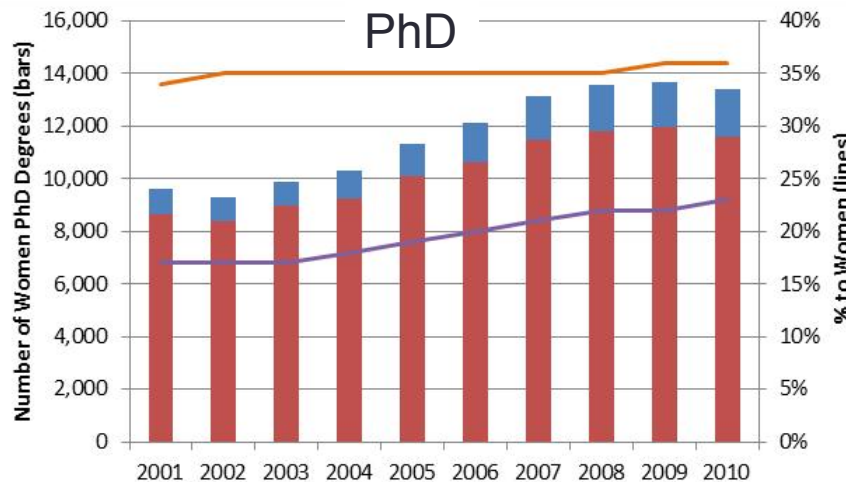
Bachelors



Masters



PhD

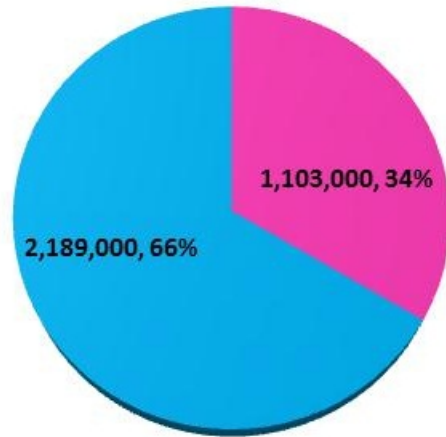


- Women Engineering Degrees
- Women Science Degrees
- Women as % of Total Science Degrees
- Women as % of Total Engineering Degrees

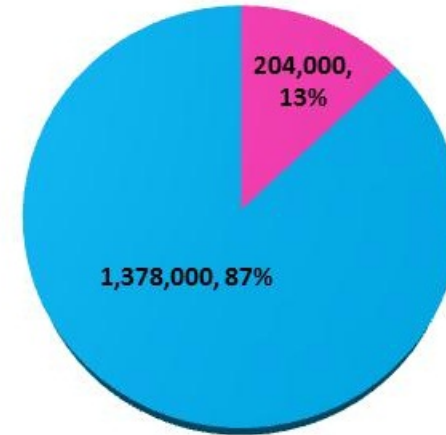
Women received ~54% of BS and MS, and 34% of PhDs, in science and engineering – check year

...But Job Data Are Less Encouraging

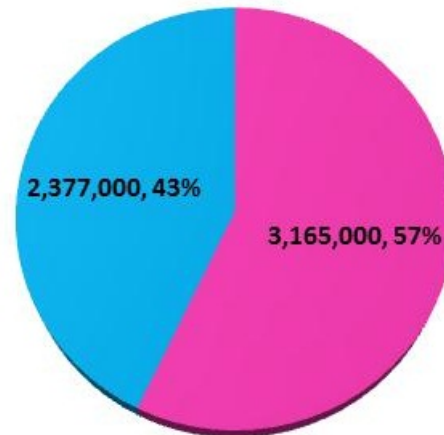
Science Occupations



Engineering Occupations



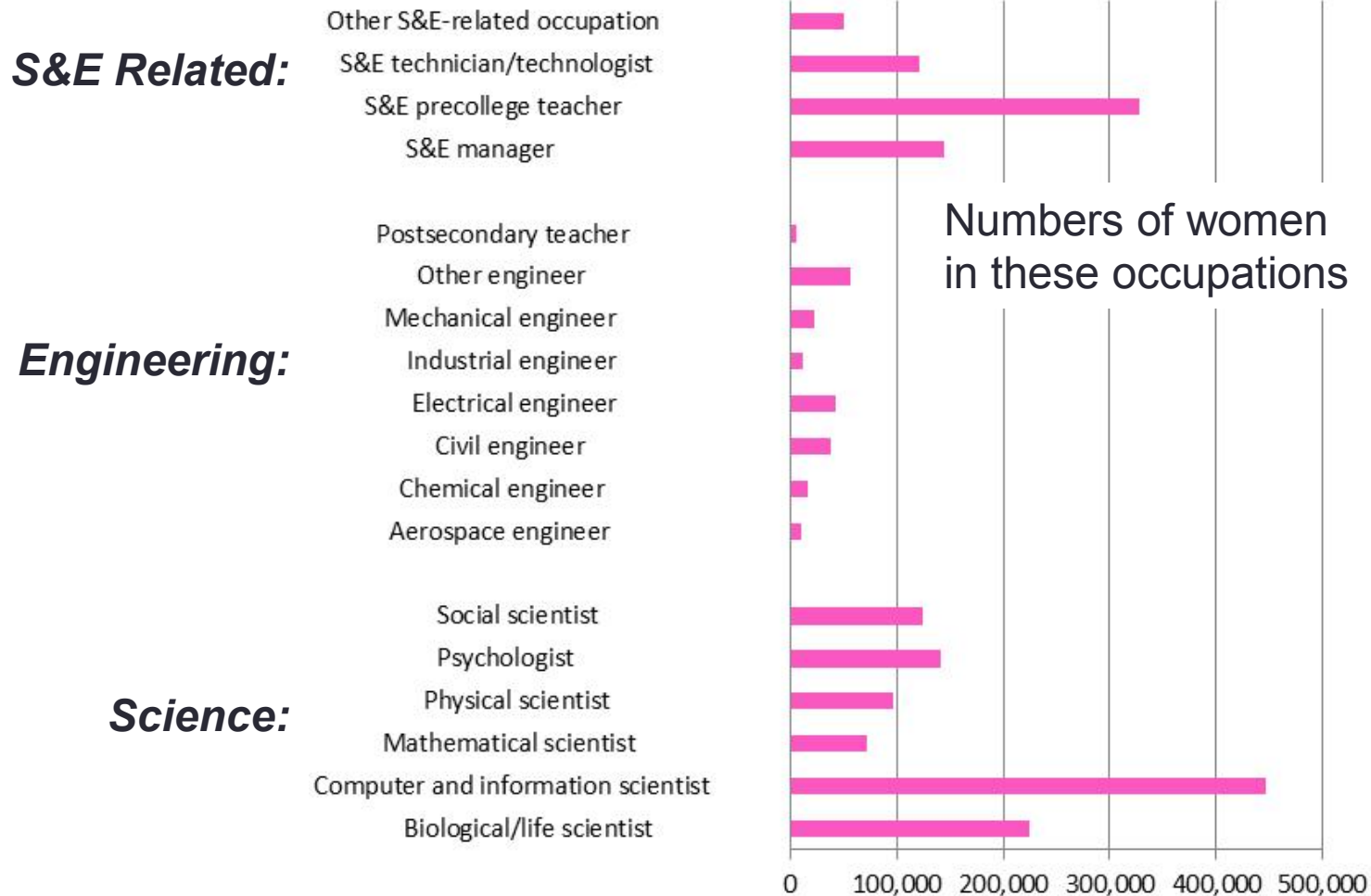
S&E-Related Occupations



■ Female
■ Male

Women hold only 34% of science and 13% of engineering occupations

What Are These S&E Occupations?



The Degree-Career Gap

Women in Science (BS and MS)

- 53% of the degrees but only 34% of the jobs

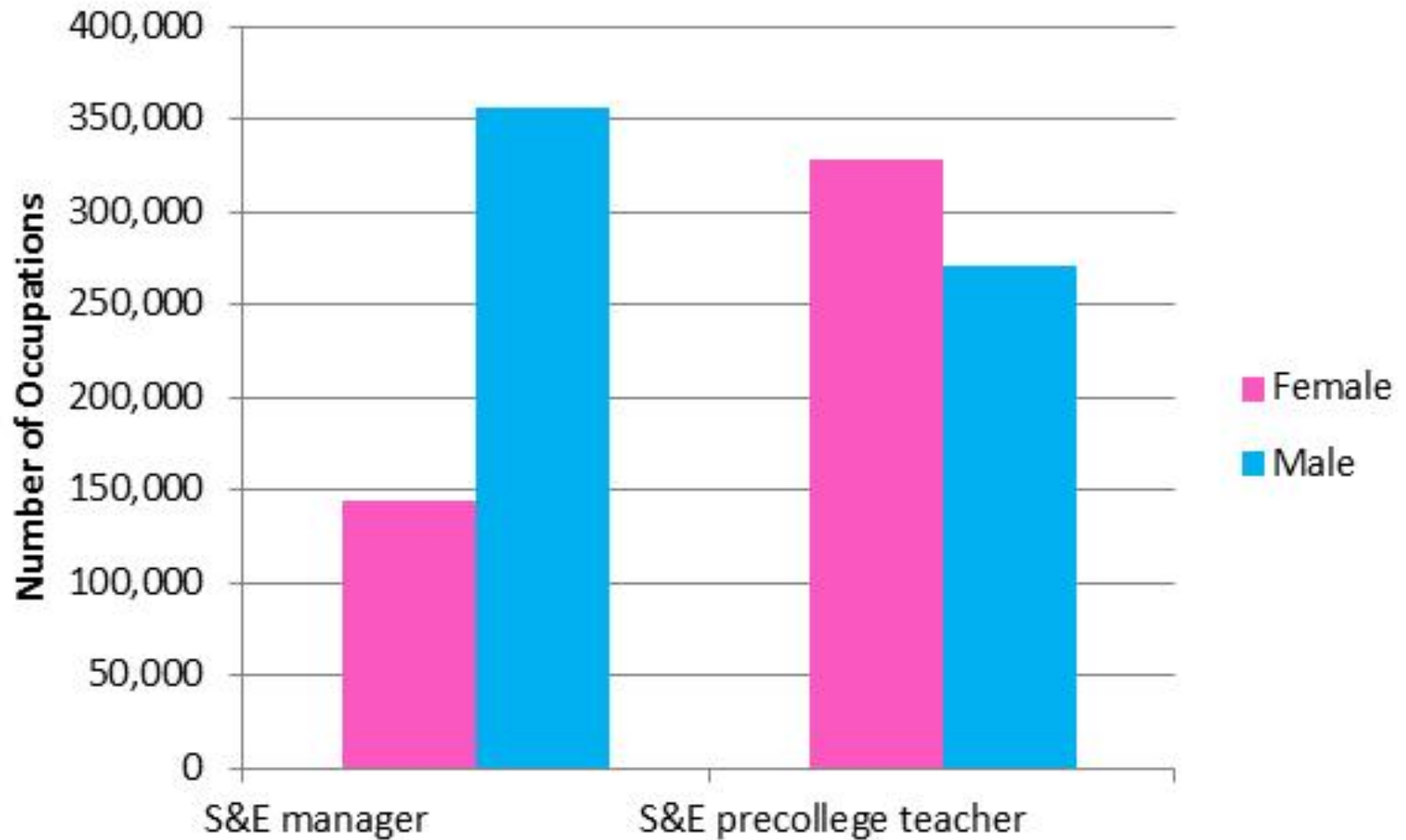
Women in Engineering (BS and MS)

- 20% of the degrees but only 13% of the jobs

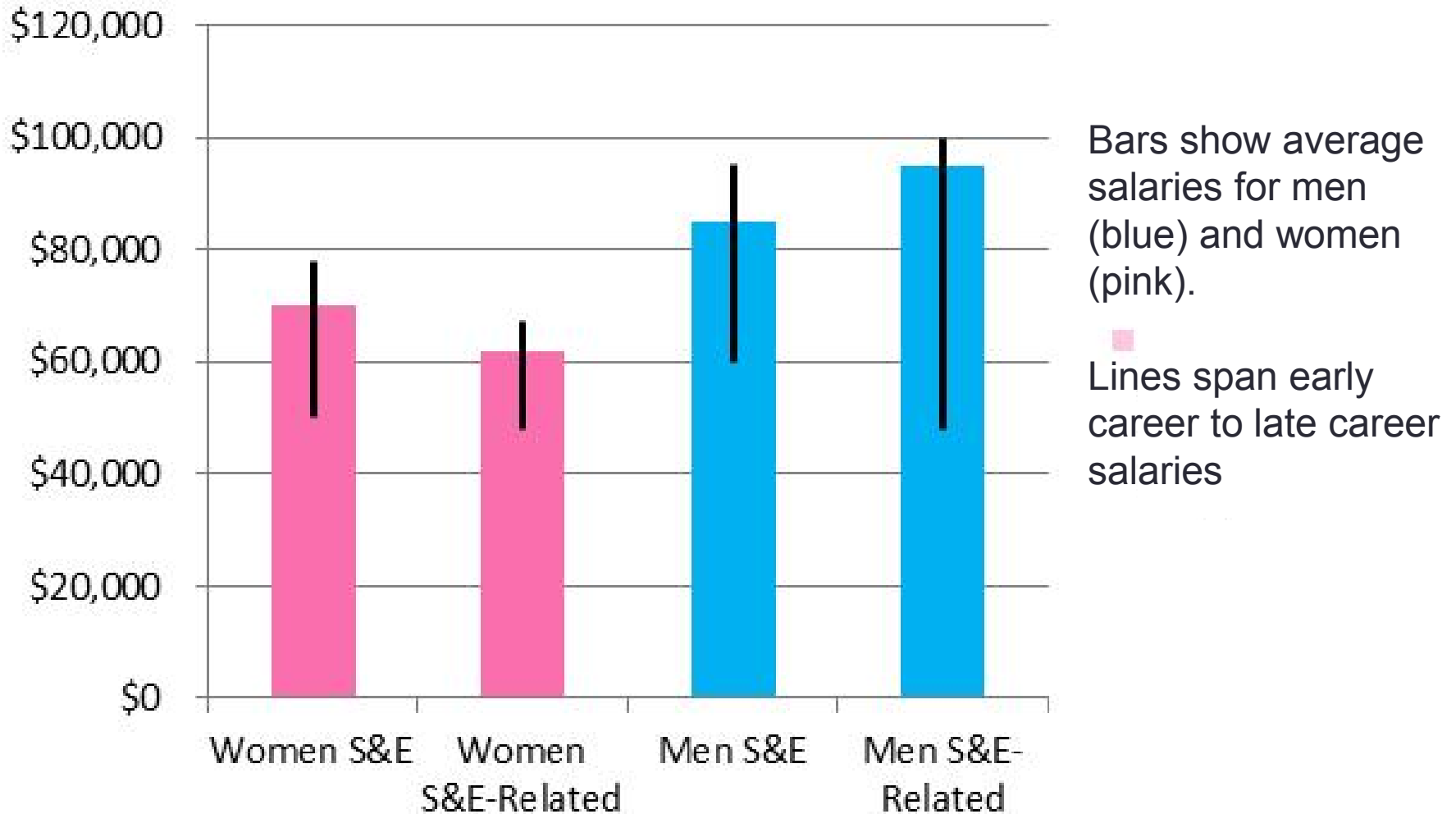
Only one-fifth of women in engineering careers are still in the workforce after 5 years

- Starting families
- Caring for aging parents
- Other

The Leader Gap

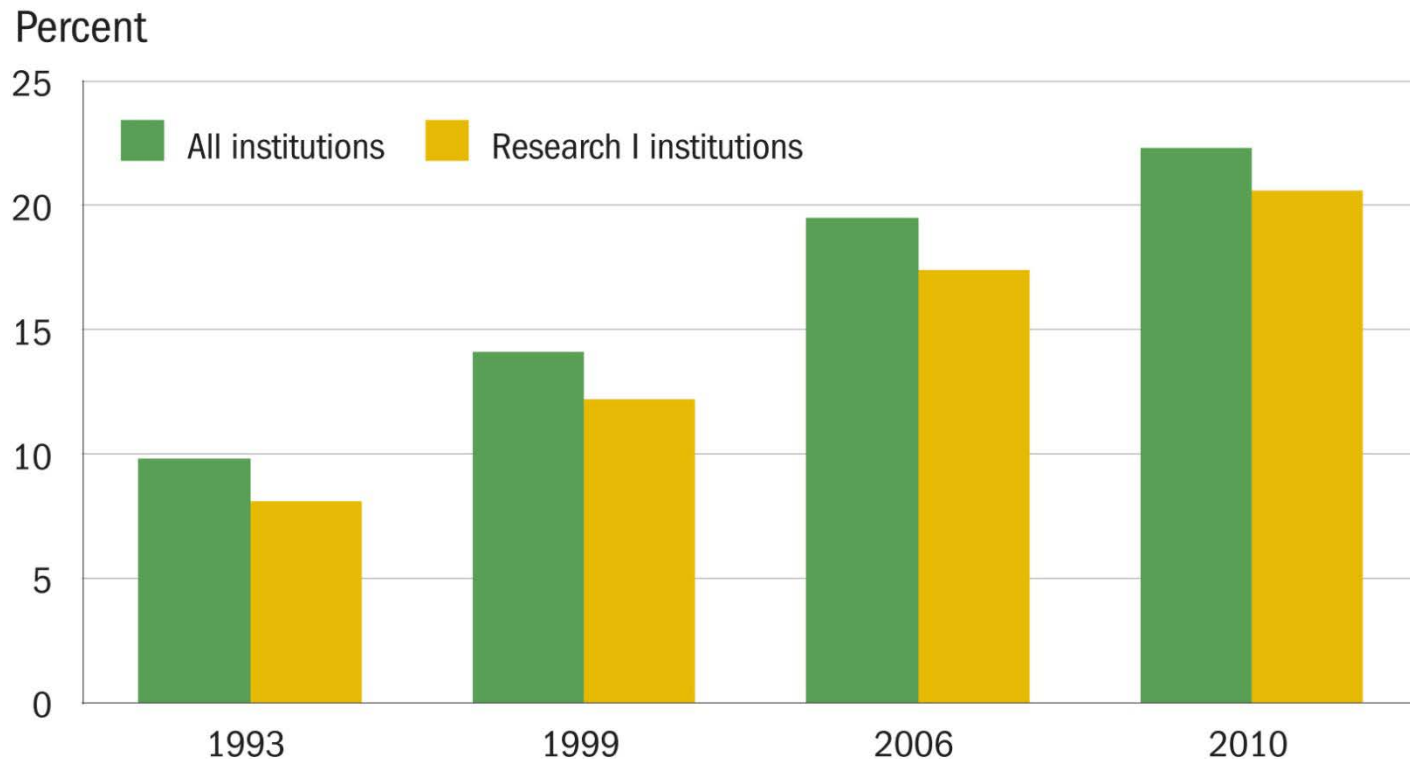


The Salary Gap



Data from 2008, most recent available. Source: Women, Minorities, and Persons with Disabilities in Science and Engineering, Feb 2013 (<http://www.nsf.gov/statistics/wmpd/2013/start.cfm>)

The Professorship Gap



Women as a percentage of full-time, full professors with science, engineering, and health doctorates, by institution of employment: 1993-2010

The ASA Gaps

- ASA Members Today: 320 women, 1,450 men = 18% women
- ASA Fellows Today: 19 women, 162 men = 12% women
- ASA Council (5 people):
 - No women on council before 1983.
 - In the thirty years from 1983, much progress! There were only 2 years without a woman. (For 22 of those 30 years, there has been 1 woman. For 7 years there were 2 women, and for one year, there were 3 women.)

Conclusion: Is There Still a Gender Problem in Science, Technology, Engineering and Math?

- Many of the **women who earn PhDs in science and engineering** and enter the workforce **leave soon after** they begin academic employment.
- They do so because certain **obstacles prevent them** from remaining in the field or **from reaching their full potential** as professionals in academia.
- Some of these barriers are new, but interviews Rosser conducted with women scientists in 2004 document that **issues from thirty years ago remain**, appearing today in somewhat different language, behaviors, and structures.

Christian Women in Science: Inspirations

*“If we’re going to out-innovate and out-educate the rest of the world, we’ve got to open doors for everyone. We need all hands on deck, and that means clearing hurdles for women and girls as they navigate careers in science, technology, engineering, and math (STEM).” -- **First Lady Michelle Obama, September 26, 2011***

*“We need you and we need this generation of women to stand up and serve as role models to encourage young women to develop the critical skills needed for the competitive workforce of tomorrow.” -- **Senator Kirsten Gillibrand***

*“It is fun when you see that light bulb go off and when you know you’ve helped someone see STEM in a different way.” -- **Ellen Kullman, Chairman and CEO, Dupont***

Why “Christian Women in Science”?

“The health and longevity of our Nation’s, citizenry, economy and environmental resources depend in large part on the acceleration of scientific and technological innovations ... will require a concerted **and inclusive effort** to ensure that the STEM workforce is equipped with the skills and training needed to excel in these fields.”

Emphasis is the presenter’s.

Source: *Federal Science, Technology, Engineering, and Mathematics (STEM) Education 5-Year Strategic Plan (May 2013)*

http://www.whitehouse.gov/sites/default/files/microsites/ostp/stem_stratplan_2013.pdf