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Workplace Culture a Barrier to Retaining Women Engineers

SWE Magazine Engineering Literature Review Covers 20 Years of Research

(Chicago—April 8, 2022)—Workplace culture is one of the biggest reasons women engineers choose to leave their field, according to a summary of two decades of engineering research from the review of research literature on women in engineering that is conducted by the Society of Women Engineers and published annually in SWE Magazine.

The summary was presented as part of a media briefing hosted by Anne Perusek, director, Editorial and Publications at SWE. Joining her were Peter Meiksins, Ph.D., Cleveland State University in Cleveland and Roberta Rincon, Ph.D., associate director of Research at SWE.

This year's SWE Magazine literature review analyzes 20 years of social science research on women in engineering and covers several emerging themes that intersect with gender roles and trends in engineering education and employment. The research summarized in the SWE Literature Review explores both the various reasons for the small numbers of women in engineering and the programs designed to increase and retain women

“There's a business case for diversifying the profession, increasing the number of women engineers, having a robust workforce, but we also feel very strongly that there's an engineering case. And that is because we know diverse teams come up with better solutions. And engineers, if nothing else, are problem solvers,” said Perusek.

According to Rincon, women have made enormous strides in engineering over the last 50 years, but gains have plateaued.

“In the 70s and 80s, we saw a huge increase in women's representation among engineering degree earners. But in the last 20 years, it's remained relatively stable. In the year 2000, about 20% of all degrees earned were earned by women but now it's only at about 22 to 23%,” she said. Rincon sees similar trends in specific areas of engineering.

“We see similar trends in chemical engineering, environmental engineering, less so in some of the other disciplines like mechanical, aerospace, electrical engineering, where women are at about 17%. They're below that 20% that we're seeing across the board,” she said.

Rincon pointed out that while 20 percent of engineer degree earners are women, the percentage of women engineers in the workforce has hovered around 13 to 14 percent for many years.

This gap highlights the importance of workplace retention, a topic the SWE Magazine Literature covers. The magazine summarized landmark research conducted about 10 years ago that one of the big reasons that we are seeing out of the research is the influence of workplace climate and culture.

Perusek said there is one study in the literature review that focused on women college graduates who were interviewed for engineering jobs but decided after the interviews that they didn't want any part of the jobs, which was very indicative of what they perceived about the culture of the organization in the interview process.

Meiksins summarized another research study that noted most employees who were conducting job interviews with women, were male, and this often backfired on the company.

"The women told the researchers that there was a lot of reference to the beer keg and the ping pong table and the fraternity house atmosphere that the candidates would enjoy at this tech company. And a lot of the women were really turned off by this and told the researchers, 'Oh, I didn't intend to join a fraternity,'" he said.

Perusek and Meiksins both commented that one of the bigger changes in engineering research over the last 20 years is the shift from "fixing women" to focusing on men has a key element in changing workplace culture.

"And I've noticed there used to be an assumption that women would be the change agents and that men's responsibility was to be nicer and to be a bit more tolerant, but they didn't have to actually do anything. But, I think there's been a growing sense that women's ability to affect change in the way that we hope would be possible, would be helped if men were allies," Meiksins said.

Briefing participants did note the significant increase in women deans at engineering colleges and universities as well as some work being done by SWE to help create a positive engineering identity among young girls.

You can view the *SWE Magazine* State of Women in Engineering edition, with the literature review here: <https://magazine.swe.org/lit-review-22/>

About SWE

The Society of Women Engineers (SWE), founded in 1950, is the world's largest advocate and catalyst for change for women in engineering and technology. The not-for-profit educational and service organization is the driving force that establishes engineering as a highly desirable career aspiration for women. To ensure SWE members reach their full potential as engineers and leaders, the Society offers

unique opportunities to network, provides professional development, shapes public policy and provides recognition for the life-changing contributions and achievements of women engineers. As a champion of diversity, SWE empowers women to succeed and advance in their personal and professional lives. For more information about the Society, please visit www.swe.org or call 312.596.5223.

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