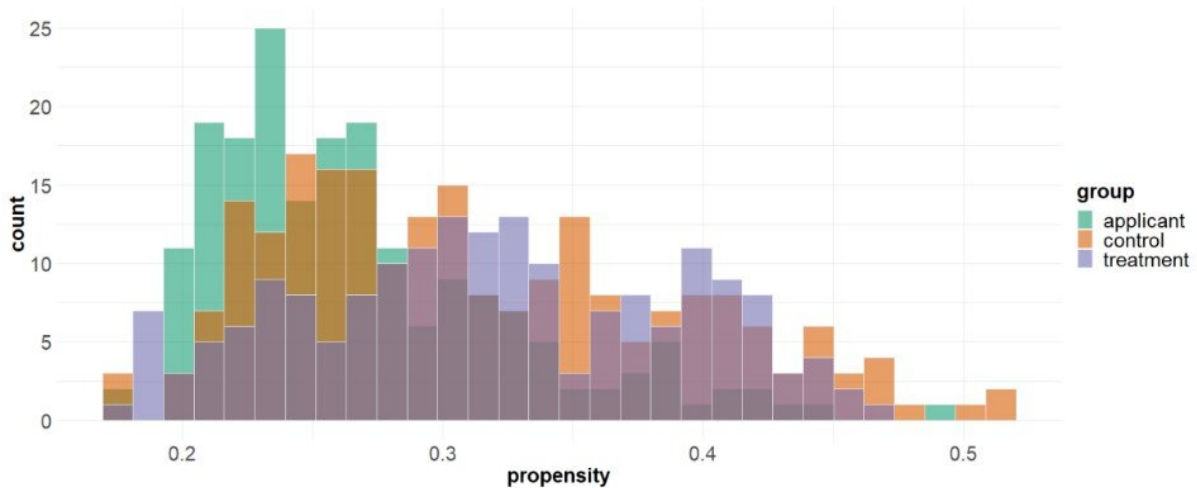


A low-cost fix for tech's diversity problem

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Propensity scores for the two experimental groups and applicants. Histograms of the estimates of the propensity to be treated in the Challenges intervention by experimental group. In green estimates for the applicants' group, in orange for the control group, and in purple for the treatment group. Propensity was estimated using regression forests with a full set of covariates. Credit: <https://siep.r.stanford.edu/publications/working-paper/effective-and-scalable-programs-facilitate-labor-market-transitions>

Why aren't there more women working in tech? For all the hiring pledges, networking initiatives and one-on-one mentoring programs, [women hold 30% of tech jobs worldwide](#)—even though they make up half the global population.

The implications of having a more representative workforce are straightforward: It can reduce unintended disparities and increase the prospect that the benefits of technology will be widely shared.

There's another concern. Tech is expected to add workers at [a faster rate](#) than many other major job categories over the next eight years, suggesting that today's mass layoffs are a temporary blip. If [business leaders](#) and policymakers don't find ways to accelerate efforts to diversify the sector, then women—and other underrepresented groups—will continue to lose out on tech's high-paying jobs.

Susan Athey, the Economics of Technology Professor at the Stanford Graduate School of Business (GSB) and a senior fellow at the Stanford Institute for Economic Policy Research (SIEPR), and Emil Palikot, a postdoctoral researcher at the GSB's Golub Capital Social Impact Lab, think they have just the catalyst the sector needs to close the diversity gap.

Athey, who is also the founding director of the GSB social impact lab and an affiliate of the Stanford Accelerator for Learning at the Stanford Graduate School of Education, and Palikot recently teamed with a Poland-based organization that supports women looking to transition into careers in tech, who had already acquired the necessary basic skills, but who had been unable to find a job. The organization, Dare IT, couldn't come close to meeting the demand for its free one-on-one mentoring program: 2,000 women would apply for 200 openings in each cohort.

"The women had the credentials to work in tech but were running into a last-mile problem: It wasn't always clear to hiring managers that they had the practical skills to do the job," Palikot says. Studies, he adds, have shown that programs that focus on developing and demonstrating hands-on experience are the most effective. "It makes intuitive sense. Talking about something you built gets people more interested than just talking

about university courses."

Athey and Palikot responded to the twin problems—of scalability and uncertainty around practical experience—by partnering with Dare IT to design and implement a 3-month online program to help female job seekers bolster their work portfolios, so that employers have more tangible evidence that candidates can do the work. Called "Challenges," the program requires participants to work on a specific project, such as building a mobile app or engineering the backend of a digital platform. Working in teams, the women complete a series of tasks and are given feedback from tech executives and other professionals in the field.

Athey and Palikot also ran several experiments to measure the effectiveness of Challenges and Dare IT's one-on-one mentoring program. They uncovered insights, too, into how both types of programs might better serve different groups of women depending on, say, where they live or their level of education.

In a research paper detailing their work, Athey and Palikot show that women who completed the online program were 45% more likely on average to get hired into a tech role—either at a tech company or in an IT capacity at a non-tech company—within four months than randomly selected similarly qualified women who were screened by Dare IT but did not participate in Challenges.

Meanwhile, they find that the improvement in the hiring rates under the program was similar to the rates of success by women who worked directly with mentors during their job search. But there are important differences between the two approaches: Challenges, and other skills-signaling programs like it, can be easily scaled—for about \$15 per participant, according to Athey and Palikot.

To Athey, who has long championed more diversity and inclusion in tech

and in economics, the success of Challenges highlights how technology can and should play a bigger role in addressing disparities in the tech workplace.

"The technology sector has such an outsized impact, not just on the economy, but on society at large," says Athey, who is on leave from Stanford while she serves as the chief economist of the antitrust division at the U.S. Department of Justice. "Tech's influence is only going to deepen, which makes ensuring a diverse workforce even more paramount—both for giving women and other underrepresented groups access to high-paying jobs, and for ensuring that technology functions equitably. A diverse tech sector will help build more diverse societies as well."

Lessons in what works best—and when

Athey and Palikot's research isn't a takedown of traditional approaches to diversifying workforces. In fact, they run a parallel experiment of Dare IT's mentoring program and find that it's similarly effective at helping women find jobs in tech.

The problem is that mentoring takes a lot of time and resources—both for the organizations running them and for the mentors who volunteer.

"There is clearly a market need for women and minorities looking to transition into tech that traditional approaches like mentoring cannot fulfill," Palikot says. "We don't know whether the efforts or resources currently dedicated to improving the gender imbalance in the tech sector are being used in ways that are most effective."

Athey and Palikot uncover evidence that mentoring might actually be the better option in some cases.

In their study, they looked at how Challenges and one-on-one mentoring helped some women more than others. Women from small towns in Poland, for example, had a better chance of getting hired into a tech job if they were mentored versus if they completed the Challenges program. On the flip side, Challenges helped women living in big cities more than mentoring did.

Overall, Athey and Palikot show that placing women in the program that would most likely benefit them increased their chances of landing a tech job by another 13%, compared to women who were randomly assigned to either Challenges or mentoring.

The researchers also find that mentor training, for example, doesn't make for better mentors; it's the amount of experience in tech, including in management, that matters most. Also, job seekers without graduate degrees benefit more from being mentored or completing Challenges than participants with advanced degrees.

A tech answer for a tech problem

Some 1,600 women have completed Challenges since the program debuted in late 2021—including approximately 1,000 Ukrainian refugees who participated in a module developed to specifically support them. Today, participants can select from seven distinct tech domains, among them user-experience design, quality assurance, and software testing.

"Our approach can be applied not just for [women](#), but for any group of underrepresented workers who, unfortunately, might need to go to extra lengths to signal their qualifications to prospective employers," Athey says. "If an underrepresented group can move into tech in large enough numbers with this kind of online program, there can be follow-on effects when those same workers move into hiring and other leadership

positions, or when they start their own businesses."

More information: Effective and scalable programs to facilitate labor market transitions for women in technology.

[siepr.stanford.edu/publication ... r-market-transitions](https://siepr.stanford.edu/publication...r-market-transitions)

Provided by Stanford University

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