Parenthood contributes to gender imbalance in STEM employment, but it's not just an issue for mother

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Nearly half of new moms and a quarter of new dads leave their full-time STEM jobs after they have their first child, according to a new study.

Researchers found that 43 percent of women and 23 percent of men leave their careers in science, technology, engineering and math within four to seven years of the birth or adoption of their first child.

Women have been underrepresented in the male-dominated STEM fields for decades, especially as they moved further up the career trajectory. Parenthood may contribute to the gender gap, in part, due to gender-related cultural expectations and workplace obstacles, the researchers say.

"Not only is parenthood an important driver of gender imbalance in STEM employment, both mothers and fathers appear to encounter difficulties reconciling caregiving with STEM careers," said the study's lead author Erin Cech, assistant professor of sociology at the University of Michigan.

Cech and Mary Blair-Loy, professor of sociology at the University of California-San Diego, analyzed nationally representative longitudinal survey data from U.S. STEM professionals collected between 2003 and 2010 by the National Science Foundation.

They say that new moms are more likely than new dads to switch to part-time work or leave the workforce.

Some new mothers—about 1 in 10—continue working in STEM on a part-time basis, but that situation isn't without setbacks: businesses and universities typically pay part-time work substantially less per hour than full-time work; is less likely to be accompanied by benefits, like health care; and is less likely to provide advancement opportunities.

"Our results indicate the need for employers to establish highly valued and well-paid part-time options as well as ramp-up policies that allow part-time STEM professionals to transition back into full-time work

without long-term career penalties," Blair-Loy said.

If parents leave the STEM workforce, they are unlikely to return by the time their children are old enough to attend school, the researchers say.

"These findings point to the importance of cultural shifts within STEM to value the contributions of STEM professionals with children and the need for creative organizational solutions to help these skilled STEM professionals navigate new caregiving responsibilities alongside their STEM work," Cech said.

Blair-Loy says profound change is needed.

"We need a cultural revolution within many fields to recognize and reward the full value of professionals who also care for children," said Blair-Loy, who also directs the Center for Research on Gender in Science, Technology, Engineering, Mathematics, and Medicine at UC-San Diego.

More information: Erin A. Cech el al., "The changing career trajectories of new parents in STEM," *PNAS* (2019). www.pnas.org/cgi/doi/10.1073/pnas.1810862116

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