Productivity in a pandemic

Almost overnight, coronavirus disease 2019 (COVID-19) has upended daily life, including the work of scientific research. But scientists have not experienced these new disruptions equally. You may have heard that women scientists seem to be submitting fewer papers for publication (including preprints), whereas men are submitting more. If this imbalance is correct, then the effects could include fewer women being granted tenure and promotion, a larger gender pay gap, and even some women being pushed out of science.

Why might women scientists be publishing less than men during the pandemic? To answer this question, let’s examine what’s happening in the wider world of work—and, crucially, at home. In the United States, most workers have children: A 2013 Gallup poll showed that 86% of people become parents during their working-age lives. Many adults juggle paid work with unpaid caregiving (for children, parents, partners, and other loved ones). But in most households, women perform the bulk of childcare and housework. This is true for women scientists at home, as reported in 2010 by the American Association of University Professors. In academia, this makes it tough for women to publish as much as their male colleagues, even in the best of times.

Now add a global pandemic to this scenario.

Researchers who have managed to stay employed are trying to work from home just as schools and daycare centers have closed. Those with young children, in particular, are struggling to stay afloat. One study during the early stage of the pandemic showed that women scientists with young children, more so than similar men, are scaling back their research time to meet these heightened demands. And because women faculty do more service work than men in “normal” times—the less-prestigious student advising, program supervision, and committee tasks that keep academic institutions afloat—my guess is that these duties are consuming more of women’s time as universities coordinate pandemic responses.

This gender gap matters because in academia, publishing is the primary criterion for tenure, promotion, and raises. Publishing less during the pandemic could undermine the careers of an entire generation of women scholars. Women are already underrepresented in science, and their representation declines at every career stage. This disparity is pronounced for women of color. And because a diverse workforce can boost scientific creativity and productivity, the pandemic’s lasting impacts on women could harm scientific innovation.

The window of opportunity for advancement in academia is narrow. The time requiring the most devotion—tenure track—often coincides with the early years of parenthood. For parents in science, especially mothers, this timing does not bode well.

This hard truth helps explain why the upper echelons of academia have long been occupied by white men with stay-at-home wives and, though rarely, by women who decided to forgo motherhood altogether. The success that men achieve in their careers is due in no small part to the support of women. Yes, today’s dads spend more time caring for their kids than did fathers of previous generations, yet both men and women report finding it tough to reconcile family commitments with the demands of science.

The bottom line is that science is simply not welcoming to parents. After having children, an astounding 43% of mothers and 23% of fathers leave full-time employment in science, technology, engineering, and mathematics fields in the United States. In response, some universities have instituted policies such as paid parental leave and temporary tenure clock suspension. But research finds that men in academia often use this time as a sabbatical to submit and publish more, whereas women do not—presumably, they use it to care for newborns.

Nothing is likely to change until there are policies to support parents, not just in academia but in all walks of life. Among developed nations, the United States is a laggard on every dimension of federal work-family policy. Correcting this would benefit children, families, universities—indeed, the entire scientific enterprise. But until society’s beliefs change about who can and should care for children, such efforts will fall short.

As the pandemic grinds on and uncertainty prevails about reopening schools and childcare centers, the effects on research productivity, especially for women, will only get worse. Gender equity in scientific publishing will elude us until we address gender equity at home.

—Caitlyn Collins

Caitlyn Collins

is an assistant professor of sociology at Washington University in St. Louis, Missouri, USA.
c.collins@wustl.edu

“Why might women scientists be publishing less than men during the pandemic?”

Published by AAAS
Productivity in a pandemic
Caitlyn Collins

Science 369 (6504), 603.
DOI: 10.1126/science.abe1163