

# More women than ever are starting careers in science

Women are more likely to start a research career now than they were 20 years ago, according to a longitudinal study of the publishing records of millions of researchers around the world.

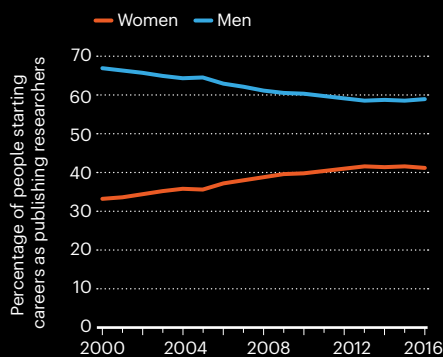
Ludo Waltman, a quantitative scientist at Leiden University in the Netherlands, and his colleagues took a deep dive into the huge Scopus citation and abstract database, hosted by Elsevier. They looked at the publication careers of some six million researchers globally who had authored at least three papers between 1996 and 2018 (H. Boekhout *et al.* Preprint at <https://arxiv.org/abs/2106.12624>; 2021).

They found that the proportion of women starting a career in science had risen. In 2000, 33% of researchers starting publishing careers were women; that grew to around 40% in recent years (see 'Gender gap').

In the physical sciences, maths and

## GENDER GAP

The proportion of scientists starting their publishing careers who were women increased by around one-fifth between 2000 and 2016.



engineering, men still made up a high proportion of authors, even in recent years (see 'Differences by discipline').

Waltman and his team took their work further by tracking the researchers' publication records to see whether they continued authoring papers — a proxy for continuing a career in science. They discovered that women were less likely to continue publishing papers than were men, whatever year they began their careers.

But Waltman says that — given the

well-known problem of fewer women than men progressing to senior roles — his team was surprised that women were only slightly less likely to continue to publish papers. They found that 54% of women who started publishing in 2000 had dropped out by 2015, as opposed to 52% of men.

Nevertheless, he says, there are differences in how their careers develop. In general, men seemed to progress to senior roles — roughly judged by appearing as the last author on a paper — more quickly. On average, they also published 15–20% more papers than did women over the time span of the data, although there is wide variation across fields.

One limitation is that the study excluded data from India and China, because the algorithms struggled to assign gender to names from these nations. It also did not account for non-binary authors.

Flaminio Squazzoni, a sociologist at the University of Milan in Italy, agrees that the lack of data from India and China is a gap, but says "it's an honest study" and that the Scopus database is a rich source of information.

By Katharine Sanderson

## DIFFERENCES BY DISCIPLINE

The proportion of people starting research careers who are women varies widely between disciplines, but generally increased between 2000 and 2010.

● 2000 ● 2010

