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Even scientists have gender stereotypes ... which can hamper the career of women researchers

However convinced we may be that science is not just for men, the concept of science remains much more strongly associated with masculinity than with femininity in people's minds. This automatic bias, which had already been identified among the general public, also exists in the minds of most scientists, who are not necessarily aware of it. And, in certain conditions, it may lead to otherwise careful scientific evaluation committees putting women at a disadvantage during promotion rounds involving men and women researchers. These are the findings of a study conducted by behavioural scientists from the Social and cognitive psychology laboratory (CNRS/Université Clermont Auvergne), the Laboratory of Cognitive Psychology (CNRS/Aix-Marseille Université), and the University of British Columbia (Canada), with the support of the CNRS Mission for the place of women. The study is published in the journal *Nature Human Behaviour* on 26 August 2019.

Women remain underrepresented in scientific research: at the CNRS, across all disciplines, the average percentage of female researchers is 35%. And the higher the scientific research position, the more this percentage declines. Several reasons have been cited to explain these disparities: differences in levels of motivation, self-censorship ... but is discrimination also part of the story?

To find out, scientists in social and cognitive psychology studied 40 evaluation committees¹ tasked with evaluating applications for research director² positions at the CNRS over a period of two years. This is the first time that a research institution has carried out such a scientific study of its practices in the course of an annual nationwide competition covering the entire scientific spectrum.

This study shows that, from particle physics to the social sciences, most scientists, whether male or female, associate "science" and "masculine" in their semantic memory (the memory of concepts and words). This stereotype is implicit, which is to say that most often it is not detectable at the level of discourse. And it is equivalent to that observed among the general population.

Yet does this implicit stereotype have consequences on the decisions made by evaluation committees? Yes, when committees deny or minimise the existence of bias against women.³ Here, this is the case for around half of the committees. In these committees, the stronger the implicit stereotypes, the less often women are promoted. In contrast, when committees acknowledge the possibility of bias, implicit stereotypes, however strong they may be, have no influence.

Even if disparities between men and women in science have multiple causes and start at school (as the same authors have shown in other publications), this study indicates for the first time the existence of implicit gender stereotypes among male and female researchers across all disciplines – stereotypes that can harm the careers of women scientists.



Since 2019, at the instigation of the CNRS Mission for the place of women, members of evaluation committees have been invited to participate in training sessions on gender stereotypes and each committee has appointed a reference person in charge of gender equality issues. However, the authors of the study emphasise that, in order to be fully effective, this process must be accompanied by other measures aiming, on the one hand, to enlighten committee members on the exact conditions in which implicit stereotypes influence their decisions, and, on the other, to explain strategies likely to control this influence.

Notes

¹ In total, 414 people participated to the study. The committees considered in this study have since come to the end of their commission.

² A senior researcher.

³ They more often attribute gender disparities in science to the choices made by women or gender differences in ability than to the existence of discrimination or the constraints of family life.

Bibliography

Committees with implicit biases promote fewer women when they do not believe gender bias exists, Isabelle Régner, Catherine Thinus-Blanc, Agnès Netter, Toni Schmader and Pascal Huguet. *Nature Human Behaviour*, 26 August 2019. DOI: 10.1038/s41562-019-0686-3.

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