Gender differences in research grant allocation - a mixed picture

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Abstract

Securing research grants is important for academics, as grants not only enable to do research, but also are an important resource for academic careers. This career effect of grants is even stronger for female than for male researchers. Gender bias is a deviation from the principle that scientific merit should guide grant decisions. Many studies have been done to identify the prevalence of gender bias in grant allocation, with contradicting results. I will show that this is due to the fact that most of these studies suffer from two problems. Firstly, most studies focus on gender differences in success rates, without including (sufficient) merit variables in the analysis; and secondly, most studies do not take into account details about the decision making process from which gender bias emerges.

In this study of the ERC starting grant, we try to solve these problems by firstly including several merit variables, such as productivity and citation impact, but also the amount of earlier grants, and the quality of the collaboration network of the applicant. And secondly, we include an analysis at the *panel level* where the selection processes take place, which enables to identify panel characteristics that may lead to gender bias.

The study shows that (i) after controlling for several merit variables, a consistent pattern of gender bias was found in the *scores*: women receive significant lower panel scores than men do. But (ii) the scores are only one of the inputs into a two-step *decision-making* process, and our findings show an overall bias *against* women in the first selection decision where 75% of the applications are rejected, and an overall bias *in favor* of women in the second (final) selection decision. However, (iii) at the level of individual *panels*, the analysis shows a mixed pattern of bias: in some panels the odds for women to receive a grant are lower than for men, whereas in other panels we find the opposite, next to panels with gender-neutral decision making. Interestingly, (iv) the mixed pattern at panel level seems to relate to panel characteristics such as the field covered by the panel, the panel composition, and the level of *gender stereotyping* in the panels. Gender stereotyping in this study is measured through a linguistic analysis of the review reports. Finally, (v) aggregating the gendered outcomes over the panels lead to a gender neutral overall outcome, explaining why large scale studies often do not find gender bias, but small scale studies do find it.

Give these findings, one may conclude that gender bias within grant selection processes does exist, but in two directions. This implies that at the aggregated level, the problem of gender bias in grant decision making is not too big, and that the main gender differences in grant allocation are related to differences in application behavior: women tend to apply less often for (prestigious) grants than men do.

Some references:
1. Van den Besselaar P, Mom C (2021) Gender bias in research grant allocation – a mixed picture. *Submitted*
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3. Van den Besselaar P, Sandström U, Vicous circles of gender bias, lower positions and lower impact: gender differences in scholarly productivity and impact. *PlosOne* **12** (2017) 8: e0183301. https://doi.org/10.1371/journal.pone.0183301
4. Van den Besselaar P, Sandström U (2016), Gender differences in research performance and in academic careers. *Scientometrics* (2016) 106:143–162