

Gender disparities and self-selection in grant application

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October 20th, 2023
GRANteD Stakeholder Conference



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824574.



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Introduction

- Gender disparities in relation to different aspects of research careers and working conditions are widely recognized in the scientific literature (e.g. Sugimoto & Larivière 2023)
- Focus of the study: gender disparities in research that might affect success chances as defined in our theoretical framework (Besselaar et al. 2021):
 - Past performance
 - Career support by supervisors and mentors
 - Engagement in (child) care responsibilities
 - Involvement in academic housework
 - Sense of belonging and self-confidence
 - Impact of COVID-19 on research and proposal writing



3

Data collection

- Online-survey among applicants to 5 programmes of 5 GRANteD case studies (RFOs)
- Time of fieldwork between December 2020 and July 2022
- More than 50% are early stage researchers

	Swedish Research Council (SRC)	Slovak Research and Development Agency (SRDA)	Science Foundation Ireland (SFI)	Austrian Research Fund (FWF)	National Science Center Poland (NCN)
#applicants	169	622	252	188	1139
Signed informed consents	169	104	245	156	110
#responses	49	58	127	103	72
Response rate	29%	56%	52%	66%	66%
Sample – population ratio	29%	9%	50%	55%	5%



4

Compiled Sample of Applicants

- **Compiled dataset:**

- Data from all 5 case studies
- n=409 observations

- **Test for representativity**

- Sex, Funding Success, Discipline

- **Data Analysis:**

- Descriptive statistics
- Significance Tests: focus on differences between male and female applicants
- Regression analysis to explain grant success

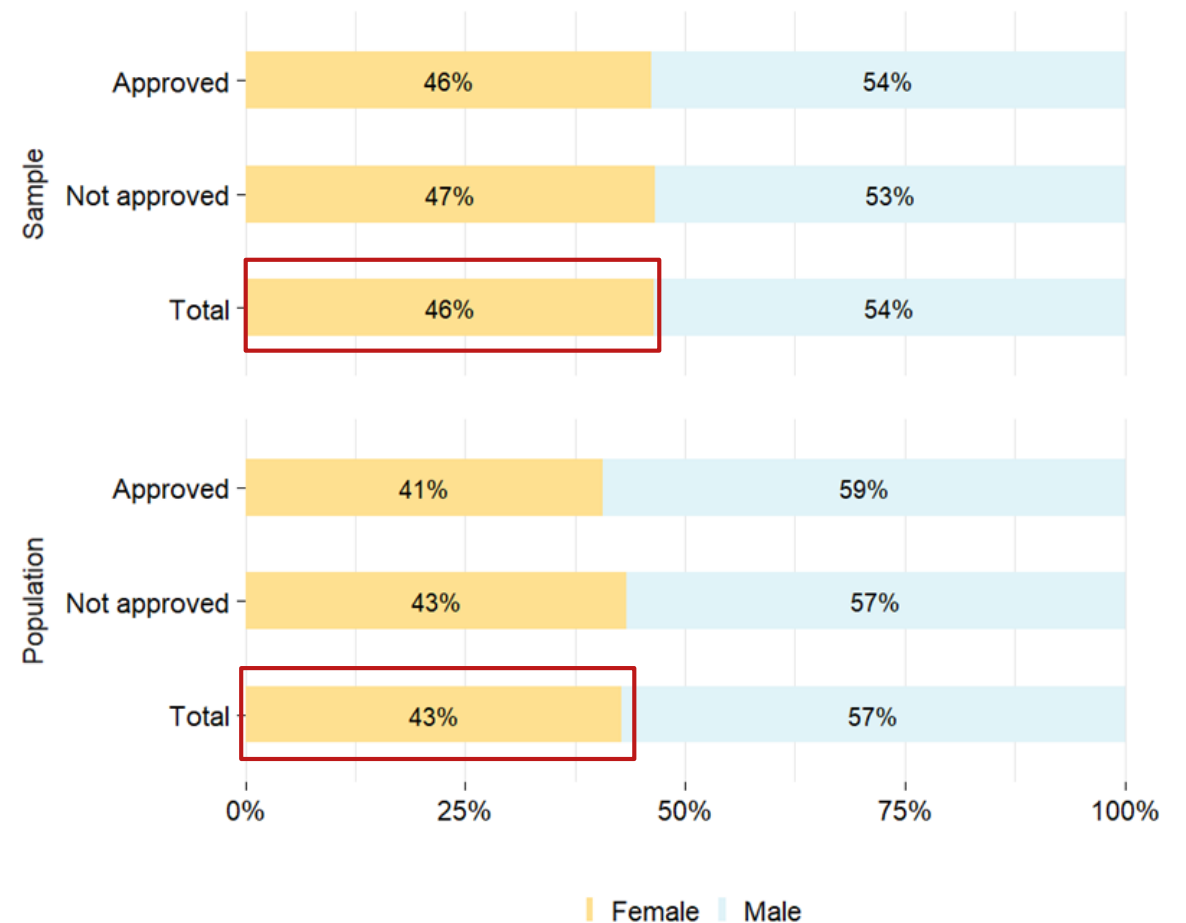
	Swedish Research Council (SRC)	Slovak Research and Development Agency (SRDA)	Science Foundation Ireland (SFI)	Austrian Research Fund (FWF)	National Science Center Poland (NCN)
Selection bias	Towards successful applicants	No systematic bias	No systematic bias	No systematic bias	Towards successful and female applicants



5 Sample compared to population

- Sample: women and successful applicants are overrepresented

Figure 1: Sample differentiated by funding decision and gender



6 Results: Demographic Variables

Figure 2: Gender & Positions

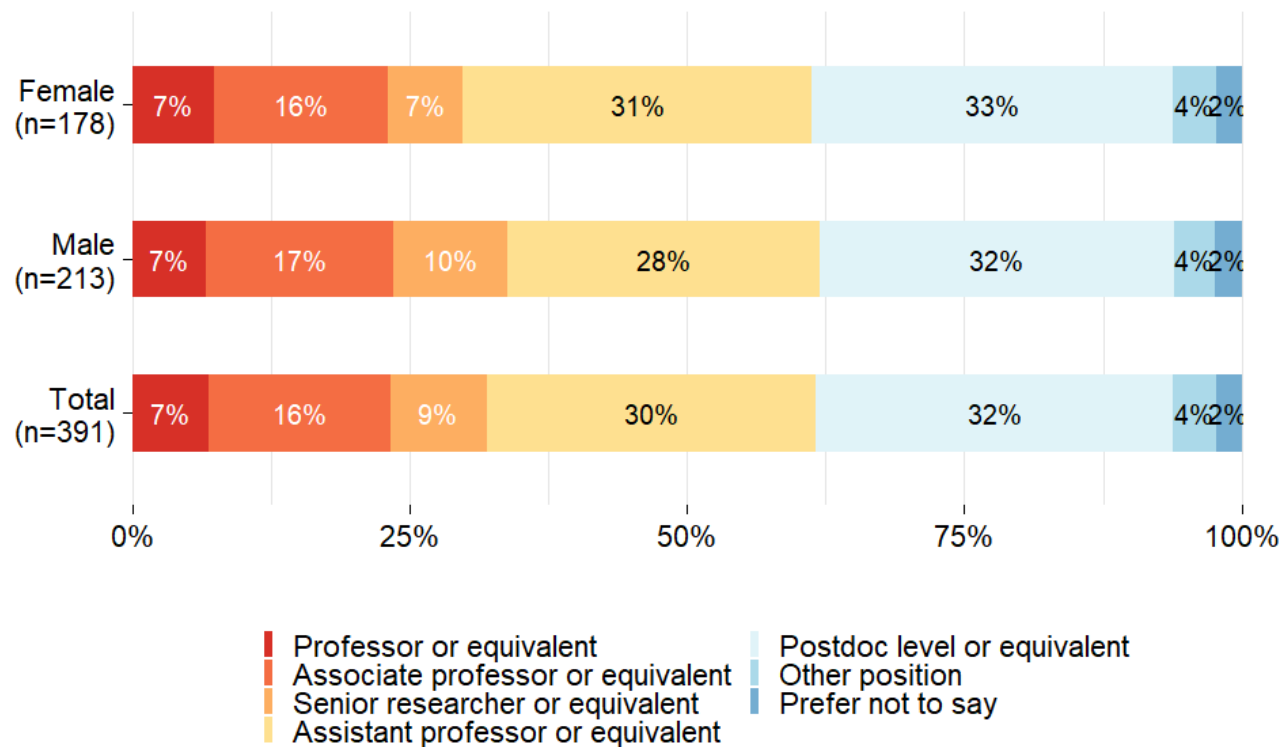
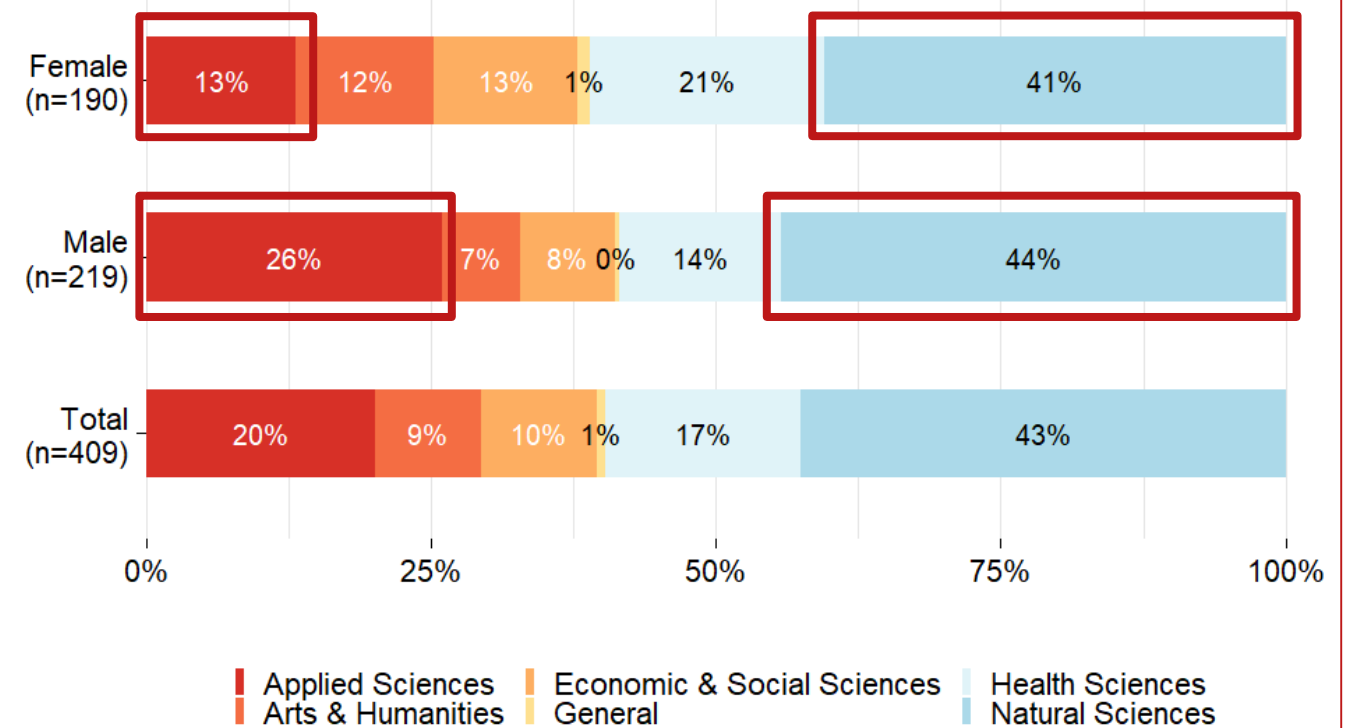


Figure 3: Gender & Scientific disciplines



7 #1 - Lower research performance of female applicants

Figure 4: Number of successful grant applications over 50,000€

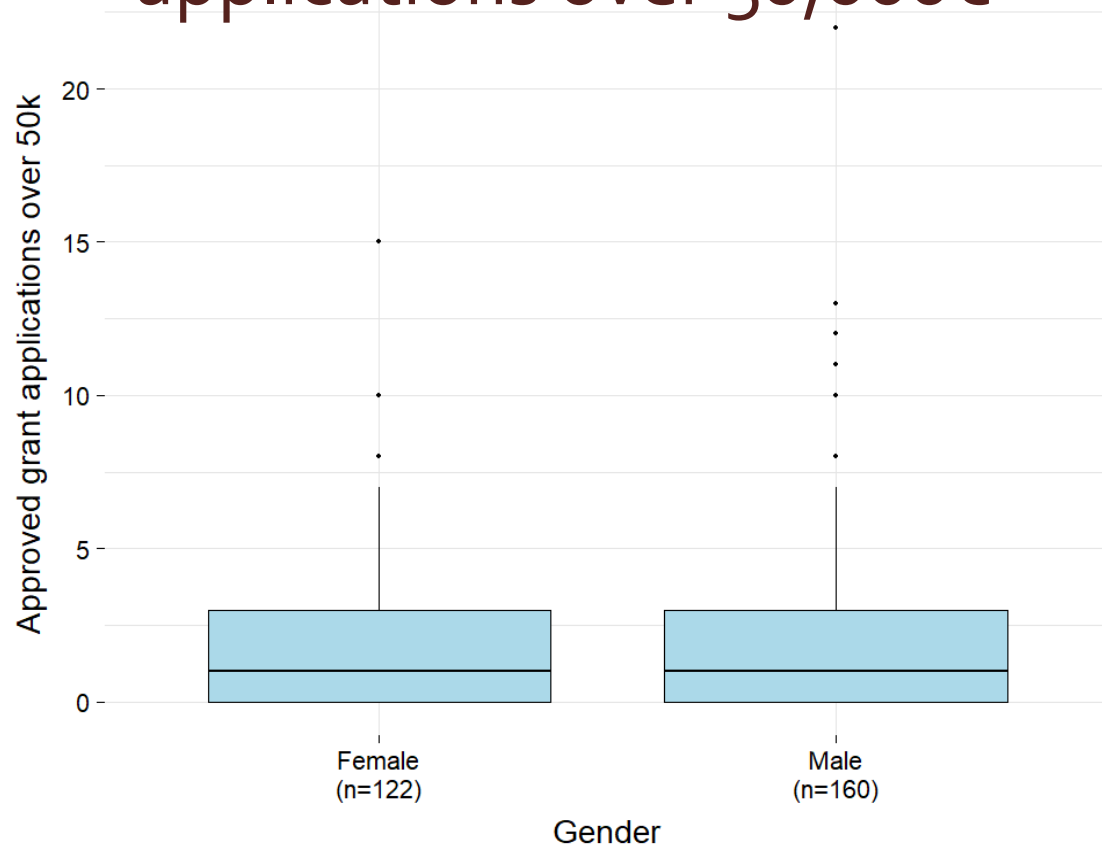
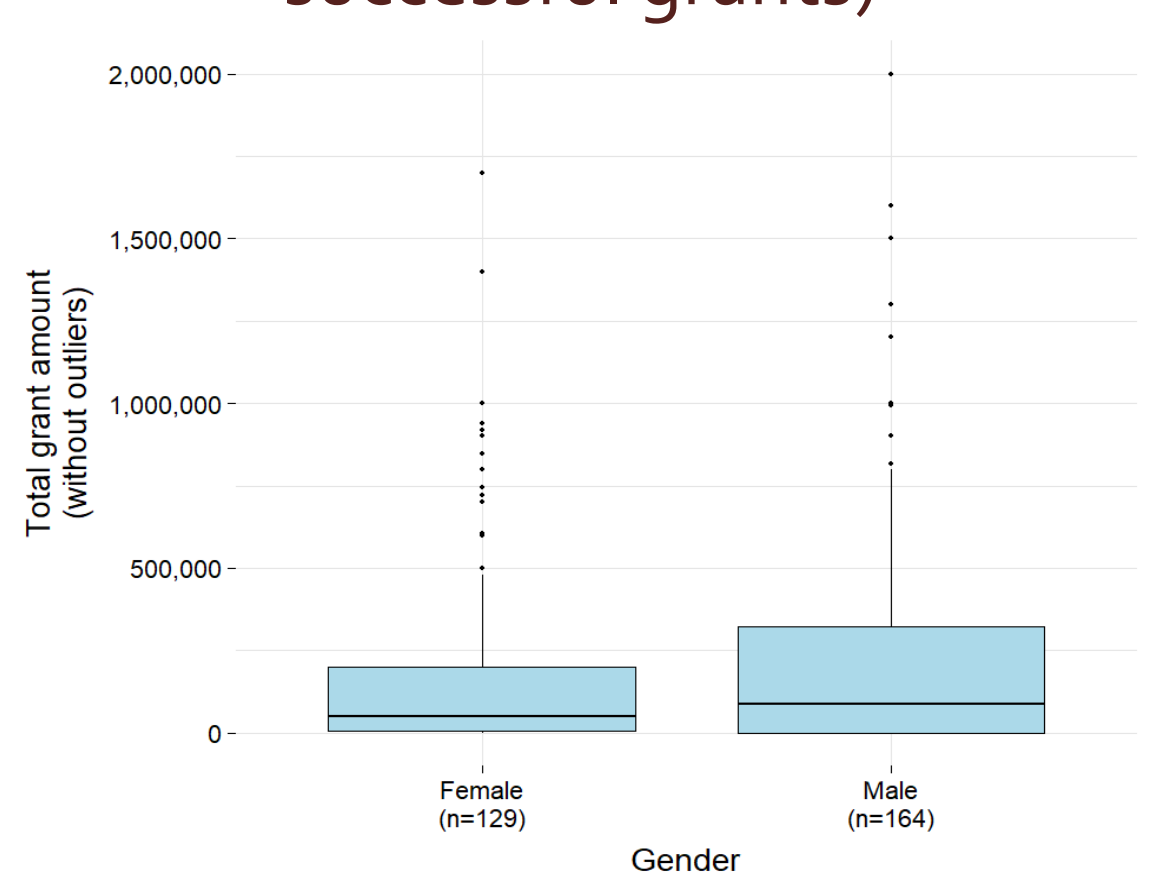


Figure 5: Total grant amount (all successful grants)



#2 - Women are more involved in care work

Figure 6: Care responsibilities of applicants

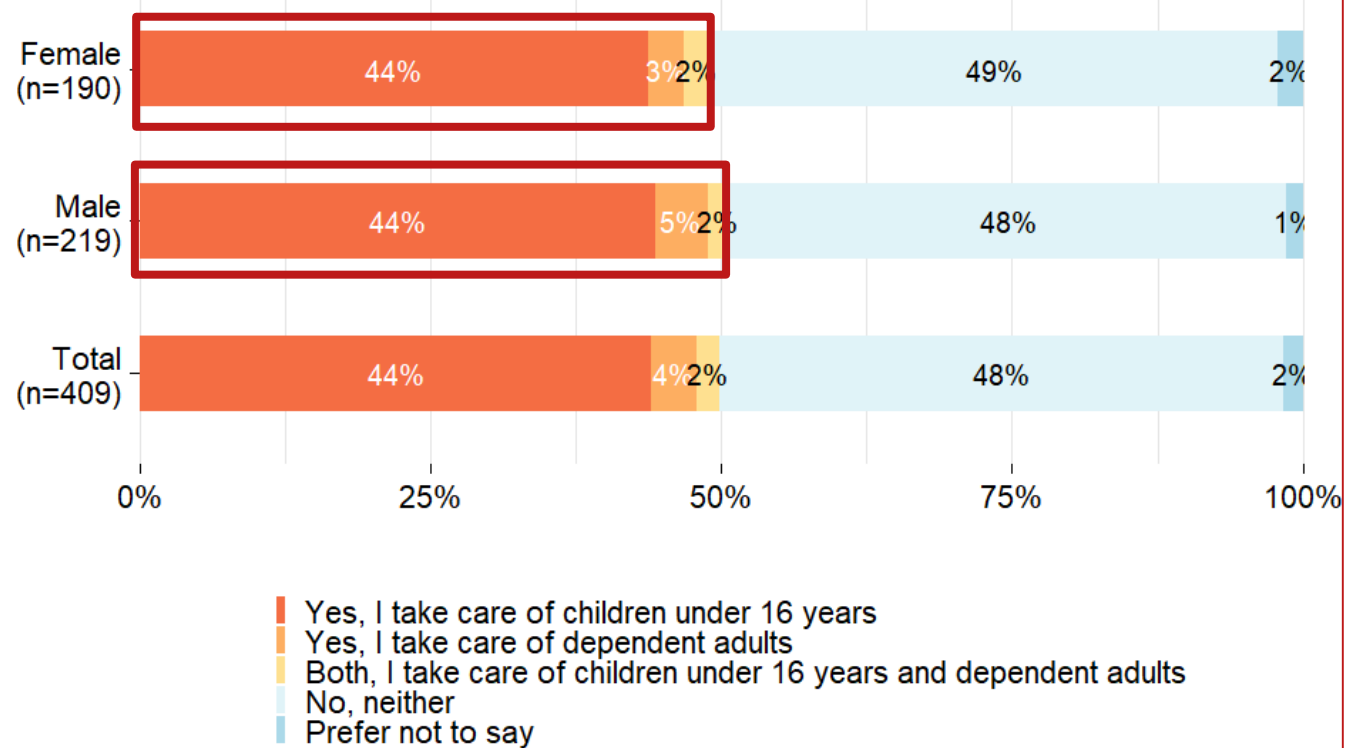
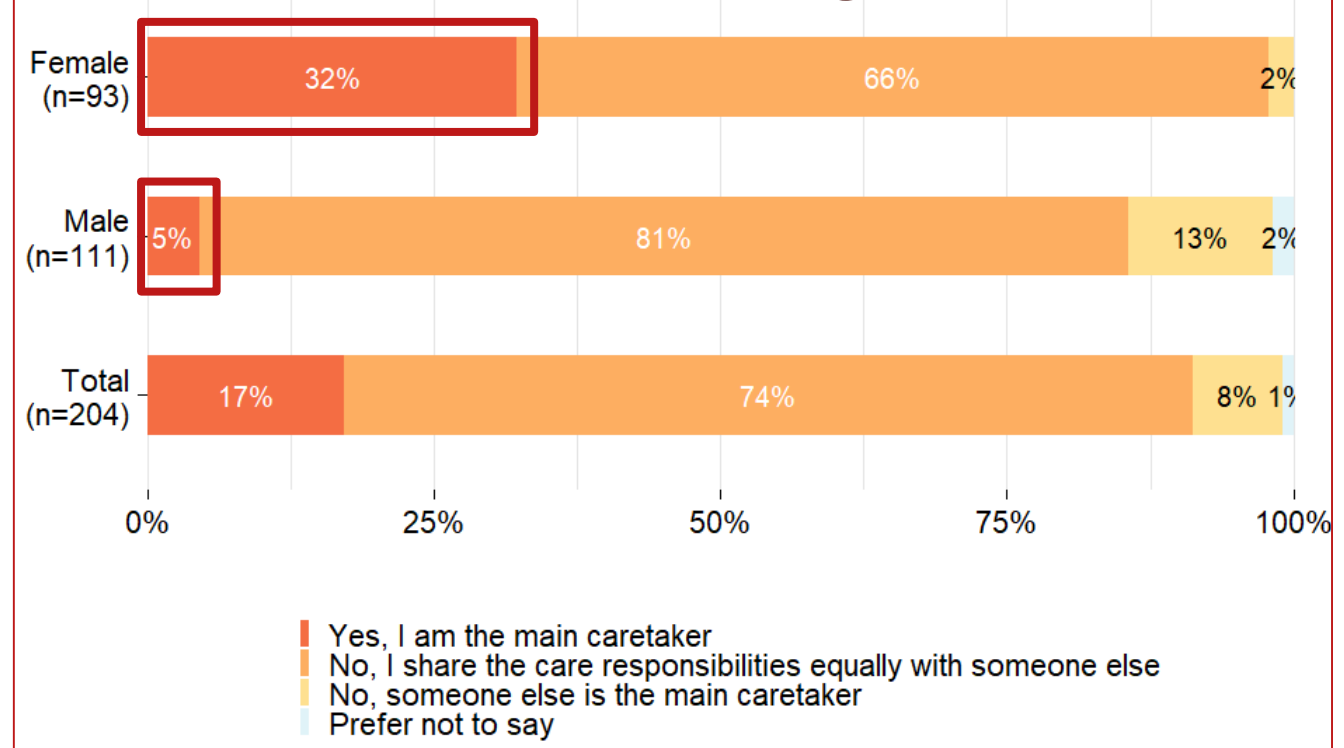
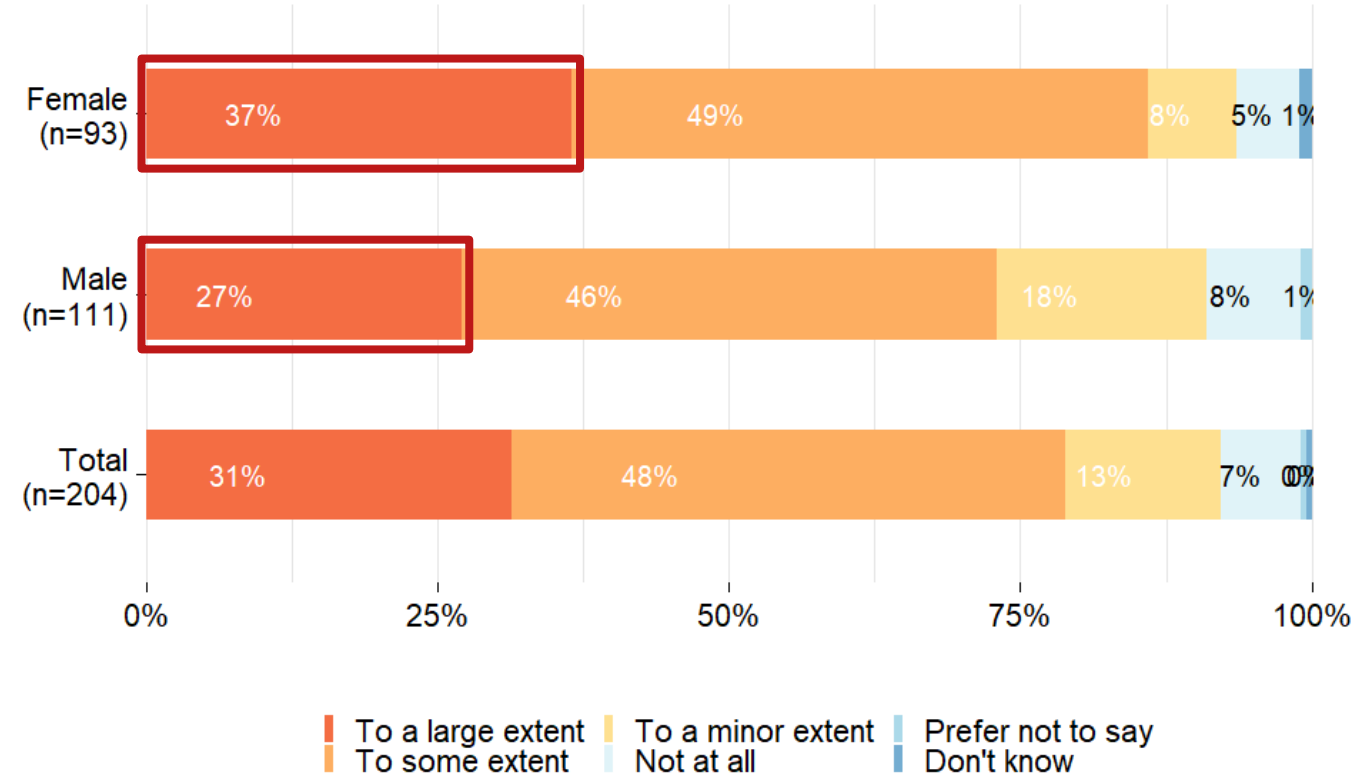


Figure 7: Involvement in care responsibilities among applicants



9 #2 - Women are more involved in care responsibilities

Figure 8: How care affects research work of applicants



#3 - Support from a supervisor or mentor

Figure 9: Career support by supervisor

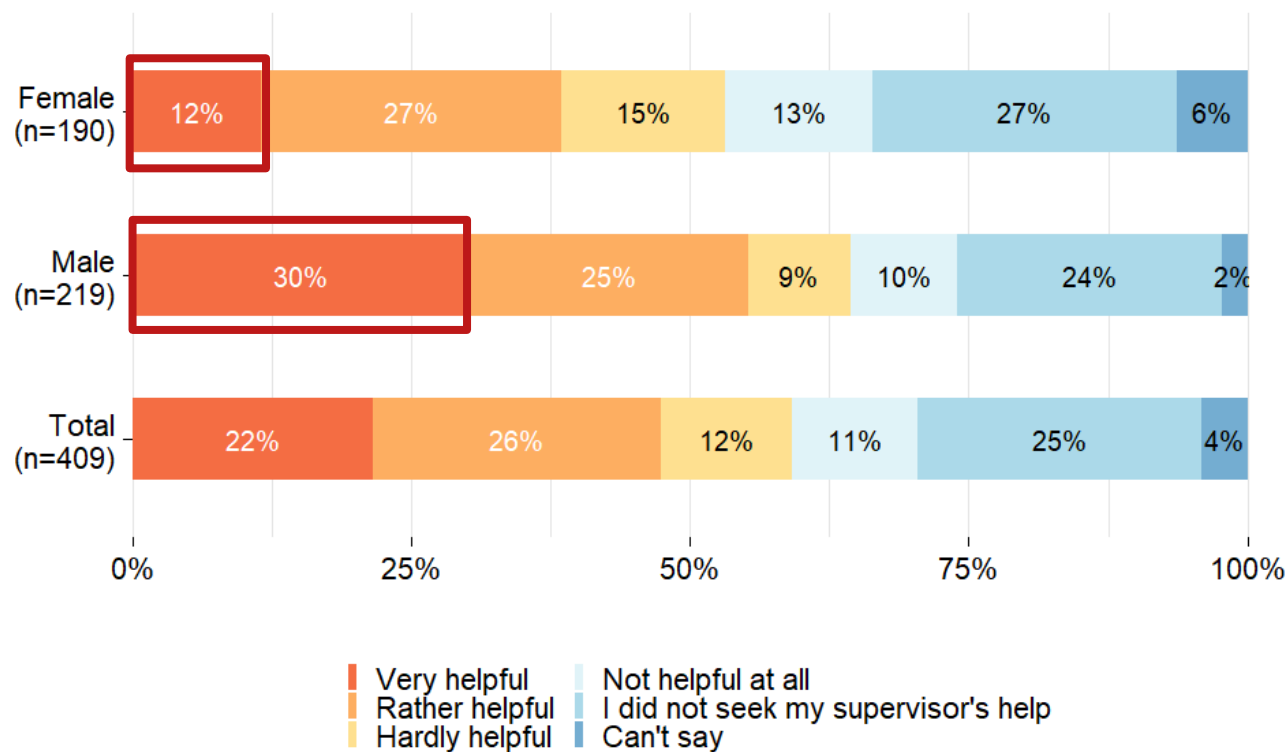
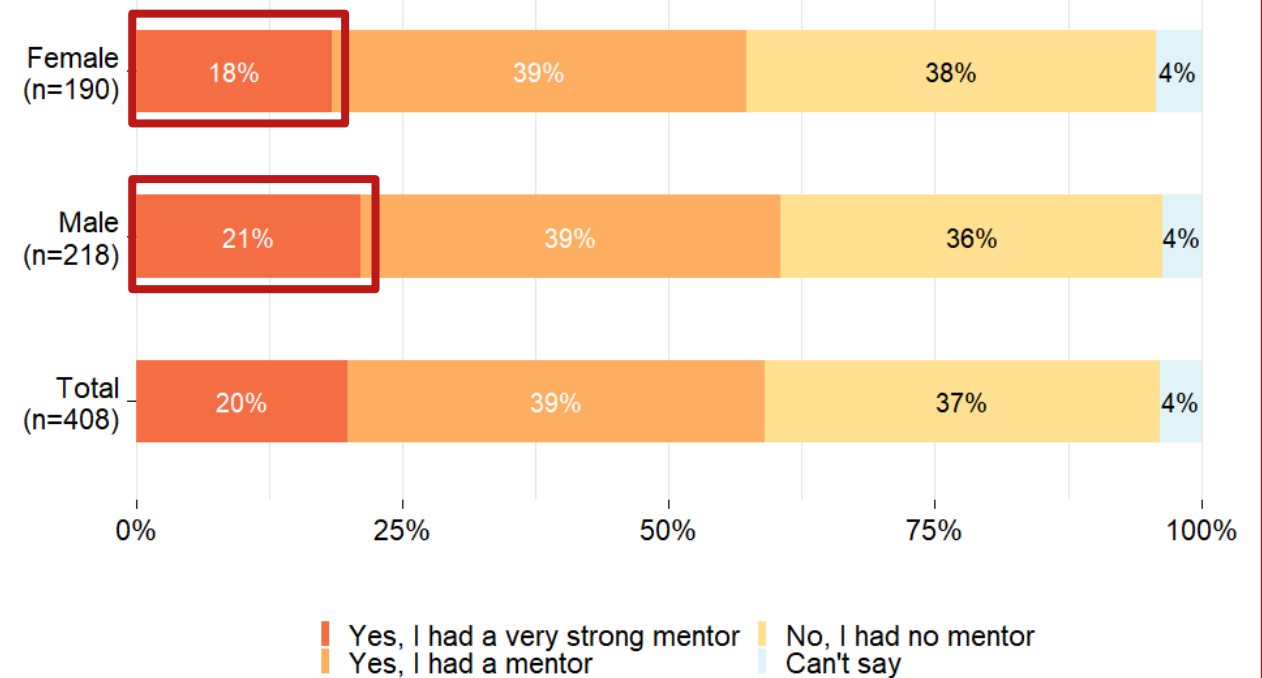


Figure 10: Existence of a mentor (other than the supervisor) among applicants



#4 – Self-confidence and sense of belonging

11

Figure 11: Self-confidence level (self-reported)

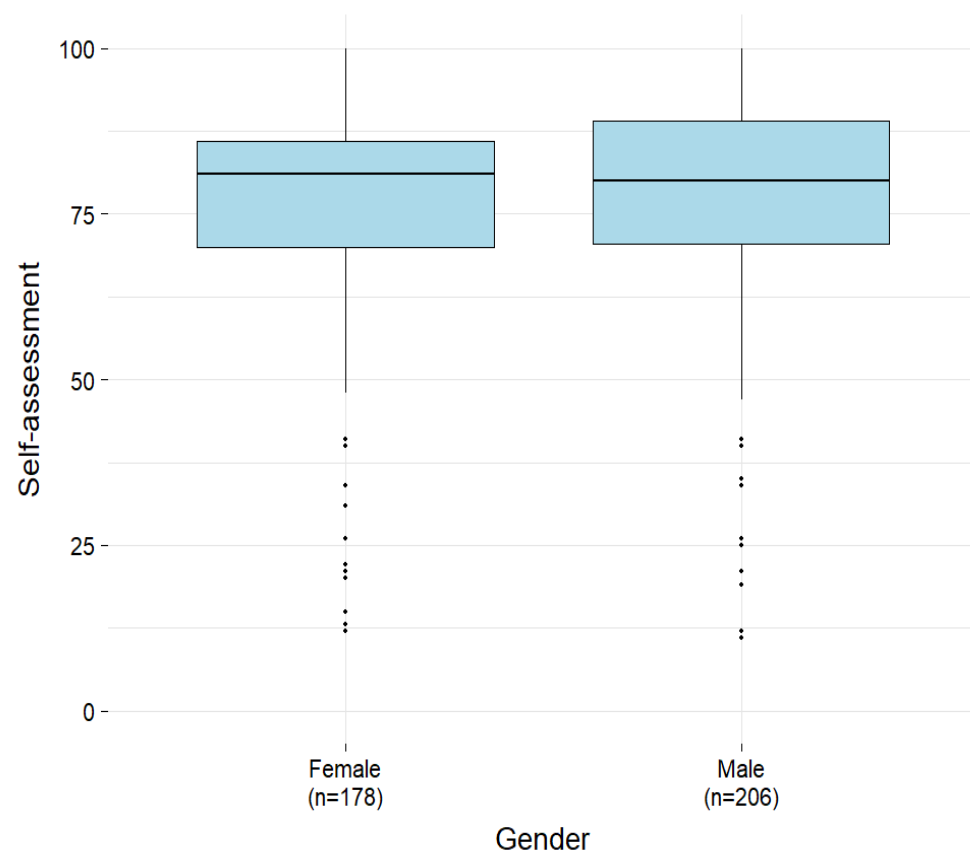
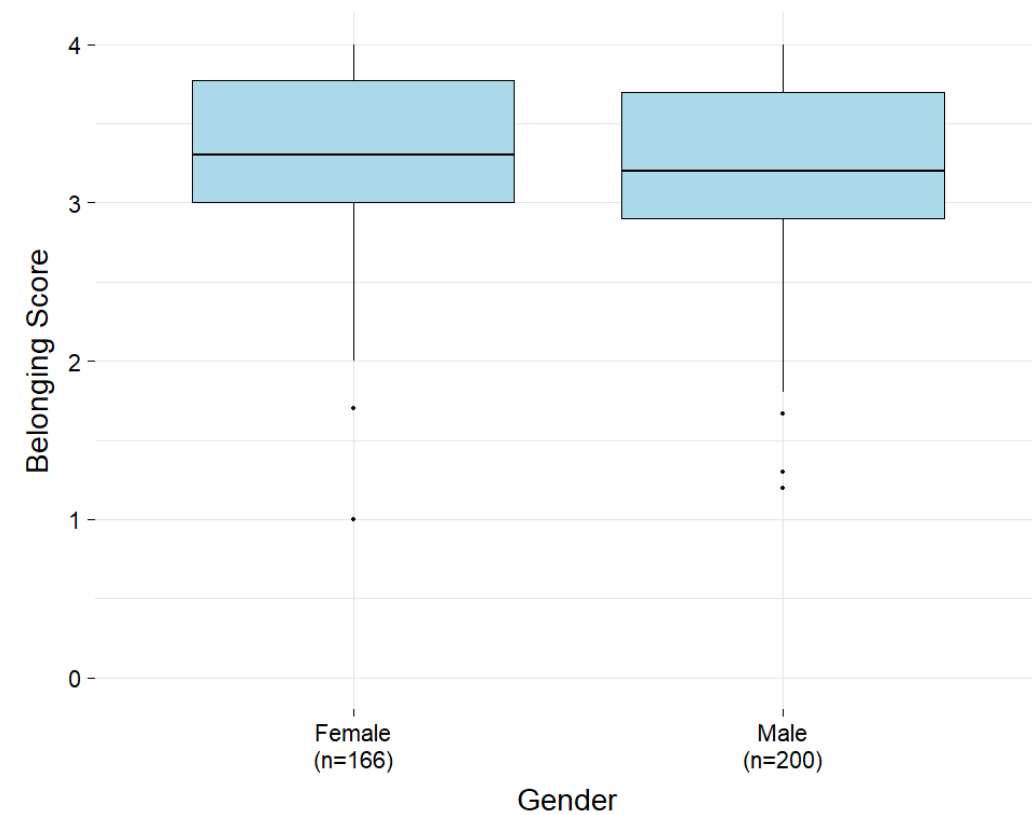


Figure 12: Belonging Score



#5 – Involvement in academic housework

Figure 13: Time use of applicants

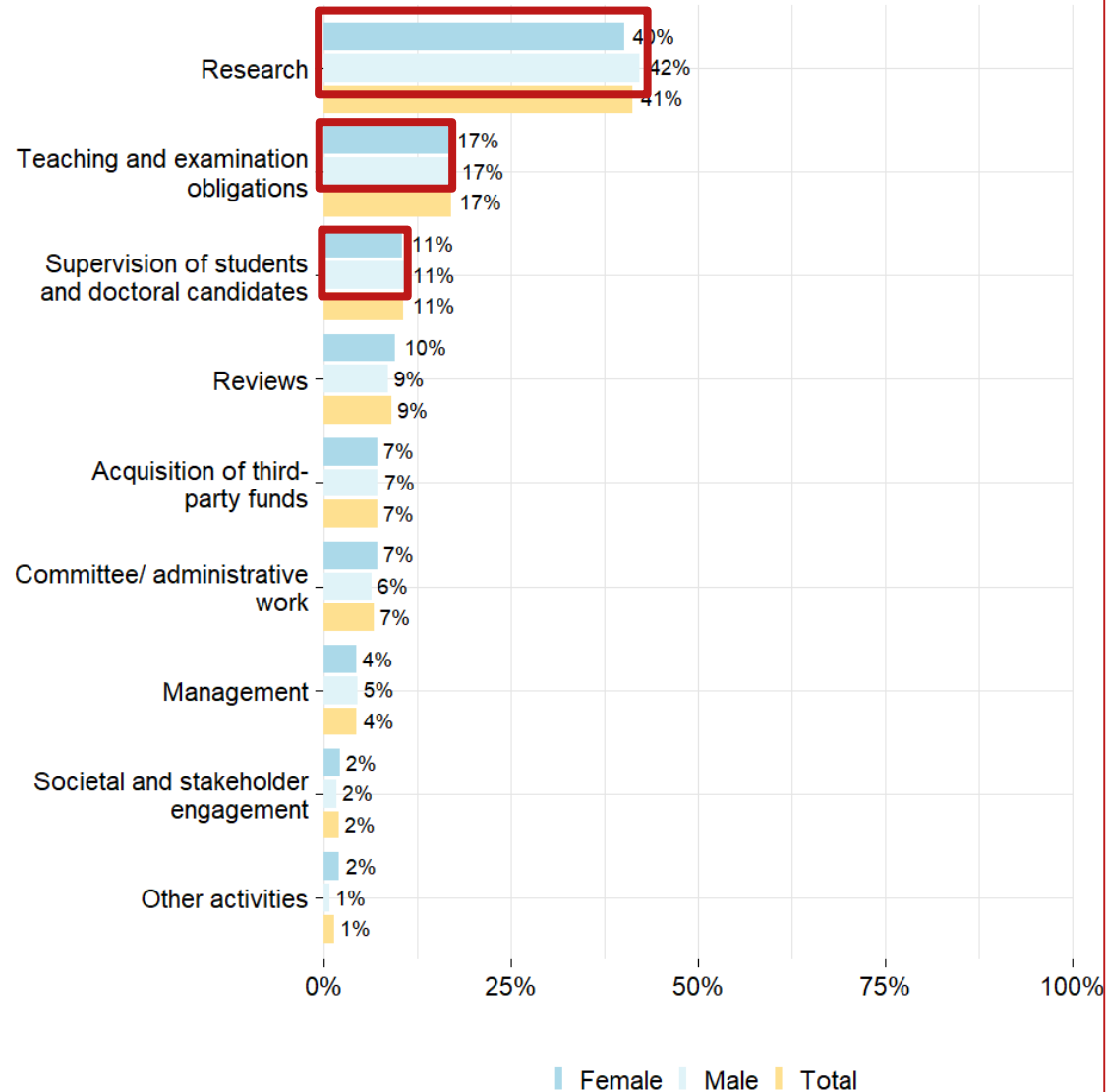
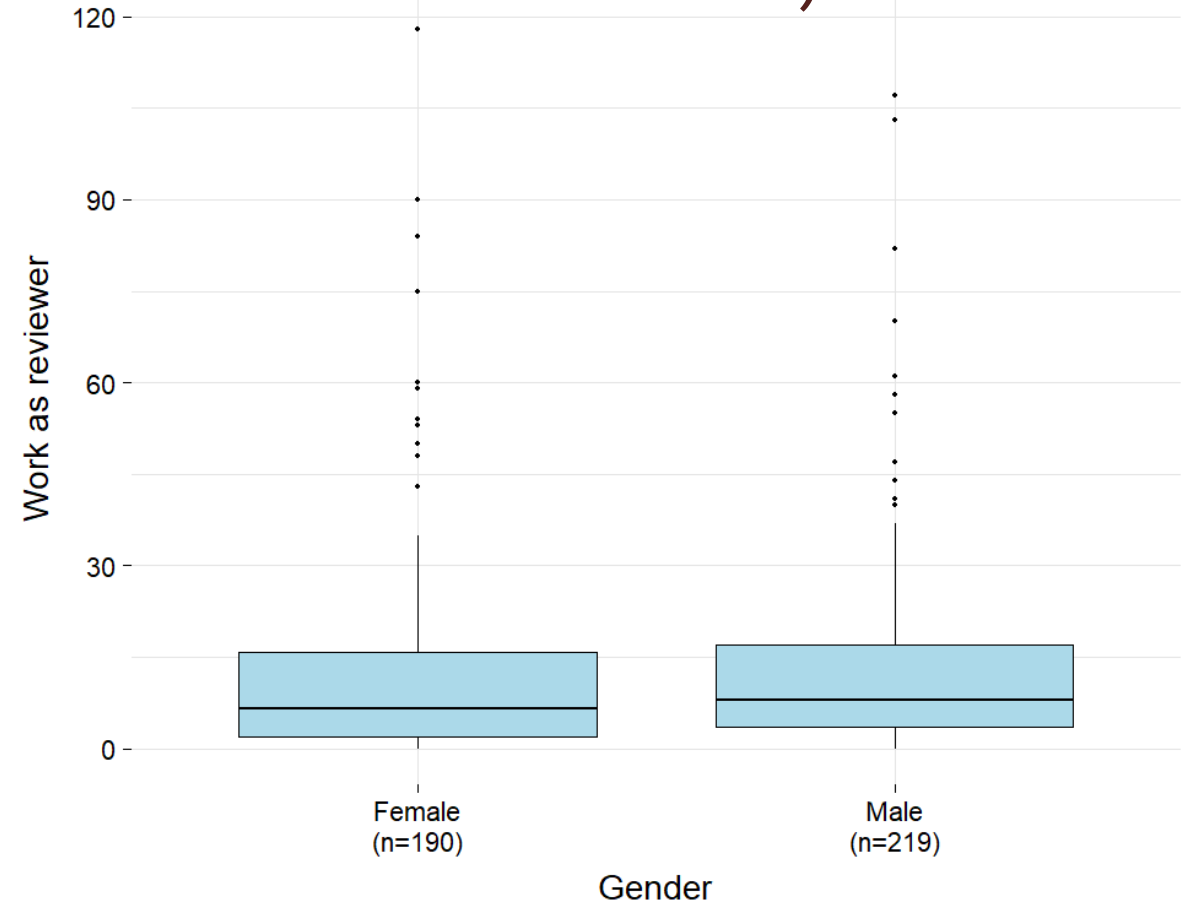


Figure 14: Work as a reviewer (in the last 12 months)



#6 - Delayed academic productivity due to COVID-19

13

Figure 18: Delays in research work due to COVID-19

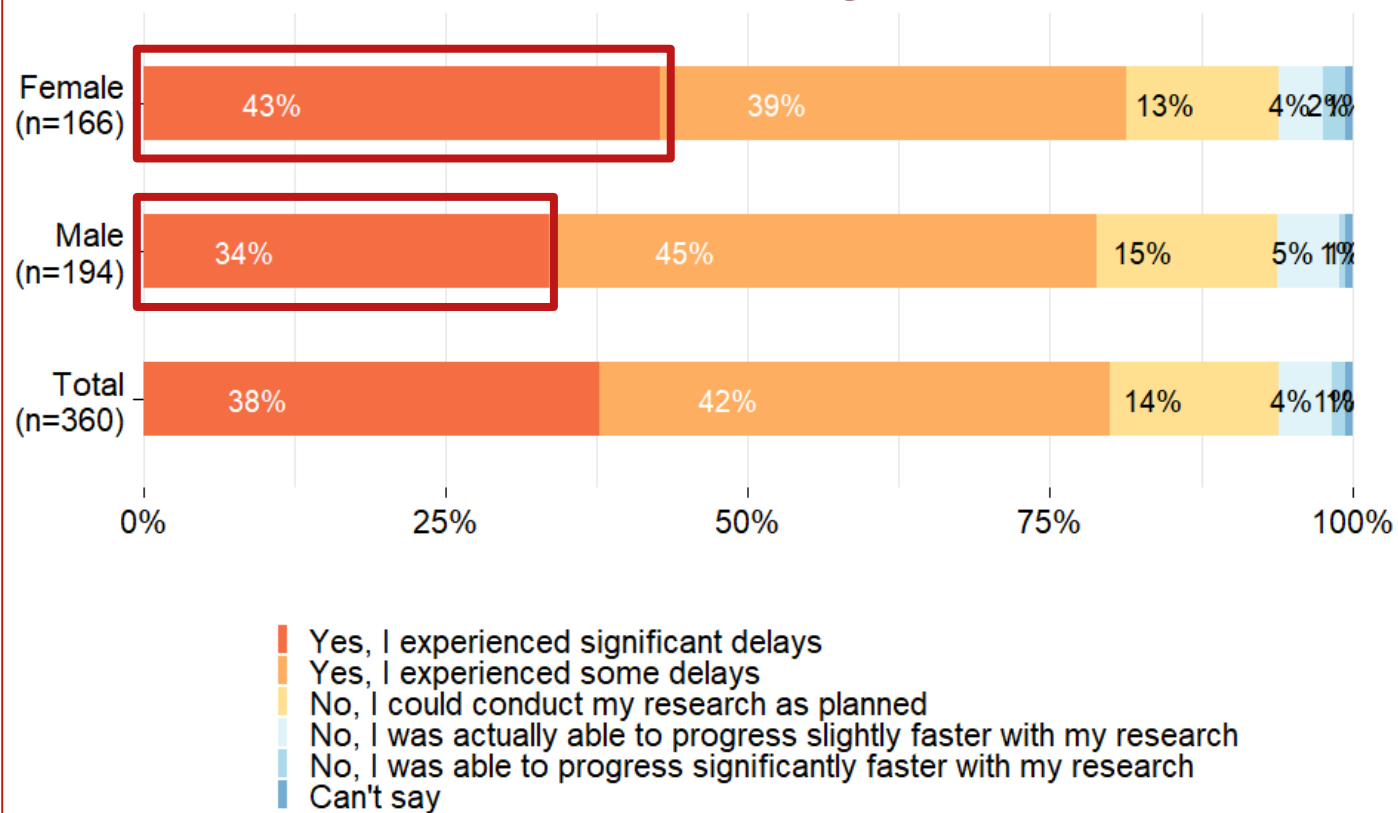
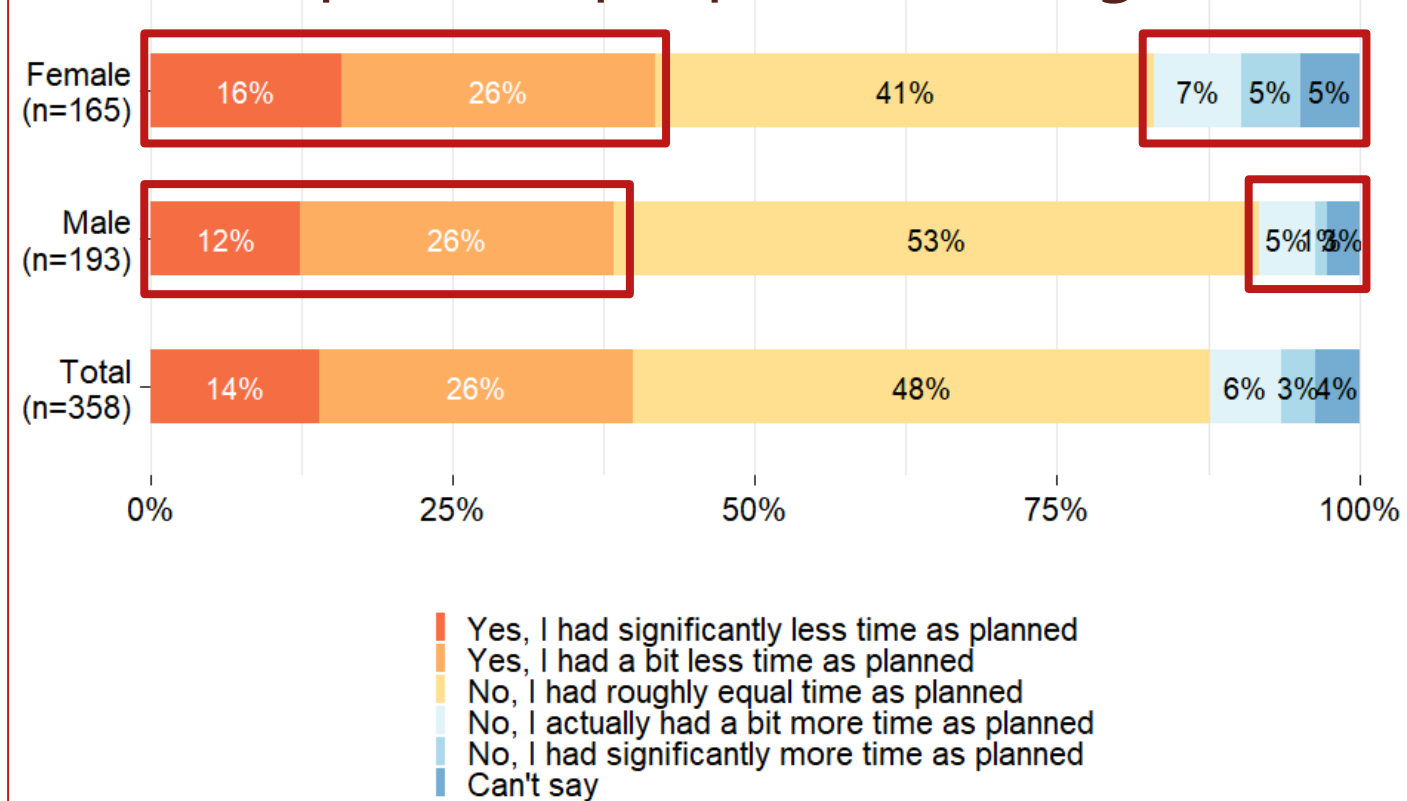


Figure 19: Impact of COVID-19 on time spent on proposal writing



Summary

- Gender differences are limited to some factors – care responsibilities & supervisor support
- But gender differences for other factors as reported in the literature could not be observed in our sample.

Gender disparities

Scientific disciplines

Engagement in care responsibilities

Supervisor support

No Gender disparities

Positions

Past Performance

Self-Confidence & Belonging

Involvement in academic housework

COVID-19

Concluding Remarks and Questions

- Self-selection of female applicants
 - (Female) applicants \neq (Female) researchers
- But why are there still some gender disparities observable:
 - Highly productive/successful women are not affected by their care work;
 - (Child) care responsibilities – indicating that GE policies are working?
- Most grants are for early stage researchers: gender disparities might not be as pronounced in this particular group of researchers.
- Limitations:
 - Small sample size in combination with considerable heterogeneity





16

Many thanks for your attention!



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