

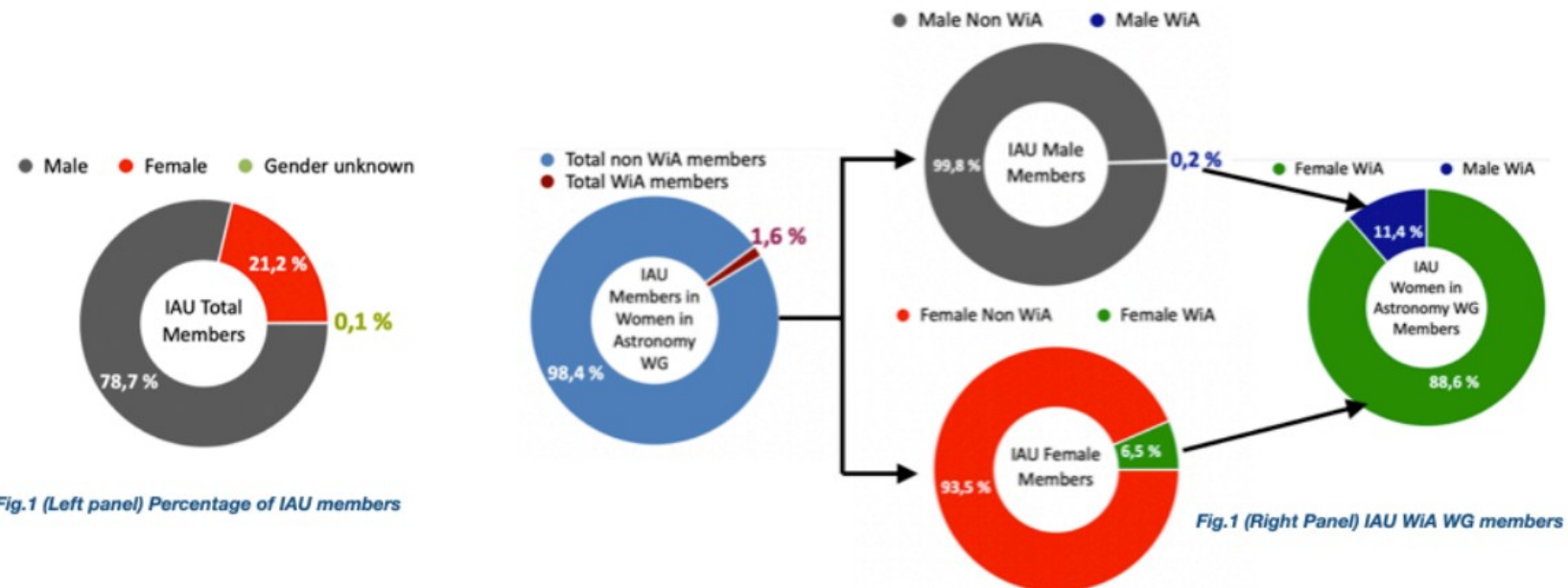
Status of Women in Astronomy: A Need for Advancing Inclusivity and Equal Opportunities

Pandey-Pommier et. al. 2023

Presented by Noelle Feist

Background on this paper

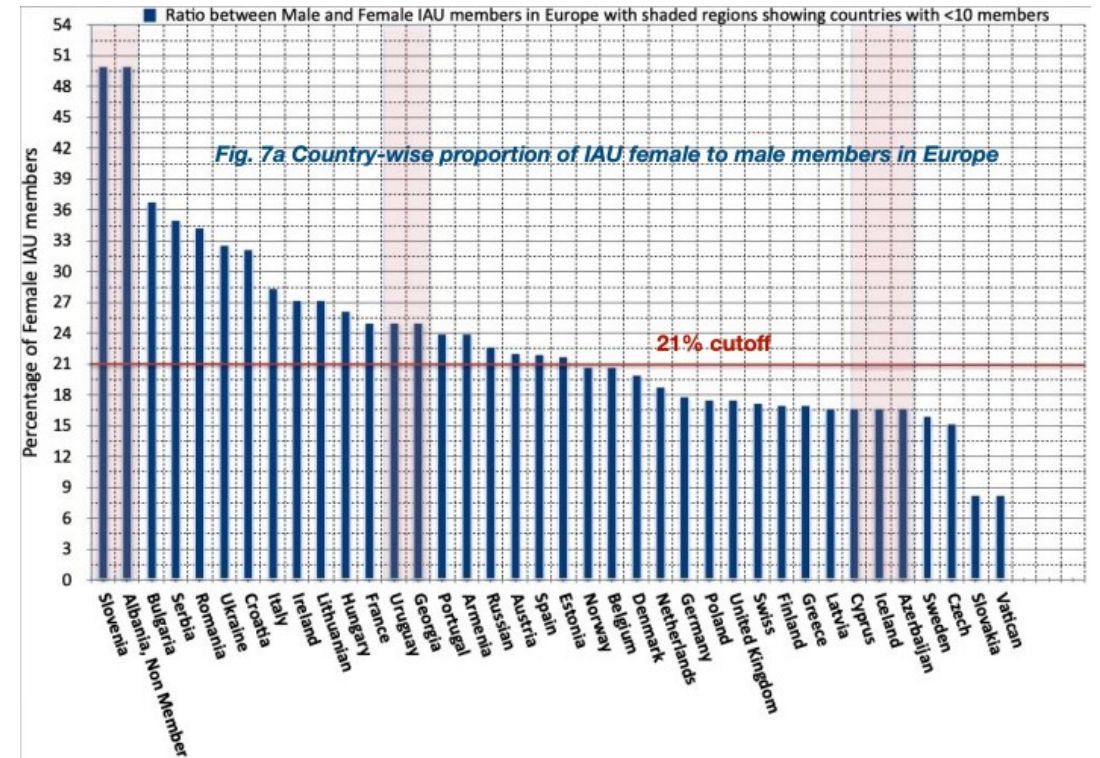
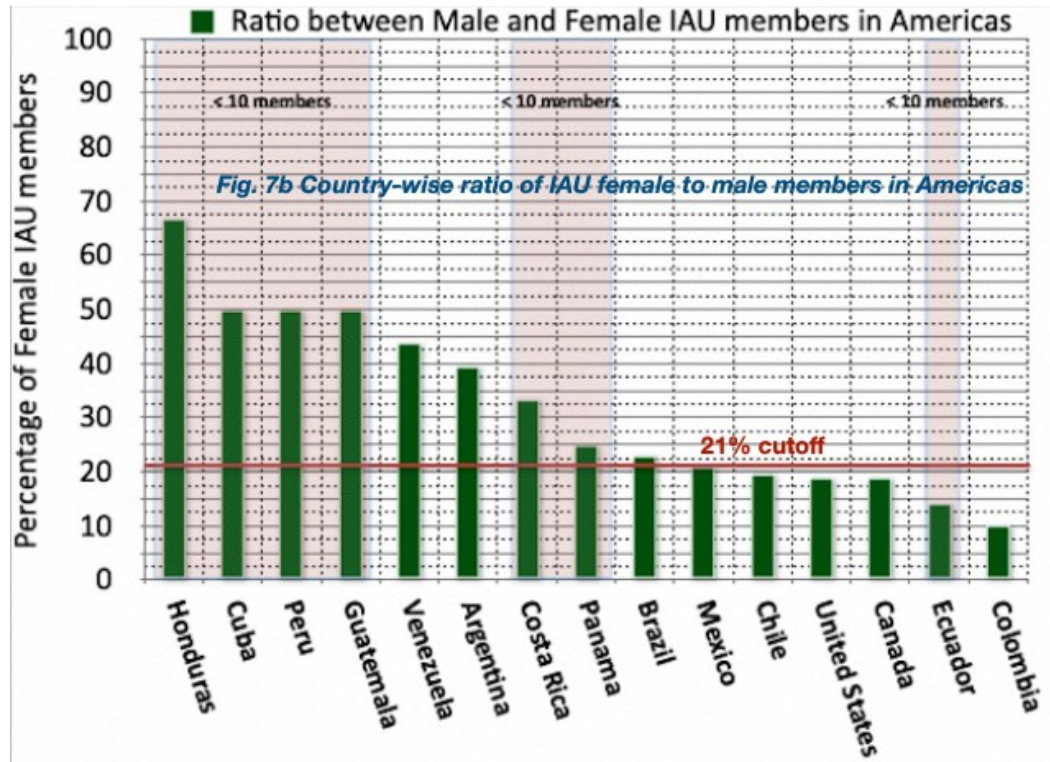
- Based on a survey of the International Astronomical Union
 - 12,000 members
 - Only 29/85(?) countries have women actively participating in research
 - IAU established Women in Astronomy Working Group



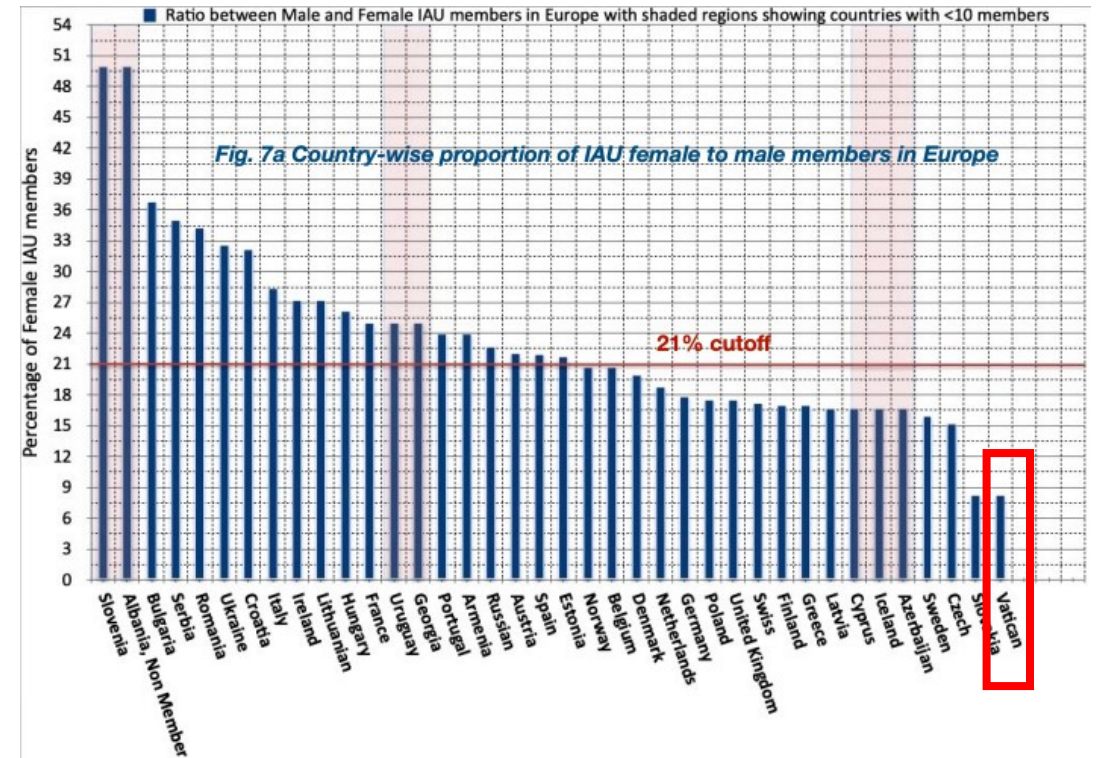
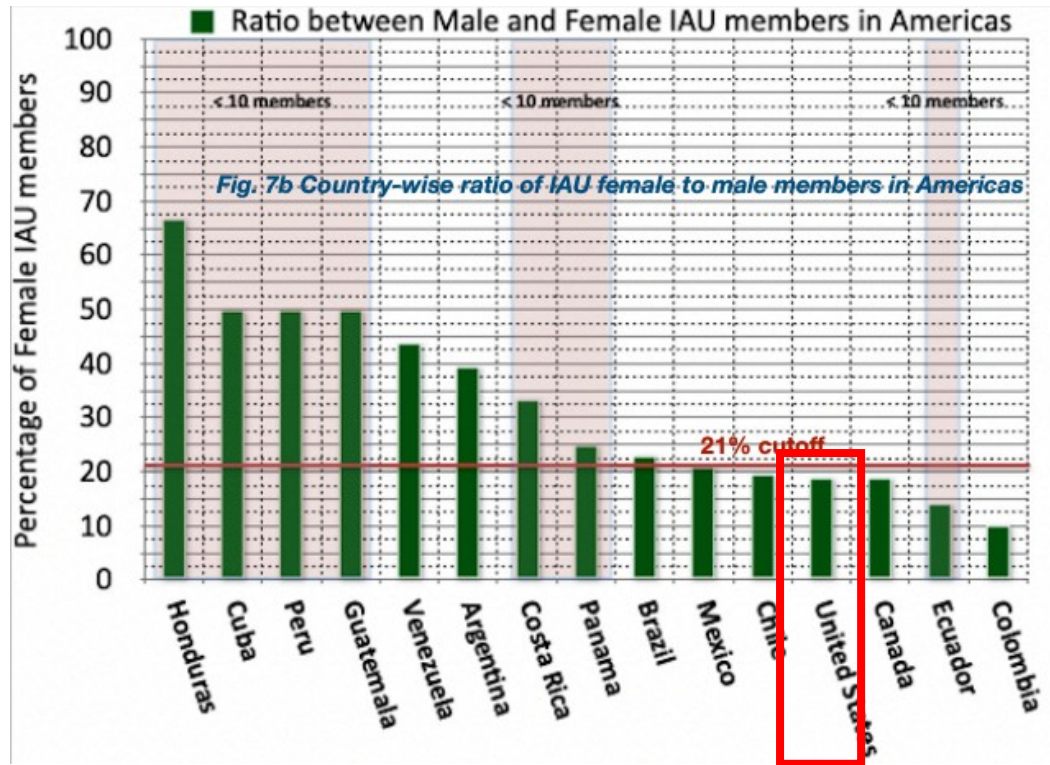
Survey Information

- 750 participants
- 58 countries
 - EU: 60%
 - Americas: 19%
 - Oceania: 13%
 - Asia: 4.5%
 - Africa: 2.5%
 - Middle East: 1%

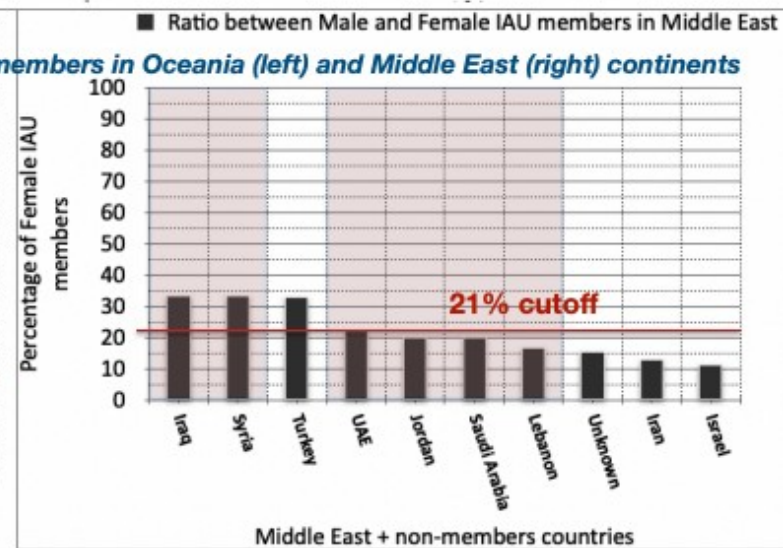
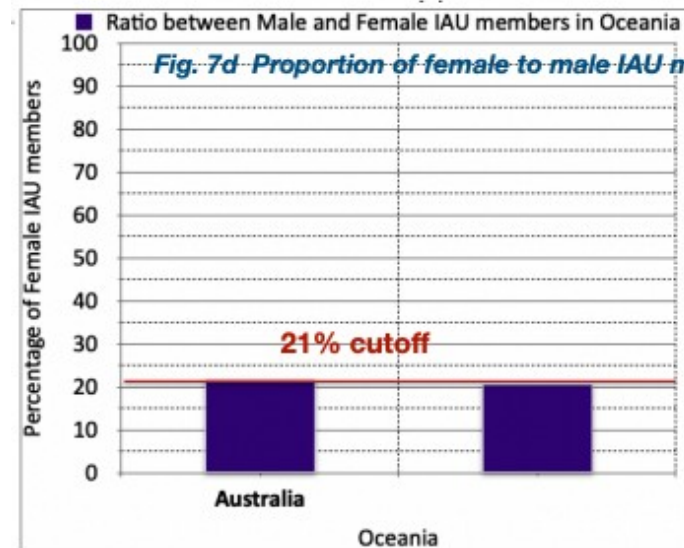
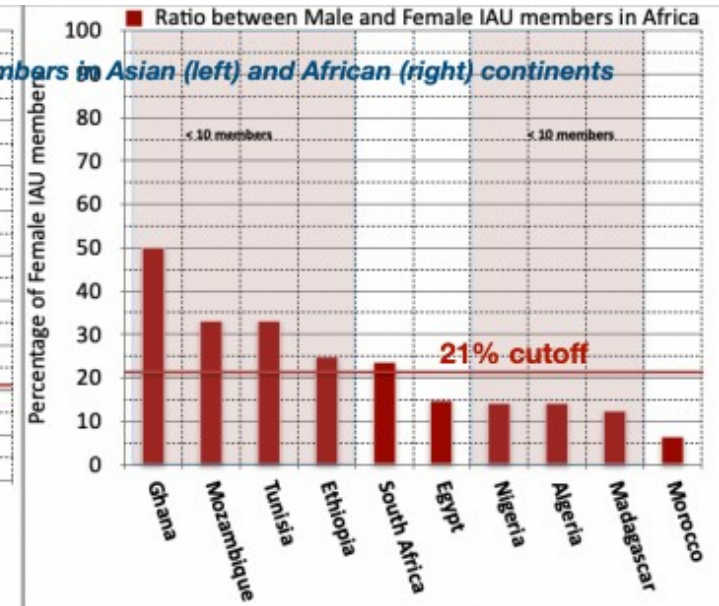
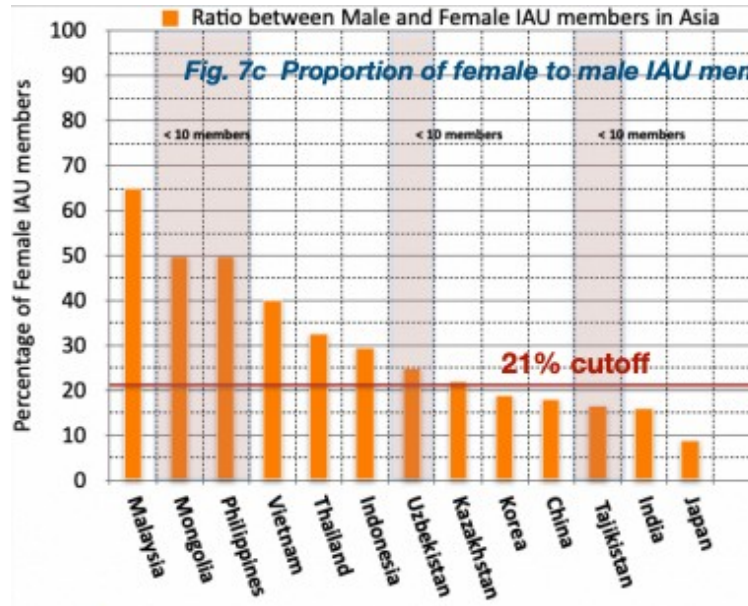
Results: Gender Proportion by Country



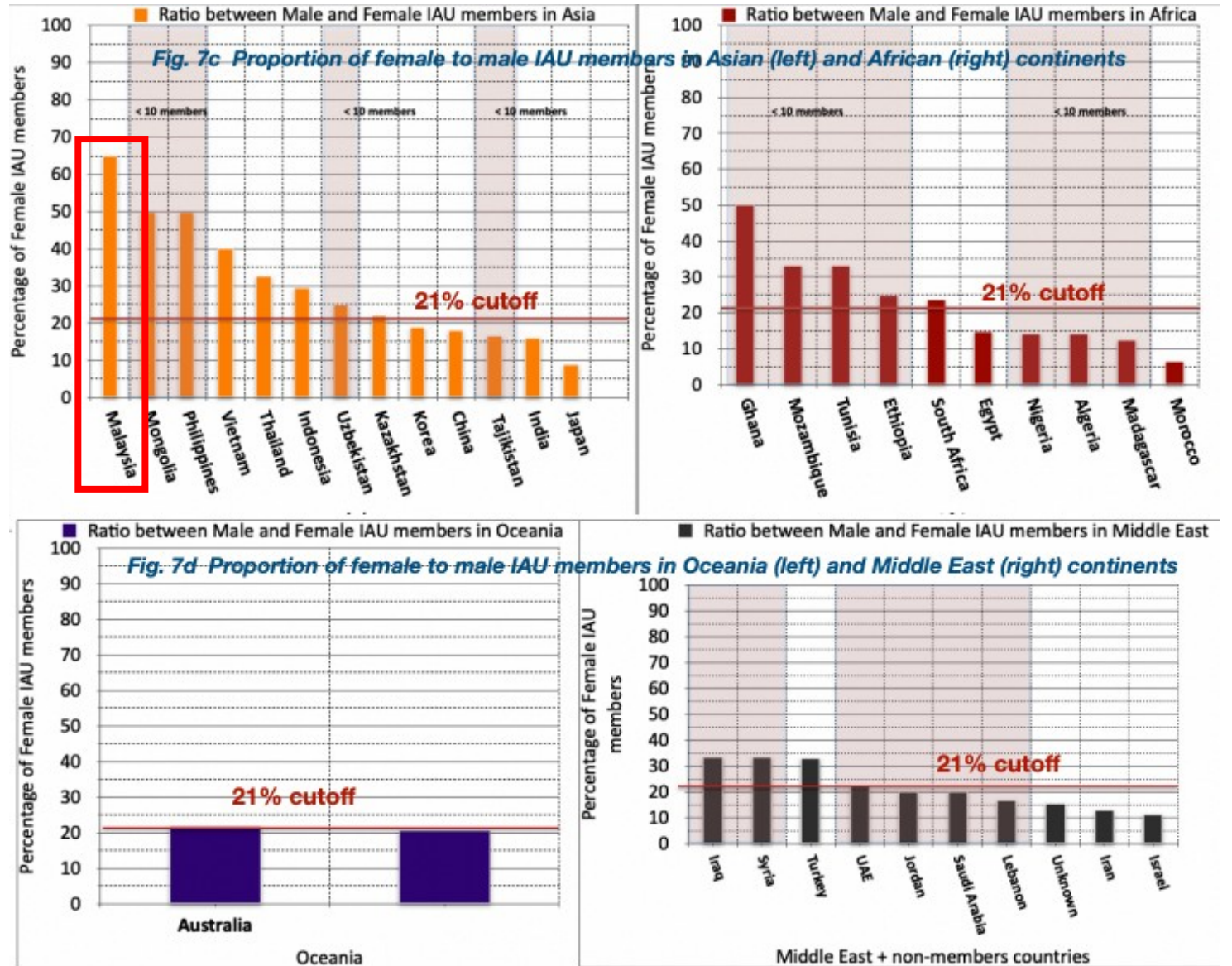
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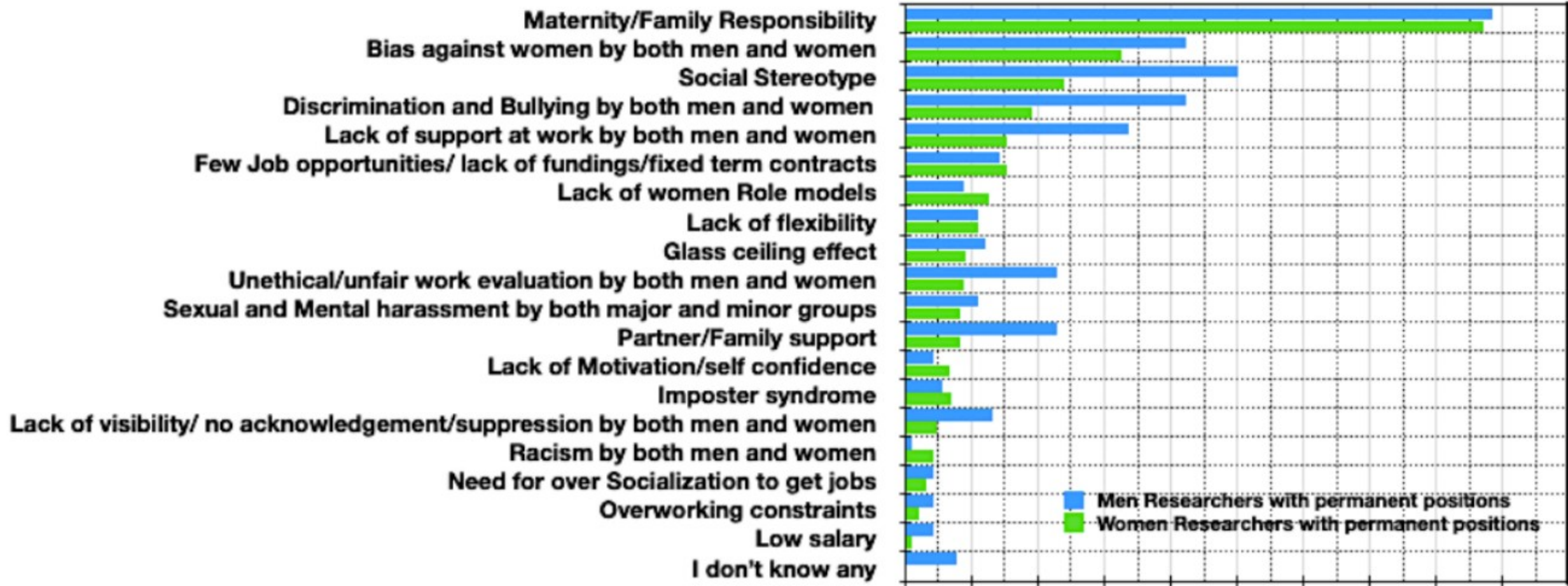
Results: Gender Proportion by Country cont.



Results: Gender Proportion by Country cont.

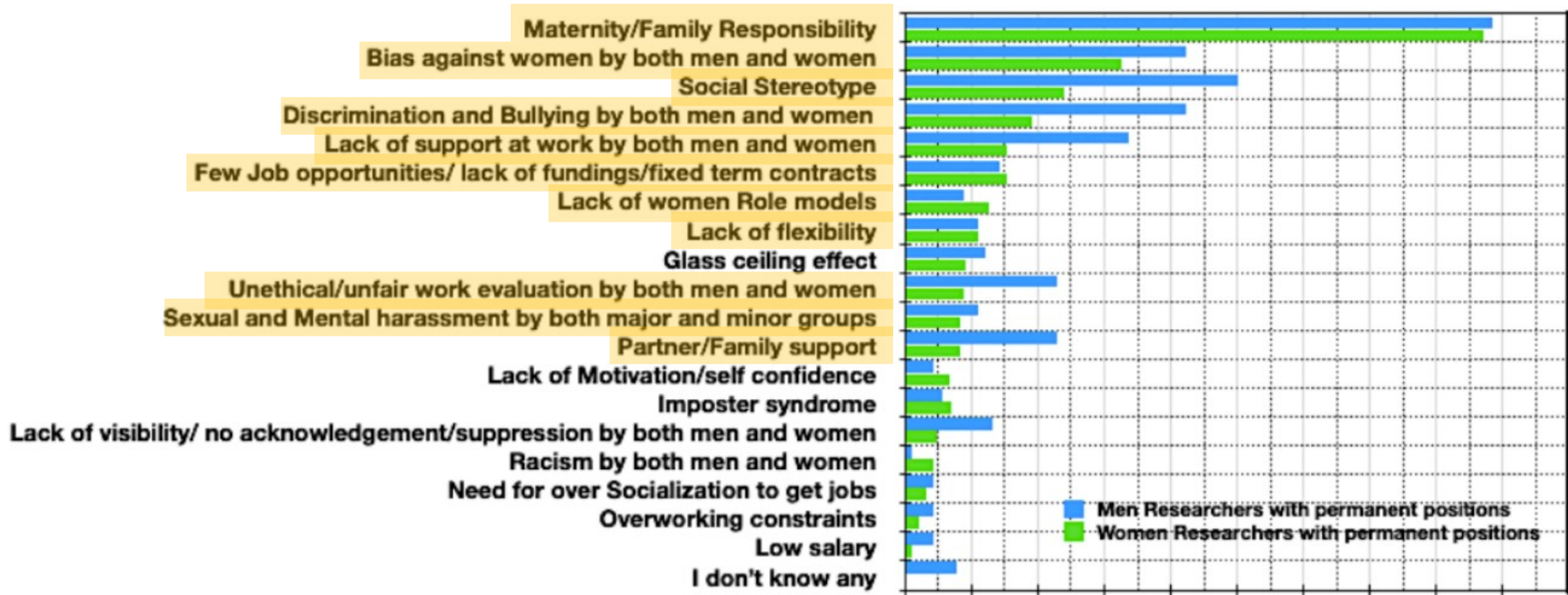


Factors affecting Women career in Astronomy (STEM)



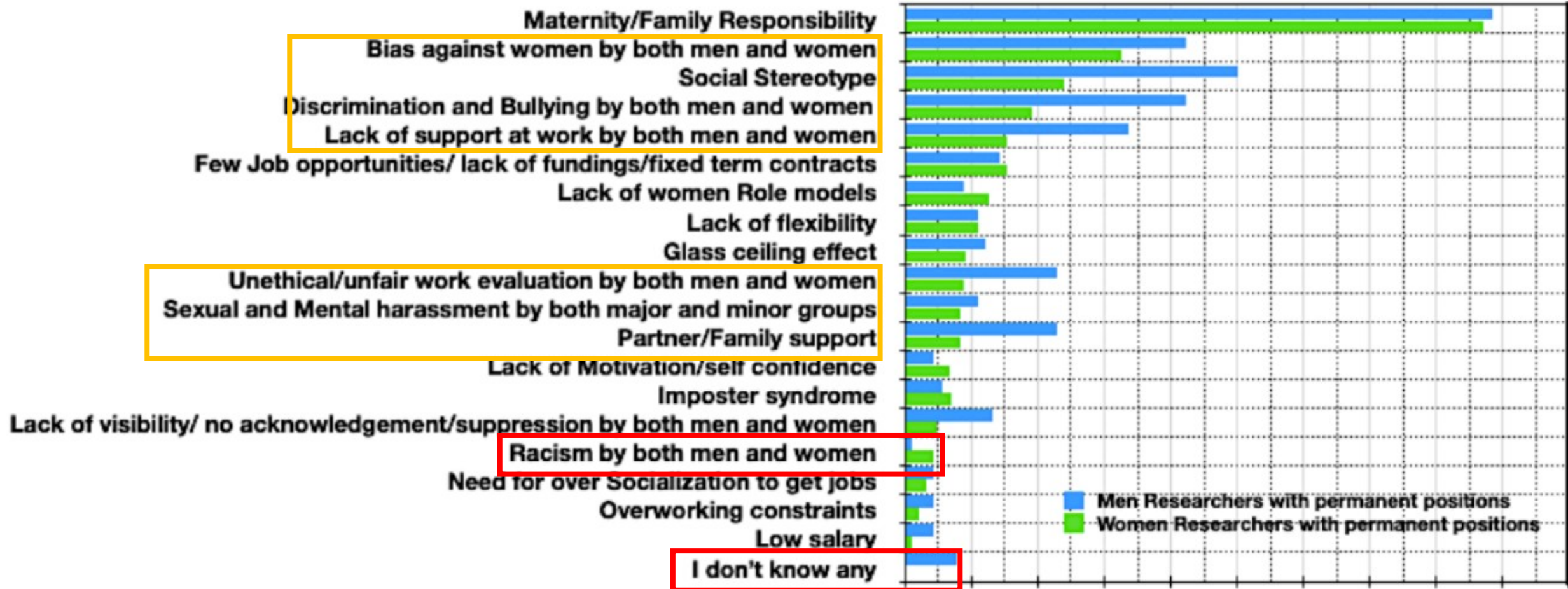
Results: Factors Affecting Women

Factors affecting Women career in Astronomy (STEM)



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Factors affecting Women career in Astronomy (STEM)



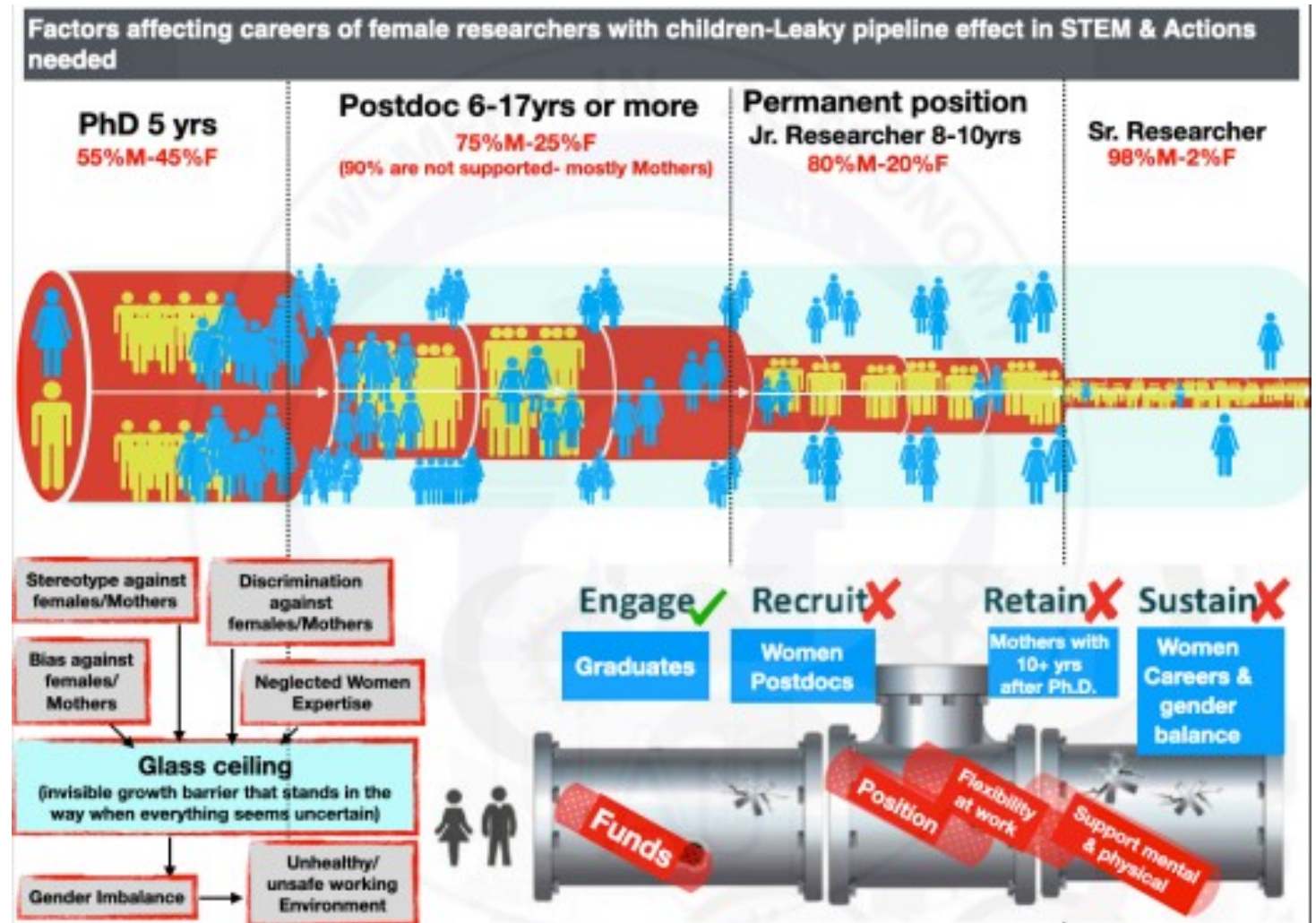
Results: Factors Affecting Women

Most Significant Factors

- Family and caregiving responsibilities
- Bias against women applicants (especially mothers)
- Social stereotypes
- Discrimination and bullying
- Lack of funds, role models, and support for job applications
- Unethical work evaluation
- Lack of family support (especially mothers)
- Sexual and mental harassment

Leaky Pipeline

- Common model
- Much more equal at lower levels
- Becomes much less equal further on
- Partially due to progress



Actions by IAU WiA WG

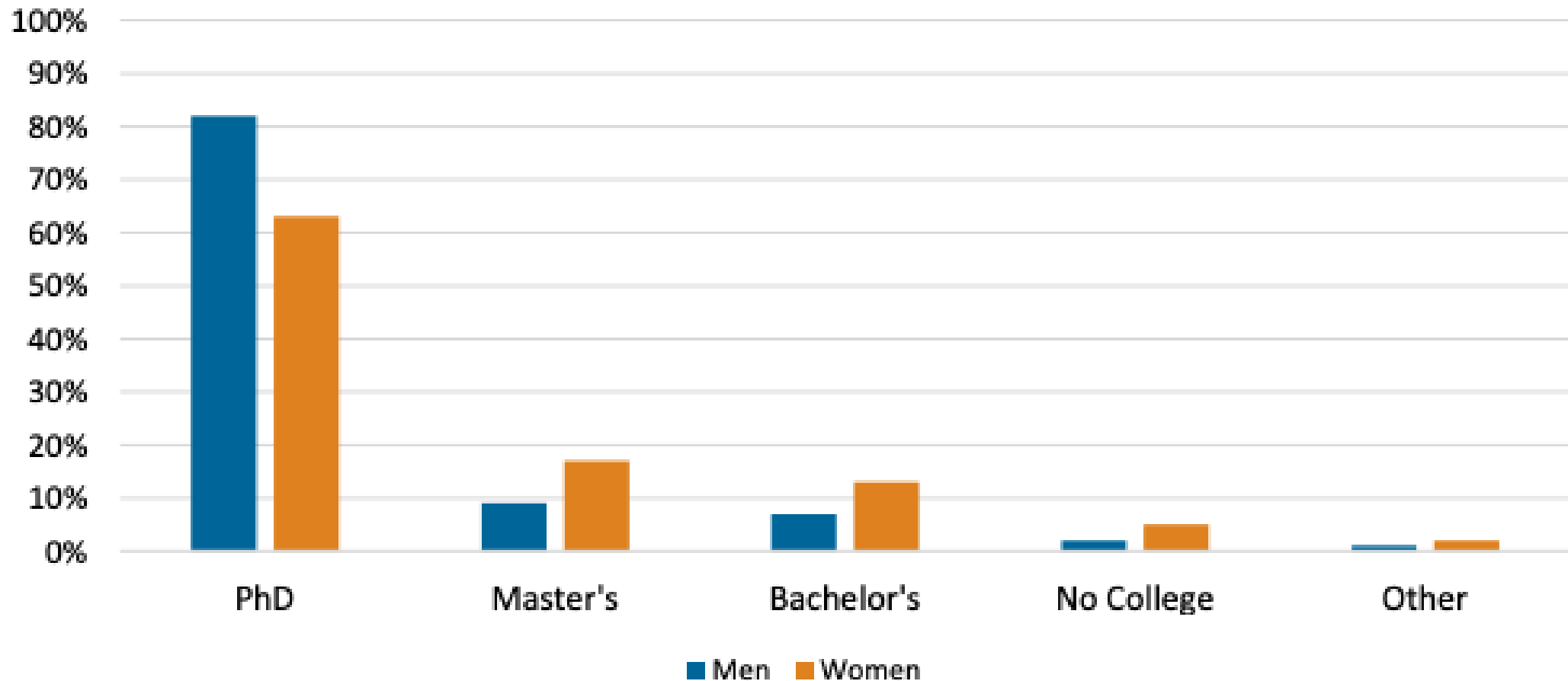
- Awareness and Sustainability (regularly publish surveys)
- Training and Skill Building (gather materials, conduct training programs)
- Fundraising
- Communication and Dissemination (organizing communication channels such as social media and regular seminars)

Summary

- Women do not have equal representation, especially mothers
- There are eight major factors
- Leaky pipeline effect must be addressed
- Call to policy makers (incl. funding agencies, university/research programs, journals, etc.) to create and implement inclusive policies and evaluation committees

Beyond this paper: AAS

Highest Degree Earned by US AAS Members by Gender, 2021



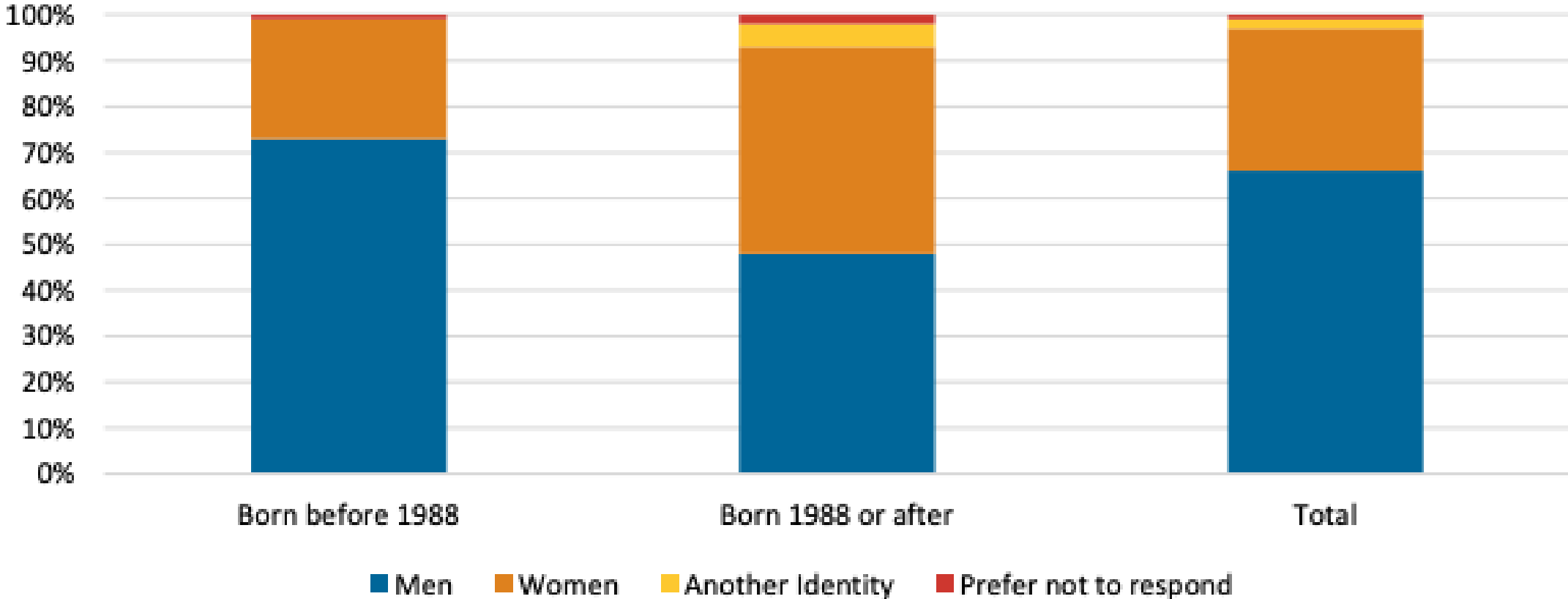
AAS cont.

Ethnicity of US AAS Members, 2021		
Ethnicity	%	N
White	81	1369
Asian or Asian American	10	163
Hispanic or Latino	6	93
Black or African American	2	42
American Indian or Alaska Native	1	21
Native Hawaiian or other Pacific Islander	<1	3
Other	2	29
Prefer not to respond	4	66

Sum of percentages exceeds 100 because respondents were asked to check all that apply

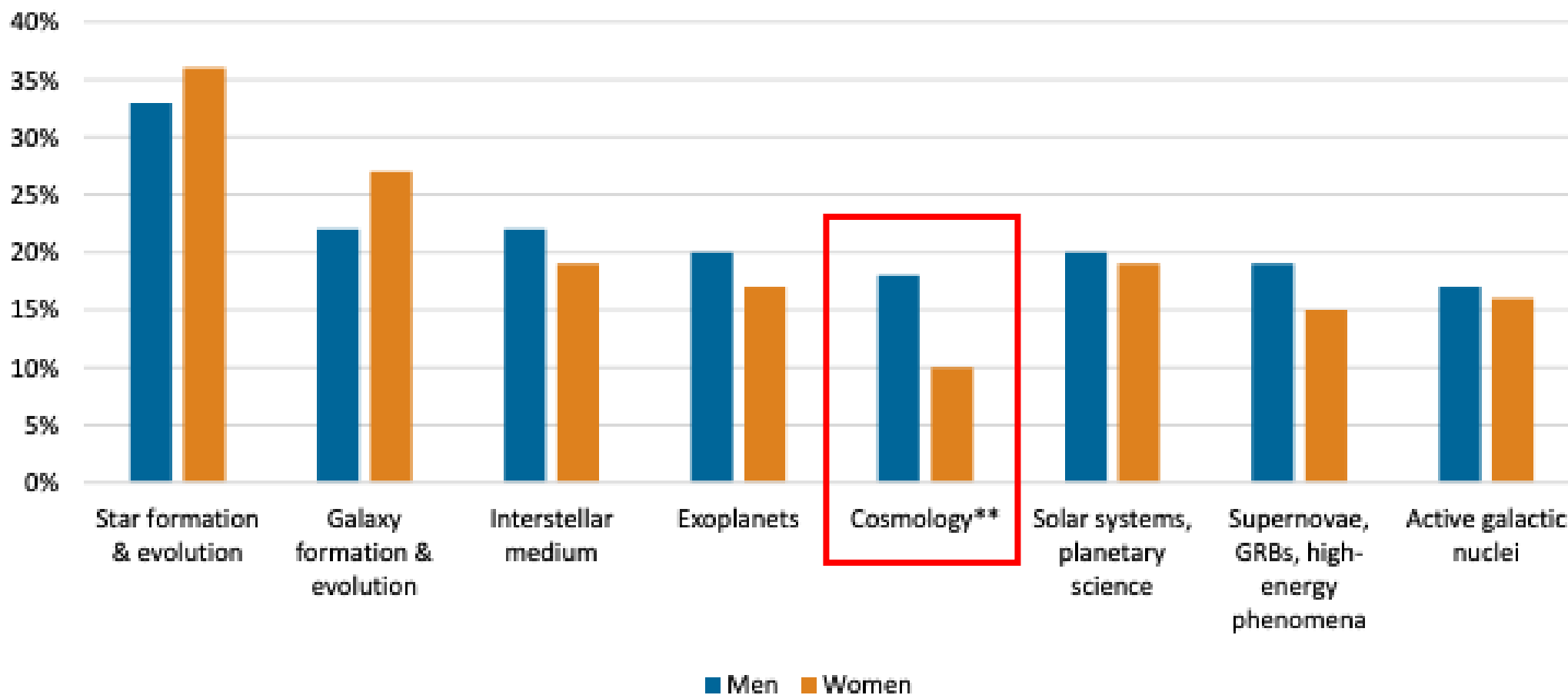
AAS cont.

Gender of US AAS Members by Age Group, 2021



AAS cont.

Primary Areas of Interest of US AAS Members with PhDs by Gender, 2021



Other comments

- Finding similar paper regarding race/ethnicity proved difficult
 - Some papers by a sole author, largely anecdotal
- Requested breakdown of Highest Degree Earned by ethnicity and gender simultaneously

Beyond the statistics:

- “Several of the works we have described include statements to the effect of: ‘While we recognize that gender is not binary, we do not include nonbinary people in our analysis due to lack of statistical significance.’¹⁰ Statistical significance is here the determining factor in who gets to be accounted for—who *counts*. In this way, reducing the work of inclusion to that which is quantifiable and measurable produces simplistic results that fail to describe the deep nuance and complexity of gender and the experiences of people navigating it within astronomy. Additionally, such complexities cannot be properly understood without also considering race, dis/ability, and other axes of marginalization.” –Rasmussen et. al. 2019

Sources

- Paper:
 - <https://arxiv.org/pdf/2311.15364.pdf>
- IAU plots:
 - https://www.iau.org/static/science/scientific_bodies/working_groups/122/IAU-WinA-Ensemble-issue1-Dec2021.pdf
- AAS Demographics:
 - https://aas.org/sites/default/files/2022-11/2021_AAS-Members-Workforce-Survey.pdf
- Final quote:
 - <https://arxiv.org/pdf/1907.04893.pdf>