

WOMEN IN PHYSICS

A HURDLE RACE IN A MASCULINE FIELD

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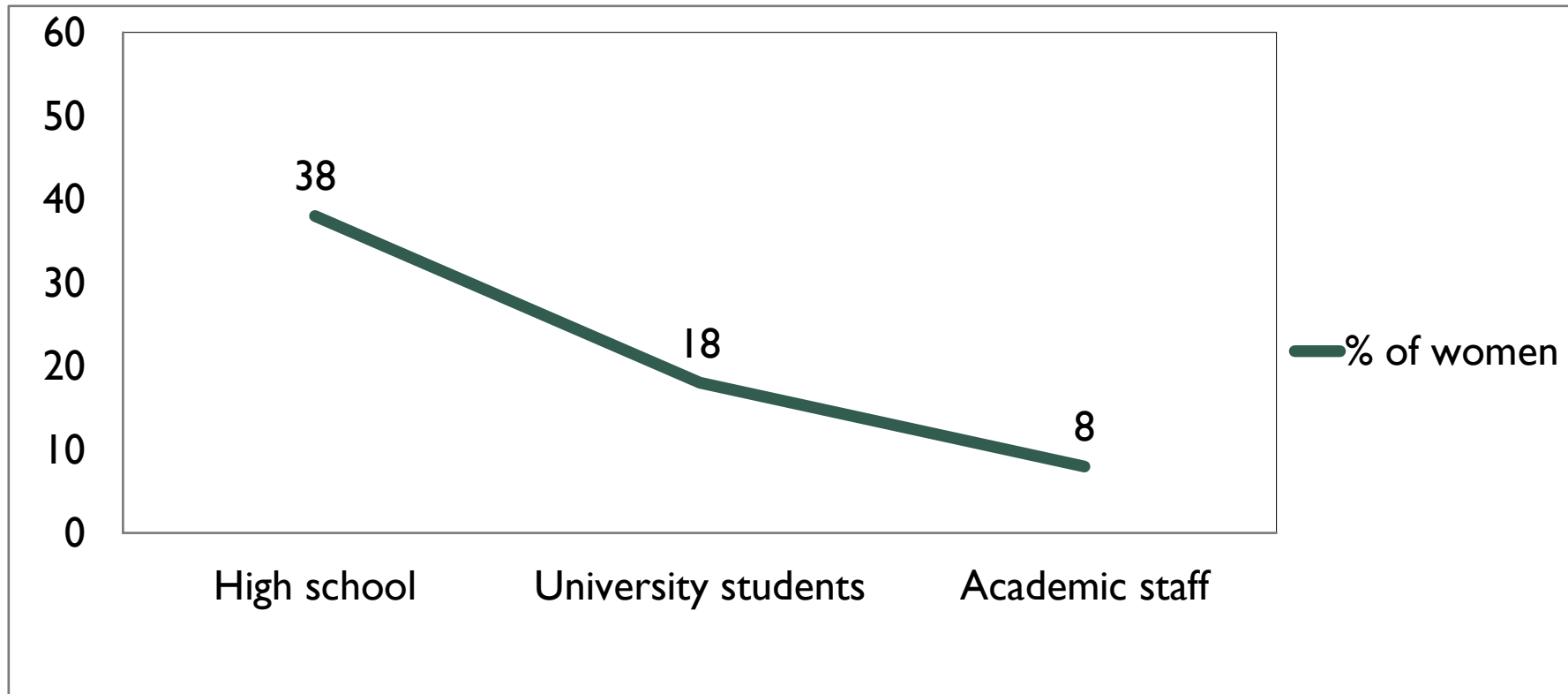
Fysikdagarna
Lund University Sweden
June 2022



THE ADDED VALUE OF PHYSICIST- SOCIOLOGIST COLLABORATION



WOMEN PHYSICS TRACK IN ISRAEL







OUR RESEARCH

The screenshot displays the 'Gender in Physics' research page on the Weizmann Institute of Science website. The page features a blue header with the title 'Gender in Physics' and a navigation menu on the left. The main content area lists several research articles with accompanying images and titles.

Navigation Menu:

- Home
- Our Research**
- Conference Presentations
- Our Workshop
- Collaborations
- Useful Links
- Multimedia
- From The Press
- COVID-19
- Contact Us

Main Content:

- Our Research**
- 
[Choosing physics within a gendered power structure: The academic career in physics as a "deal"](#)
Photo: Prof. Ron Blonder
- 
[Is mentorship in academia gender biased? Gender differences in the support of the advisor of doctoral students in physics.](#)
(in Hebrew)
- 
[Women in physics in Israel: An overview](#)
- 
[PhD in physics as a hurdle race and the transparent hurdles for women](#) (in Hebrew)

https://www.weizmann.ac.il/sites/gender_in_physics/research

METHODOLOGY

Mixed methods

Quantitative methods – Nationwide survey

- PhD students: $N_{total} = 404$, $n_{respondents} = 267$ (response rate 66%)
- Of these: $N_{female} = 64$, $n_{female} = 60$ (response rate 94%)

Qualitative methods - Interviews

- PhD students: 25 female, age 26-36, married (21), mothers (12).
- Postdocs: 13 female, age 30-46, almost all in relationship, only 2 without children.
- Academic staff (PI's): 7 female
- Face to face in depth interviews, recorded (1-2.5 hours).
- Analysis :Atlas.it software, grounded theory.

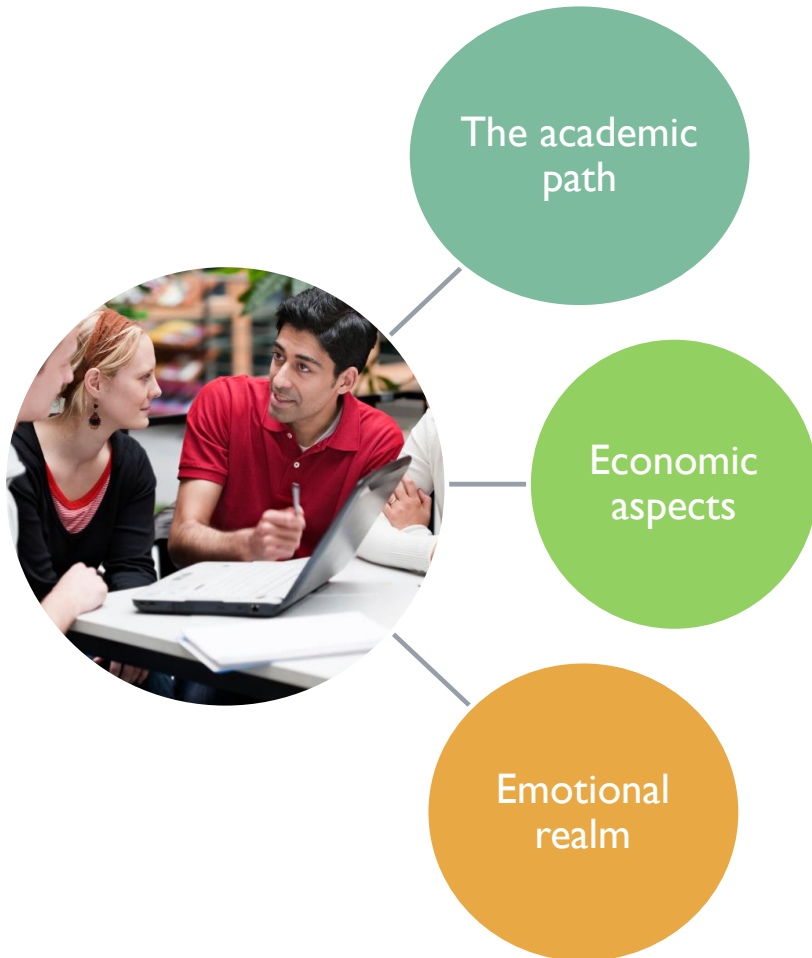
GOALS AND METHODOLOGY

Goal: to examine the physics PhD studies in Israel and explore the difficulties and challenges students face along their studies, by gender.

Methodology:

- Population: all physics students in Israel, total $N = 404$ ($N=64$ W, $N=340$ M).
- Sample : $n = 267$ students, 66% of the population, $n=60$ W, $n=207$ M.
- Sample errors: total population: $\pm 3.6\%$. Women: $\pm 3.2\%$. Men: $\pm 4.3\%$.
- Data collection: self administrated survey, sent by email, 105 questions (Dec. 2018 - Feb. 2019).
- Data were weighted by gender, the total figure presented is weighted.

DIFFICULTIES ALONG THE PHD TRACK

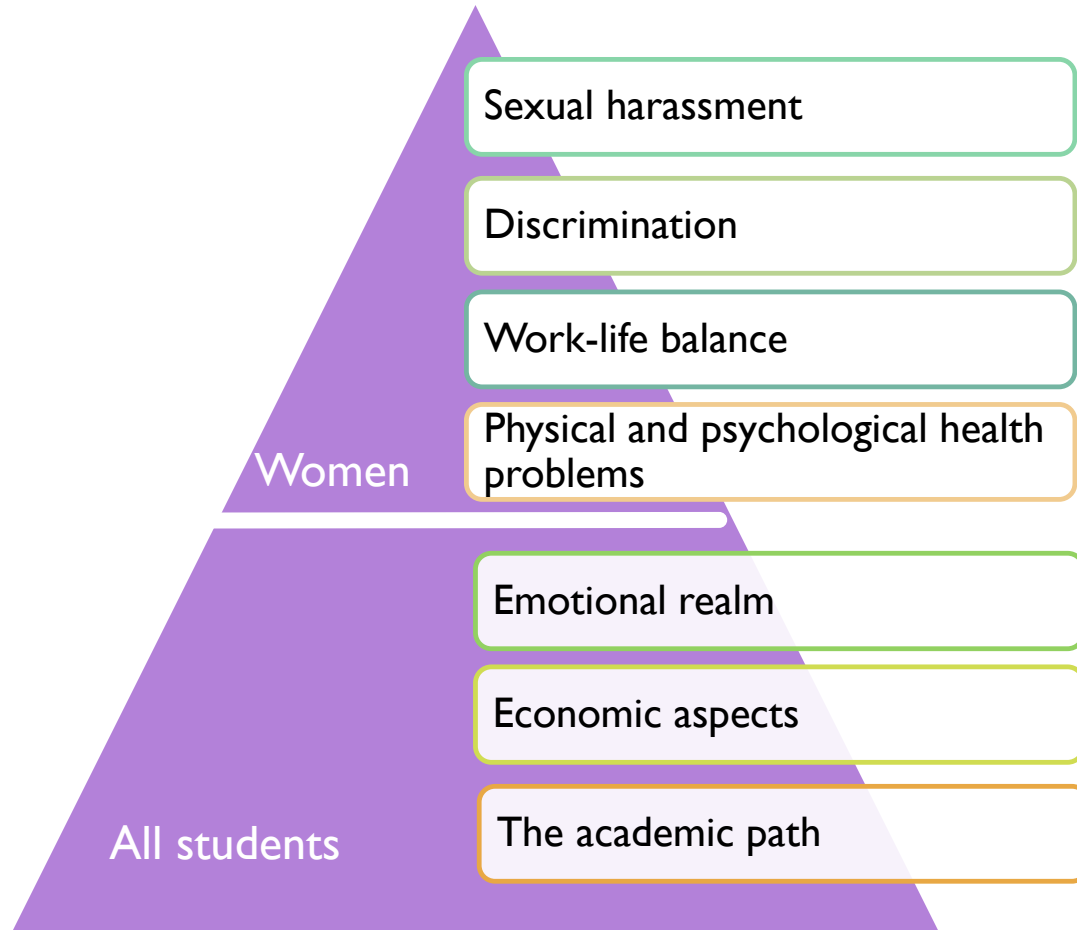


- Difficult and frustrating path of study
- Competitive learning environment
- Overdependence on the advisor

- Unsatisfactory scholarship
- Difficult to finance family and children needs
- Unclear occupational future

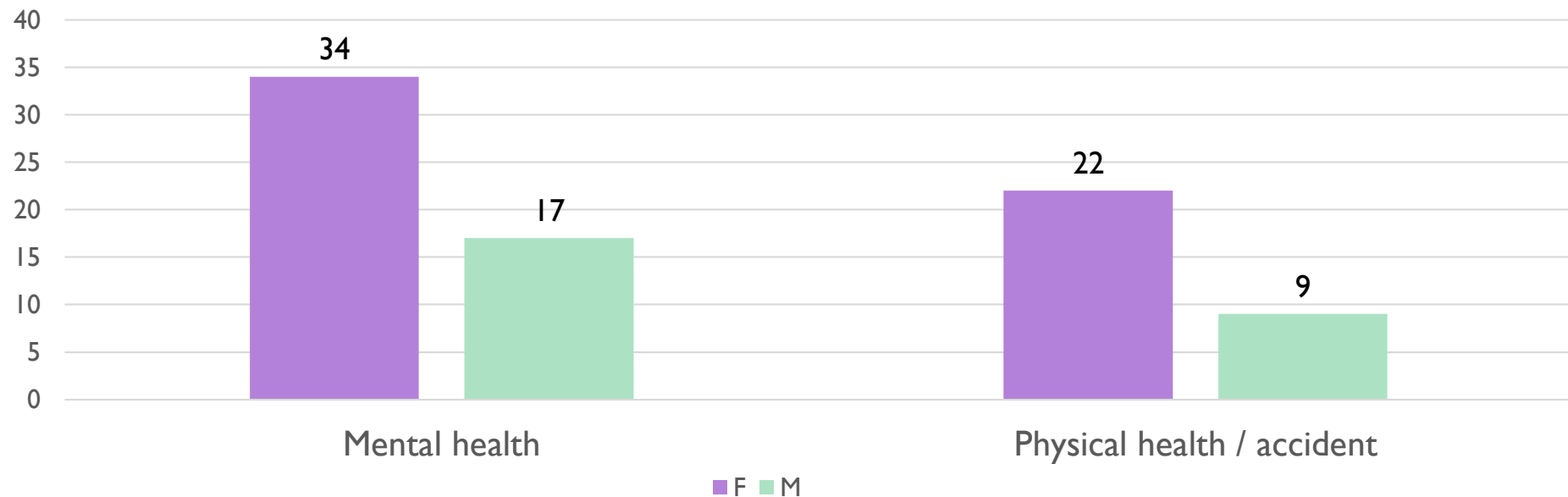
- Stress, anxiety and depression
- Loneliness and persistent uncertainty

WOMEN FACE EXTRA HURDLES



PHYSICAL AND PSYCHOLOGICAL HEALTH PROBLEMS

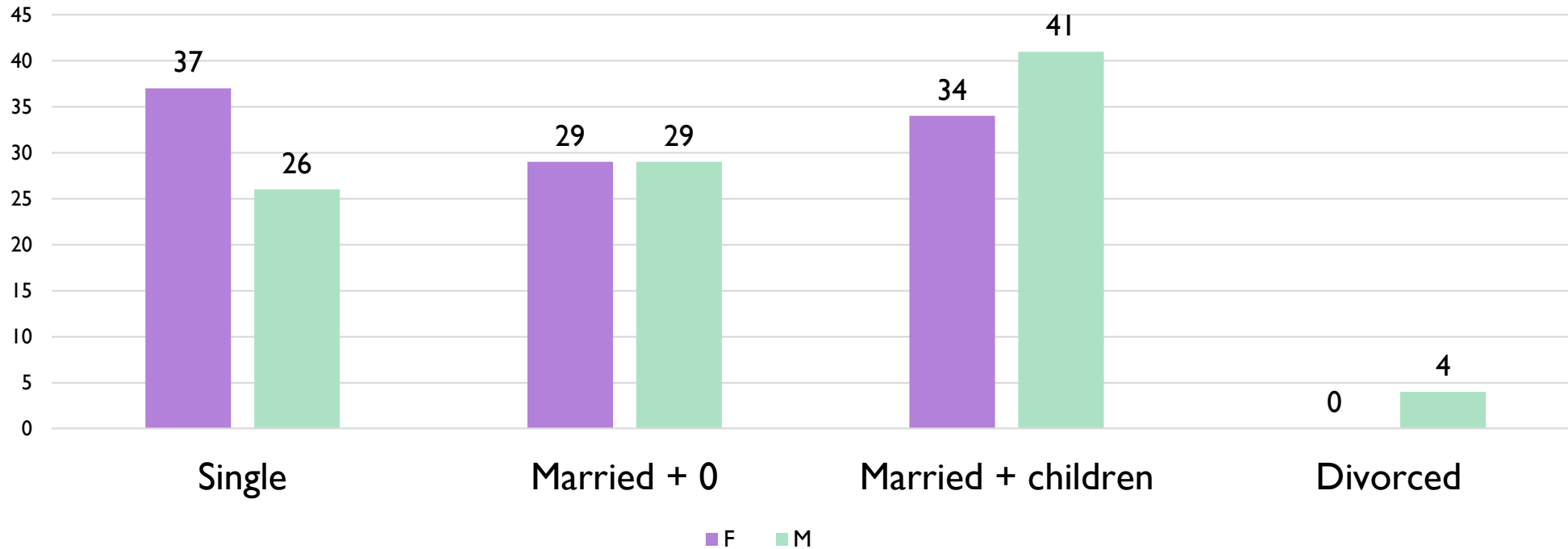
What were the main reasons that prevented you from providing what was expected from you during your PhD studies? (% , multiple response, by gender, n=152)



Women report more mental and physical health issues as an obstacle during their studies

FAMILY STATUS

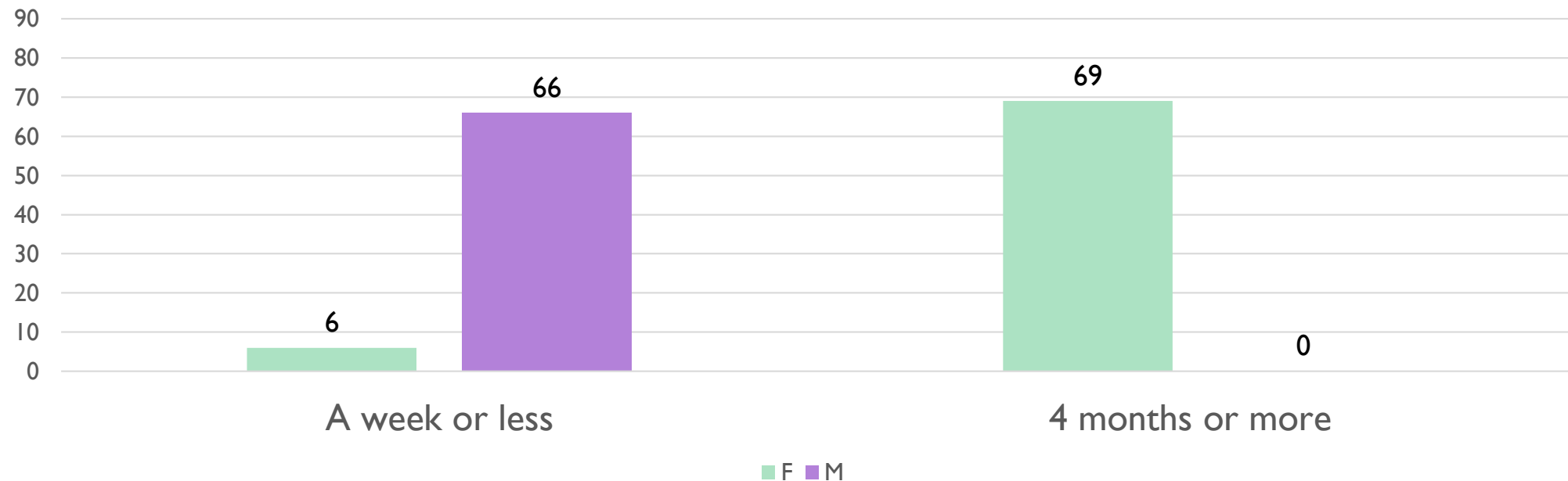
PhD students: marital status by gender (%)



Israel is a familial society: most PhD students are married, 40% have children

MATERNITY LEAVE

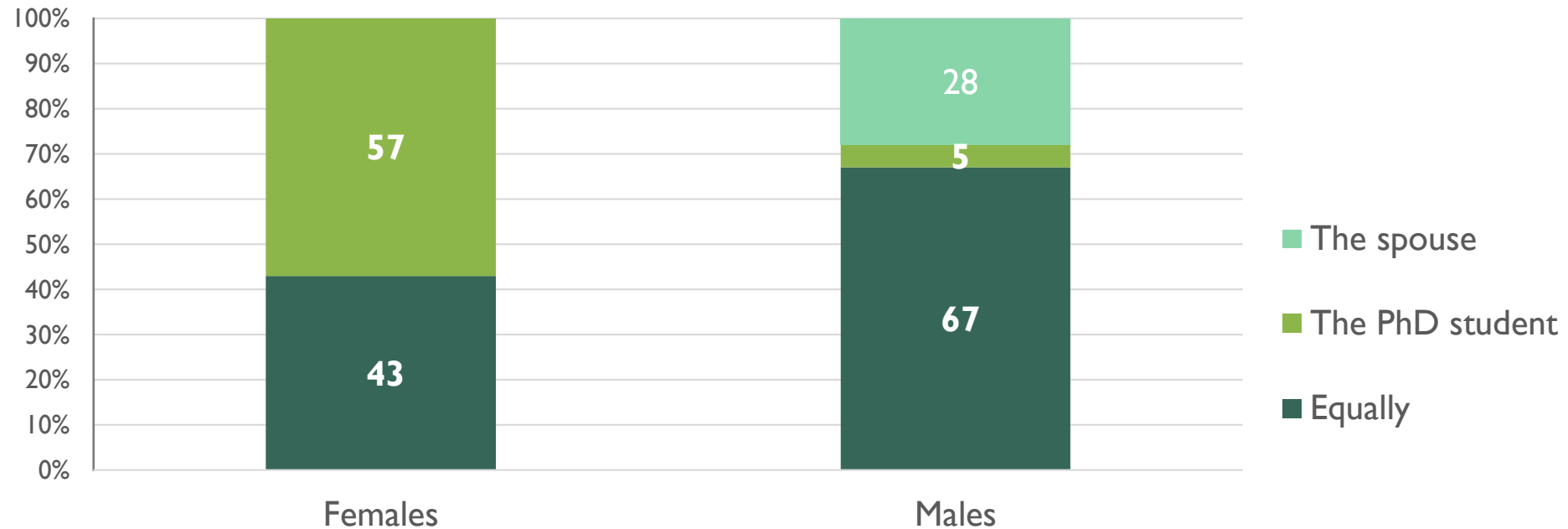
What is the duration of the maternity leave you took after the birth of your last child?
(%, by gender, n=114, 93 M and 21 F)



Most women (69%) took 4 months or more
Most men (66%) took 1 week or less

WORK LIFE BALANCE

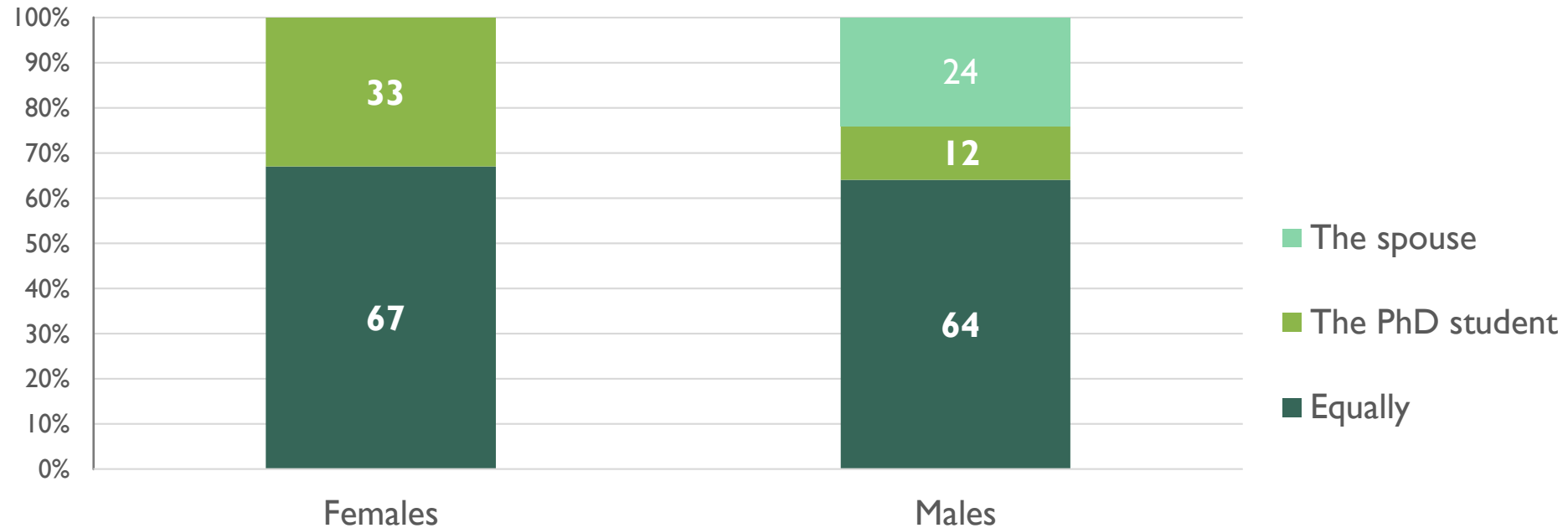
Who is responsible for doing most child care work?
(%, by gender, n=115)



None of the female students has her spouse as the primary child care giver!

WORK LIFE BALANCE

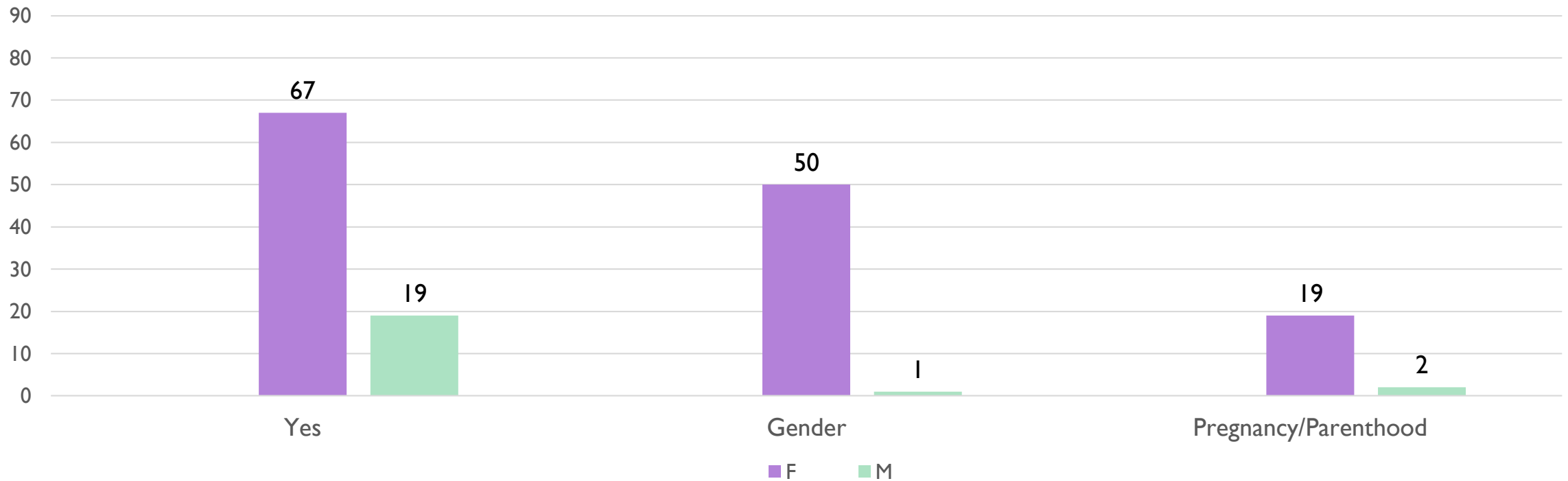
Who is responsible for doing most household chores?
(%, by gender, n=115)



None of the female students has her spouse as the primary responsible for household chores!

DISCRIMINATION

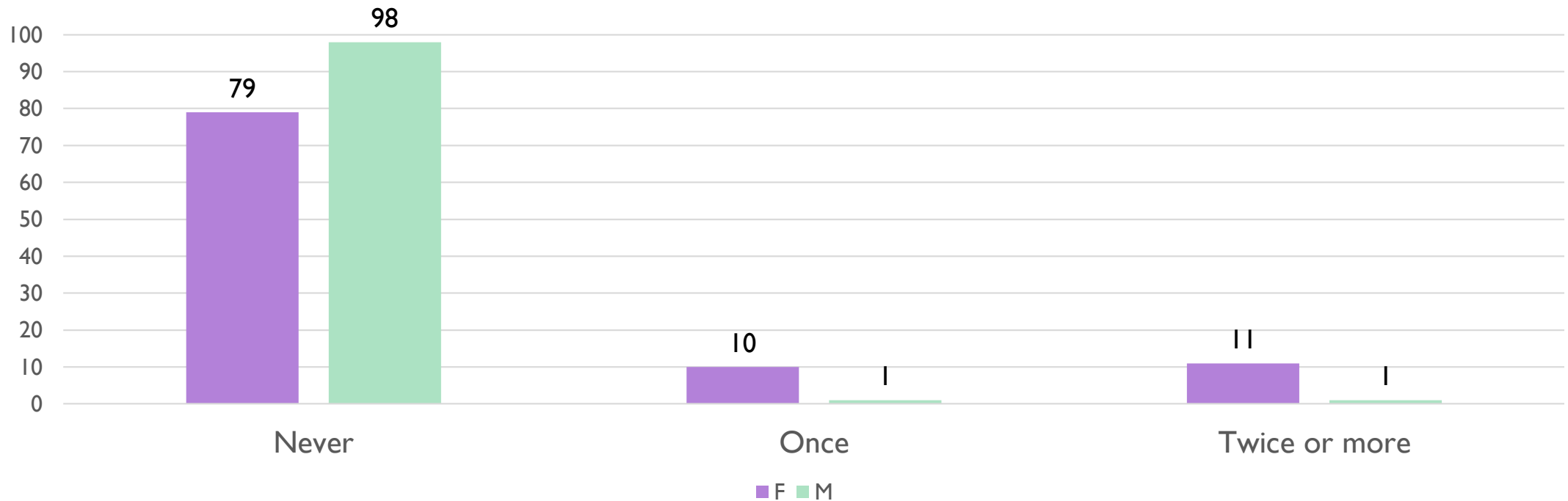
Have you ever felt discriminated against? (% response positively, by gender)



Two thirds of women have felt discriminated compared to only one fifth of men

SEXUAL HARASSMENT

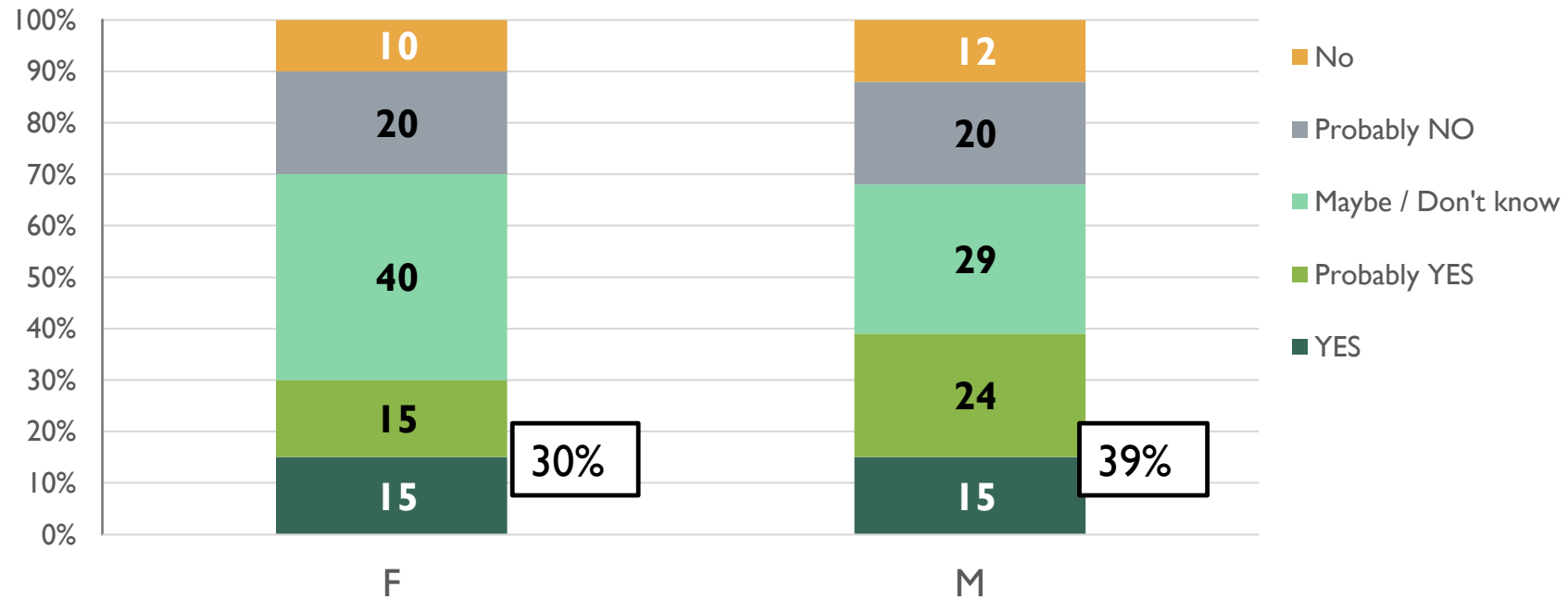
Did you experience sexual harassment during your academic studies?
(%, response positively, by gender)



21% of female and 2% of male students have been sexually harassed during their studies

ACADEMIC PLANS

Are you planning to go on for postdoctoral studies abroad?
(%, by gender)



Women are less confident about their academic future
Perhaps the extra hurdles play a role

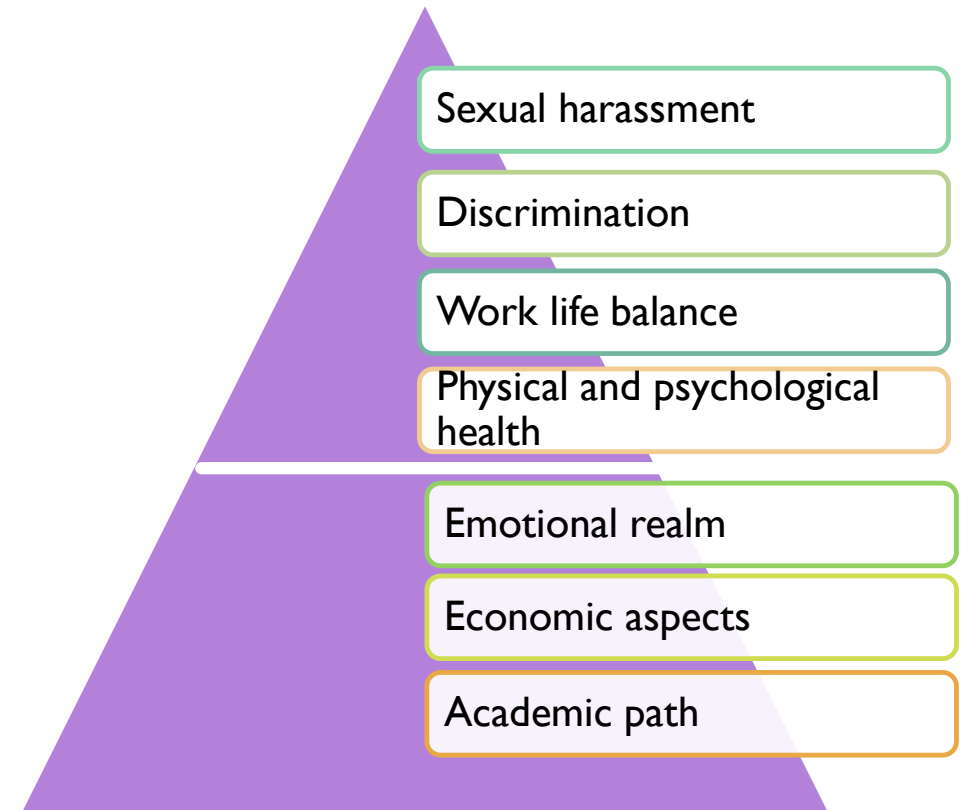
CONCLUSIONS

- The PhD path is long, difficult and frustrating. It involves academic, economic and emotional hurdles that all students face.
- Female students face extra hurdles:
 - Physical and psychological difficulties
 - Work life balance
 - Gender discrimination & sexual harassment.
- Those hurdles are hidden for the academic institutions which believe in meritocracy, and consequently fail to create gender equality in the research environment.



RECOMMENDATIONS

- Create diverse and inclusive study environment (inclusive teaching practices).
- Embrace sexual harassment prevention strategy.
- Examine the institution policy towards parents to address the challenges they face combining research and family duties (grants, maternity leave)
- Provide psychological support for students



GENERA NETWORK

GENERA Network originated from the EU-funded GENERA project and its vision is to support, coordinate and improve gender equality policies in physics research organizations in Europe and beyond.

