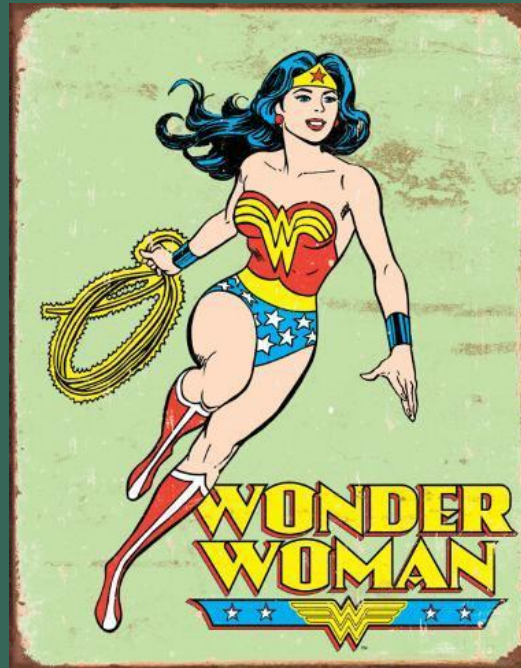


# The Academic Career Choice in Physics as a “Deal”

## Women in the Chains of Motherhood Expectations and the Gendered Labor Market

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SRITP WORKSHOP 29 OCTOBER 2019, WEIZMANN INSTITUTE OF SCIENCE, ISRAEL





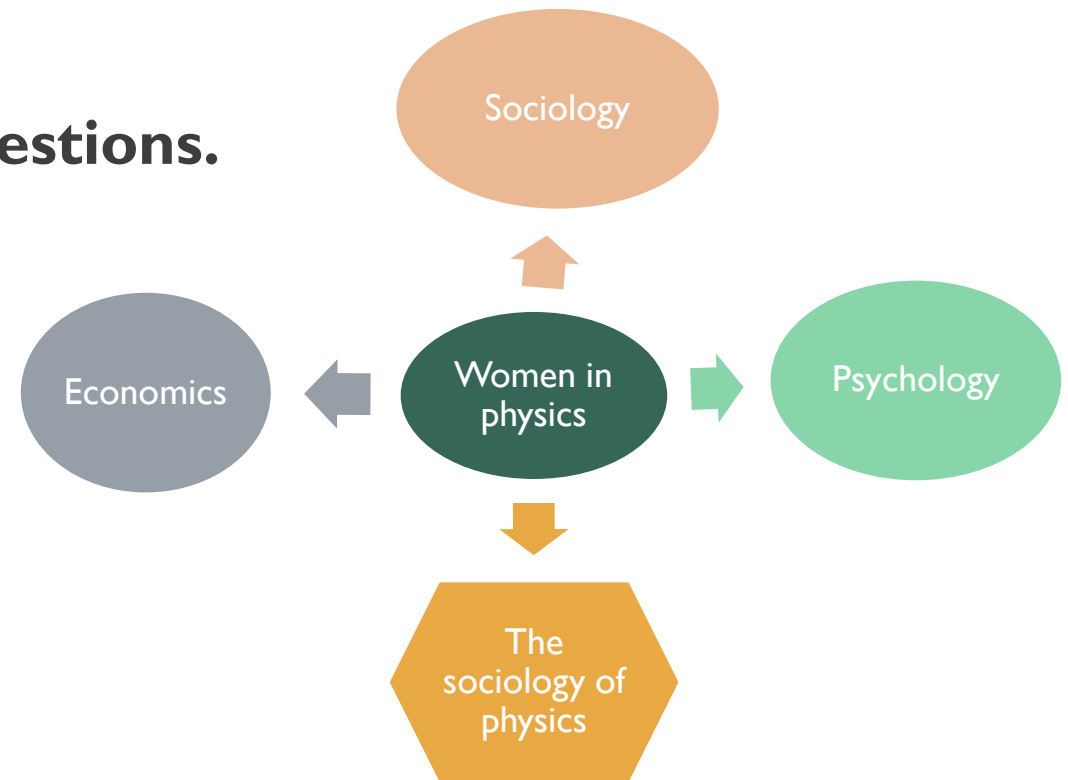
# WOMEN IN PHYSICS WHY SO FEW?

## THE THEORETICAL FRAMEWORK

We believe you need an inter disciplinary approach to answer complex research questions.

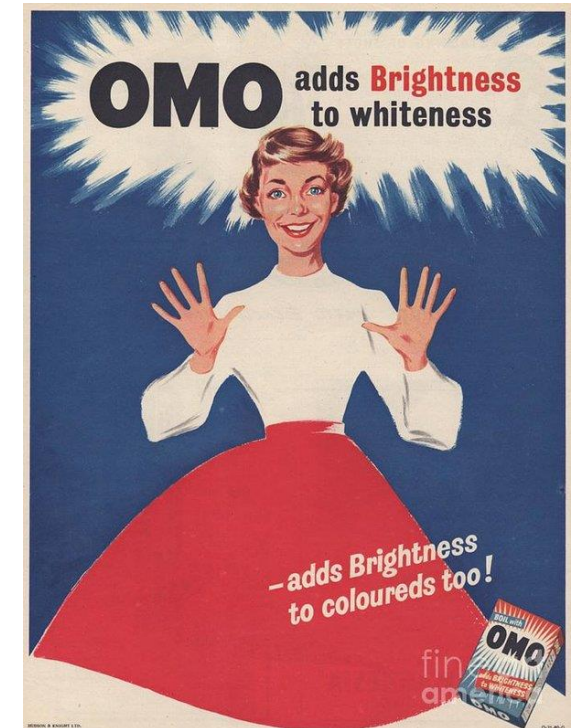
Studying the intersection between:

- The individual level
- The organizational level
- The labor market level



# RESEARCH QUESTIONS

1. What are the pros and cons of an academic career in the eyes of graduate students (PhD and postdoc)?
2. What is the most significant decision junction for choosing an academic career?
3. What are the women key considerations for and against going on a postdoc and choosing an academic career, and what gender has to do with it?



# METHODOLOGY

## Mixed methods

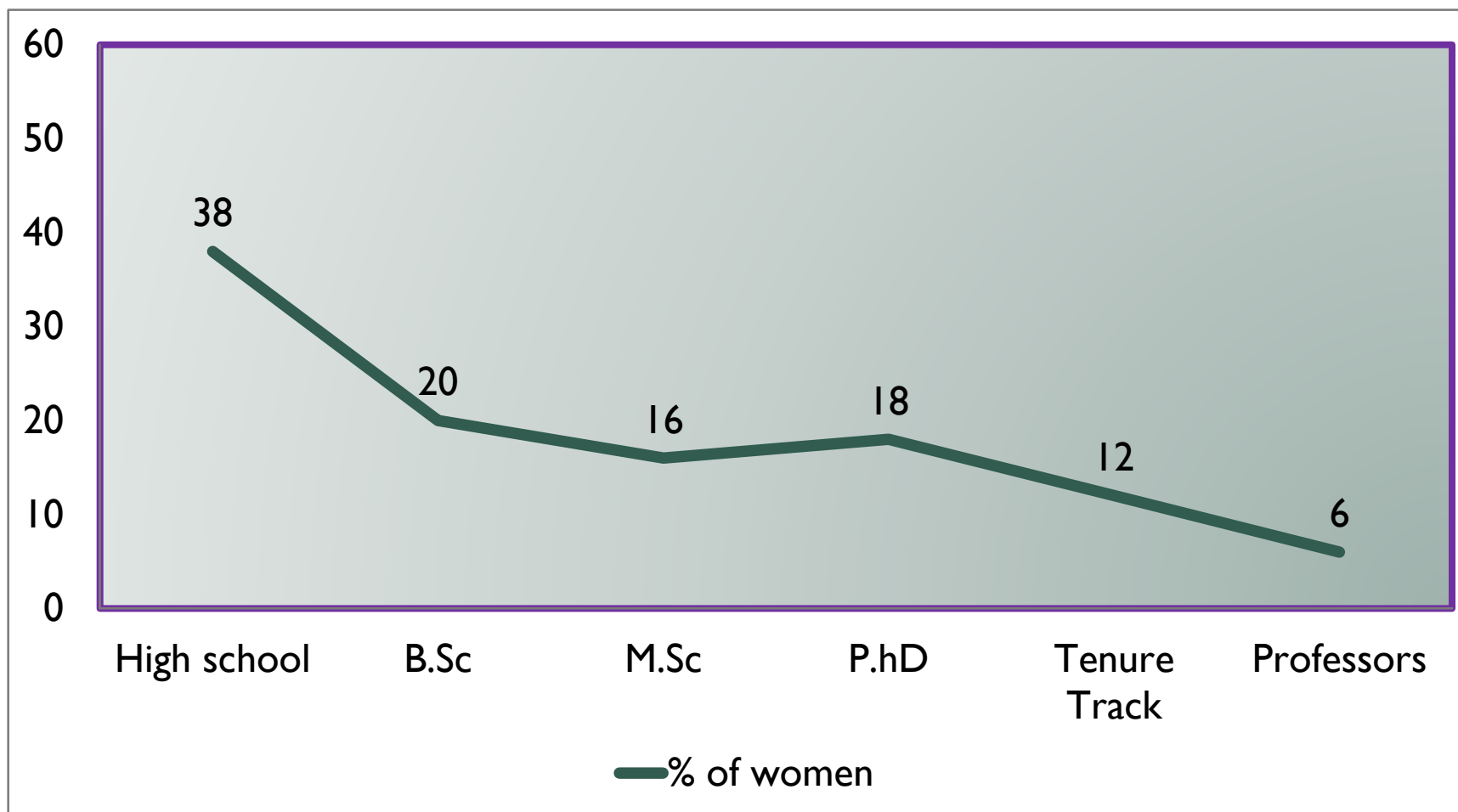
### PhD and Post Doc interviews:

- Population: n=25 female PhD students, age 26-36, married (21), mothers (12).
- Post Docs: n=13 female postdocs, age 30-46, almost all in relationship, only 2 without children.
- Face to face in depth interviews, recorded (1-2.5 hours).
- Analysis :Atlas.it software, qualitative research methods.

### PhD students survey:

- Population: all physics students in Israel, n= 267, 66% of the population, n=60 W, n=207 M.
- Self administered survey, 105 questions (Dec. 2018 - Feb. 2019).
- Sample errors: total population:  $\pm 3.6\%$ . W:  $\pm 3.2\%$ . M:  $\pm 4.3\%$ .

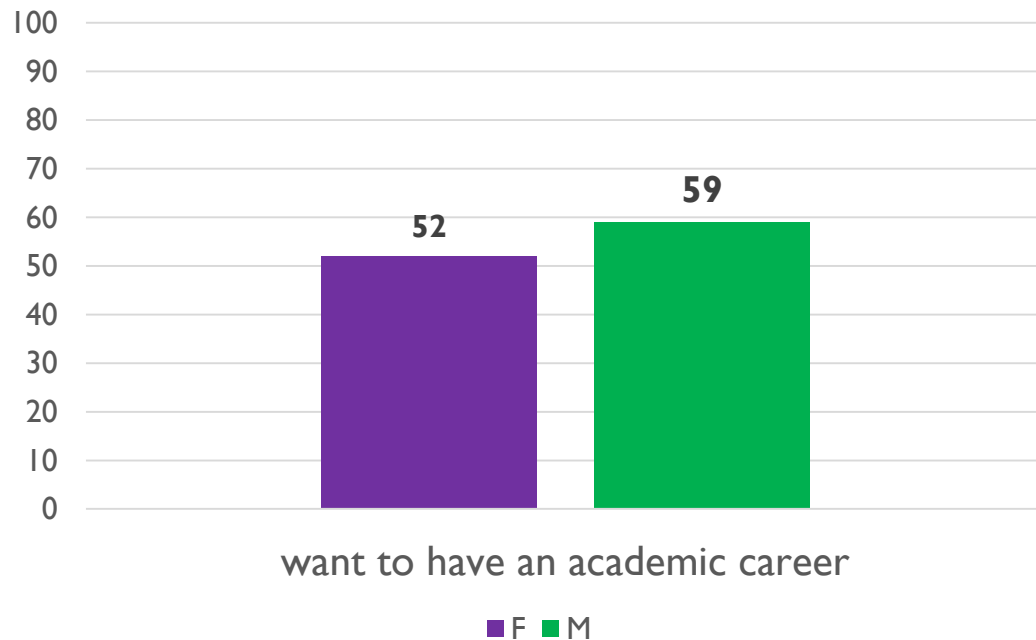
# WOMEN IN PHYSICS IN ISRAEL



# I.WHY PERUSING AN ACADEMIC CAREER?

## PROS AND CONS OF AN ACADEMIC CAREER

When you think of your future career  
what profession would you like to engage  
in?



**Love** physics, deep  
intellectual interest

**Freedom** to do  
science

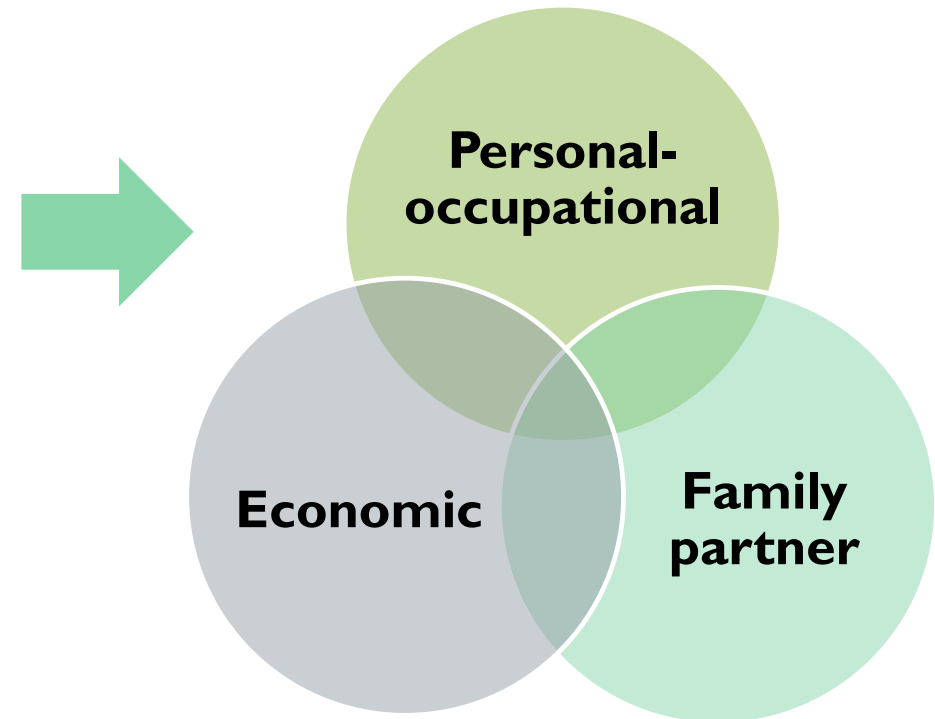
**Occupational  
stability** and prestige



## 2. THE POSTDOC JUNCTION

**The most significant junction on the path to an academic career in physics is the choice to go for a postdoc abroad.**

- At the crossroads to the post, the academic career is considered as a "deal" that has three components:
- The common perception: a costly deal with low success rates.
- It is a dramatic career step.



### 3. THE POSTDOC JUNCTION – THE GENDERED “DEAL”

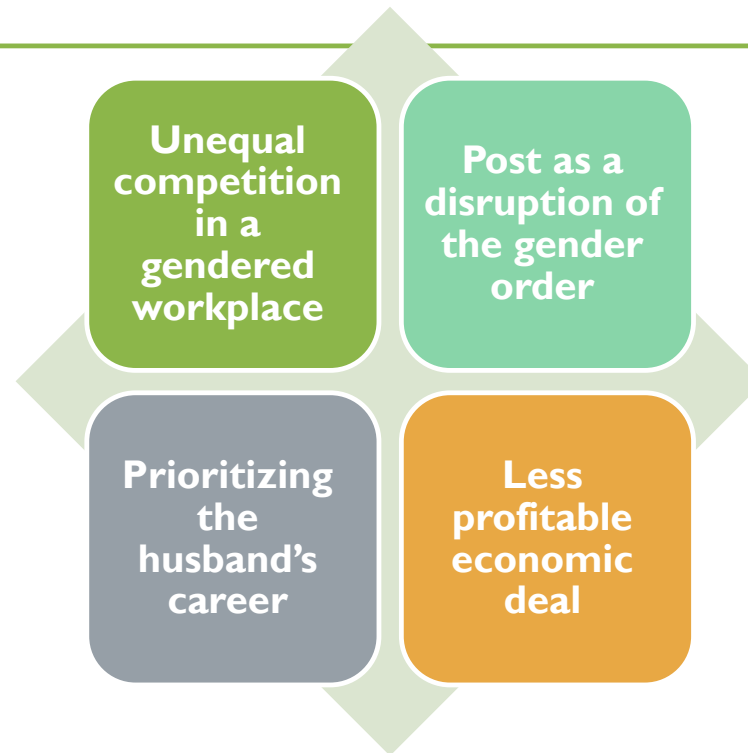
Women decisions are shaped within **a gendered structure** in a reality that **reduces** their **freedom of choice** and raises the perceived **economic price** – of pursuing a post doctoral training abroad.

The organizational level

The socio-cultural level

The individual level

The labor market level



# UNEQUAL COMPETITION IN A GENDERED WORKPLACE

- Israel as a familial society: 66% female and 55% male PhD students are married.
- The “**family work**” places **double burden** on female students while male students are exempt from being the significant parent.



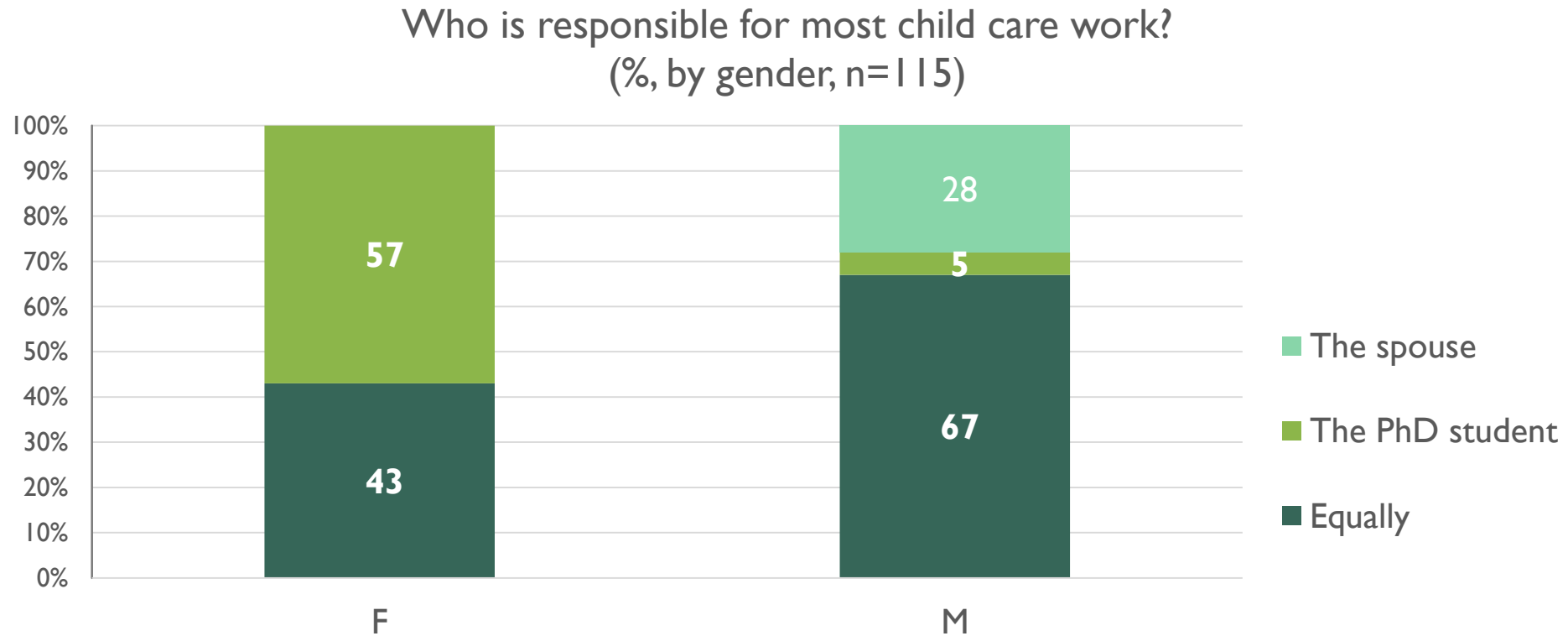
# UNEQUAL COMPETITION IN A GENDERED WORKPLACE

"I feel the difference in sex mainly from **having far fewer hours to work than my friends from the lab** and it becomes a **tough gap .. your competition is against** them,.. and the comparison is always between you and a **man** who does not have **this "problem."**" (child care)

(T. married+ I + pregnant).



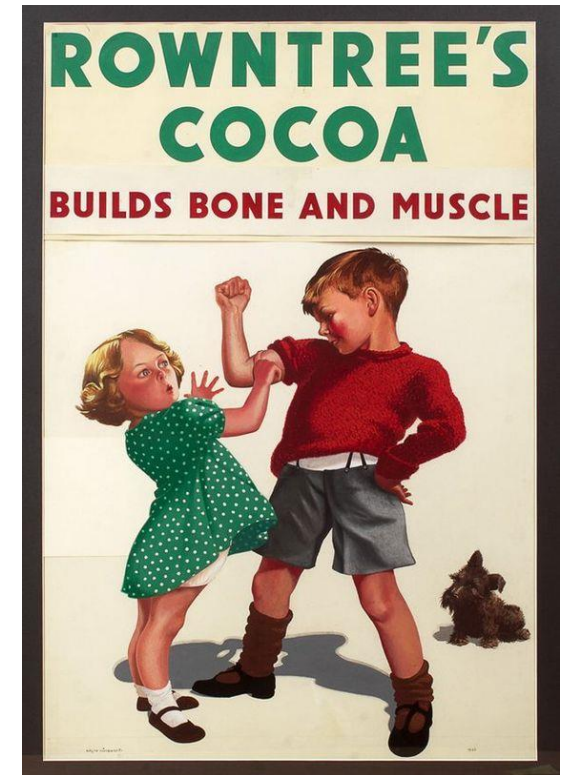
# PHD SURVEY: WHO IS RESPONSIBLE FOR CHILD CARE?



The division of gender roles is manifest:  
57% of female, but only 5% of male students are the primary child care giver

## UNEQUAL COMPETITION IN A GENDERED WORKPLACE

- In the competition against their male colleagues, being a mother is a disadvantage. **Motherhood moves women away from the “ideal worker” model** and labels them as less career committed.



# POSTDOC AS A DISRUPTION OF THE GENDER ORDER

- The academic career path is highly demanding and competitive.
- Although coming from a **high socio-economic background**, the social and family environment perceives postdoc abroad as a **non-normative path for women**.
- The women doubt themselves: Am I worthy? Do I have the skills to succeed?

**If your husband ever finds out**  
*you're not "store-testing" for fresher coffee...*

...if he discovers you're still taking chances on getting flat, stale coffee ... wee be unto you!

For today there's a sure and certain way to test for freshness before you buy



**Here's how easy it is to be sure of fresher coffee**



Look for the "Done Top" Can of Chase & Sanborn. That firm, rounded top shows it's packed under pressure, fresh from the oven.

**Just do this:**  
Press your thumb against the dome top before you buy. If it's firm, it's fresh. If the top clicks, pressure's gone—take another. It's the one way to get the freshest coffee ever packed.

**No other can lets you test!**  
You can't test an ordinary flat top can. Some are "leakers" that have let air in to steal freshness. But all flat top cans look alike. You can't tell which are good and which are stale.

**Here's the payoff!**  
Sure as you pour a cup, they'll want more! For Chase & Sanborn is a glorious blend of more expensive coffees ... brought to you fresher. No wonder Chase & Sanborn pays a flavor dividend you won't find in any other coffee!



**"PRESSURE PACKED"**  
**Chase & Sanborn**

# POSTDOC AS A DISRUPTION OF THE GENDER ORDER

“Even if the husband supports, **the extended family wrists the nose and puts pressure on me** (not to go on a postdoc abroad). If a post-doc could be done in Israel, it would have been much easier for women.”  
(T, M, no children).



# POSTDOC AS A DISRUPTION OF THE GENDER ORDER

## The justification regime: excellence

You have to be an excellent student, with high probability of success, to justify the choice of a non-normative career trajectory.

“Women are also **affected by their partners**, not that men are not, but when a man thinks of going to a postdoc the woman is usually enthusiastic to follow him ... It's an adventure! Women (on the other hand) are more **looking at the partner**, and if he says **no**, then you need a really good reason (to go on a post), for example, when your thesis is brilliant and the advisor wants you to go... really pushes you to do so, then people would say: it's worth it, then, maybe then.. ”

(C, M + pregnant, leaving for industry).

## PRIORITIZING THE HUSBAND'S CAREER

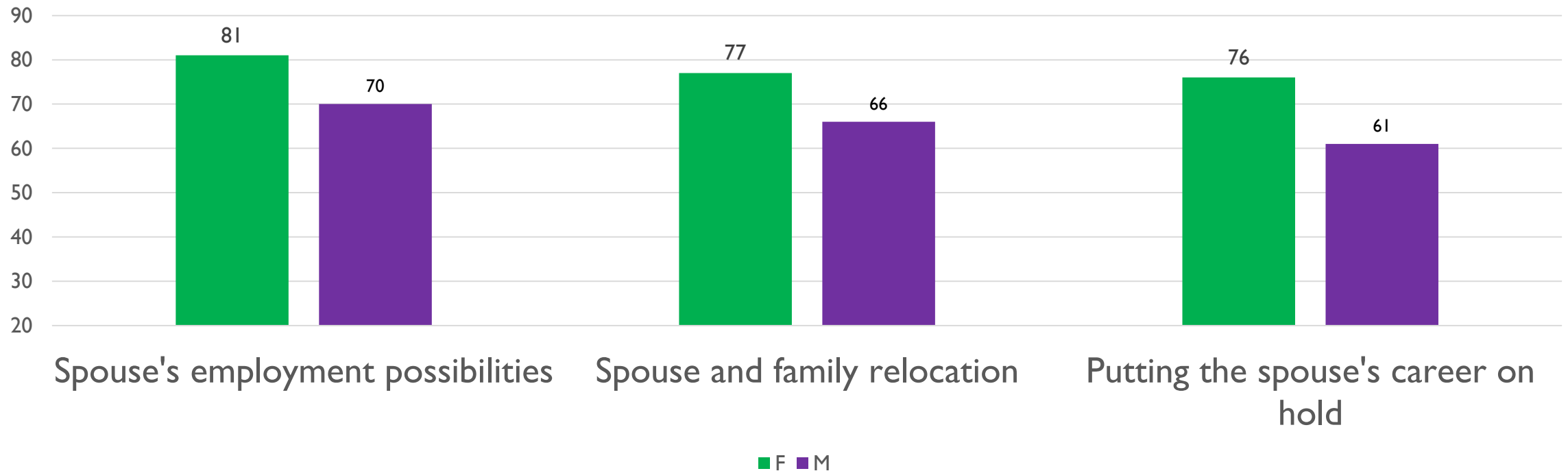
- Internalizing the rules of the gendered labor market creates a reality in which **women give priority and preference** to their husband's career.
- The career sacrifices of the spouse **play a more prominent role** in women-postdocs considerations.



# PHD STUDENT SURVEY

## FAMILY & ECONOMIC CONSIDERATIONS FOR POSTDOC ABROAD

If you are considering going abroad for a postdoc, how central is this consideration in your decision? (% central consideration, by gender)



Women give greater weight to the considerations of their spouse's career

## PRIORITIZING THE HUSBAND'S CAREER

“After giving birth there is a **shuffle of emotions and insights about life**. As much as I was a career woman, **I want to be a mom** too .. so if you are not a career women anymore, and your career is not considered anymore as the leading,.. it's **easier to cross the other way and say I follow the husband**, the husband is the leader. ”

(M, M + 2)



- Prioritizing the husband's career is constraining women options and push women out of the race towards an academic career in physics.

# The Academic Career Choice in Physics as a “Deal”

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- The women stories reveal the multiple and hidden ways in which gender operates as a **power structure, within the family, within physics as a male-dominated field and within the labor market.** This power structure shapes women's choices and decisions.
- **Gender imbalance in physics is a 7-headed dragon:** children education, social norms and expectations, the division of roles inside families, the “ideal worker” expectations and the work place culture.
- **Improving gender balance in physics requires an interdisciplinary approach.**

Hello, 1950s? You left your oppressive gender roles in our century. Can you come pick them up?





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