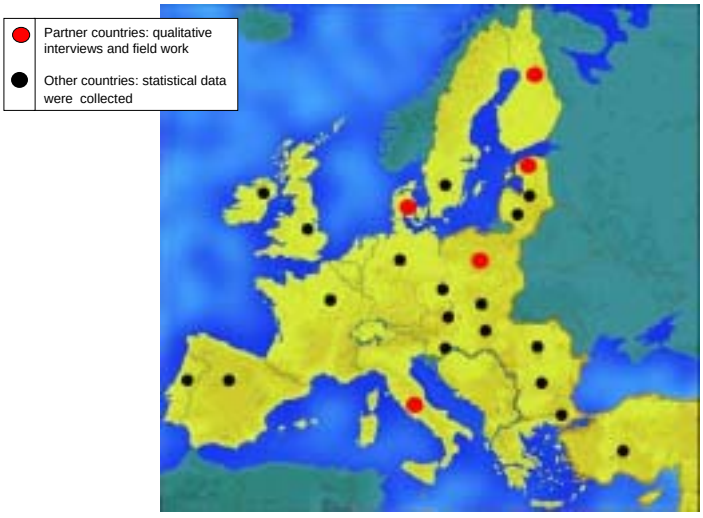
UPGEM Understanding Puzzles in the Gendered European Map

Project Co-ordinator:
Professor Cathrine Hasse, DPU, University of Århus

Stine Trentemøller, MA, UPGEM-researcher
DPU University of Århus
stinet@dpu.dk

UPGEM Understanding Puzzles in the Gendered European Map

The UPGEM Countries



UPGEM Understanding Puzzles in the Gendered European Map

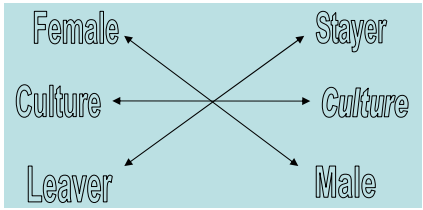
Main Project Objectives

- Identify tacit mechanisms that create 'leavers' – especially female leavers.
- Study universities as workplace cultures.
- Identify differences and similarities in and across the local (national) workplace cultures.

UPGEM Understanding Puzzles in the Gendered European Map

Model of Culture Contrast Analysis

By contrasting a priori categories we add new layers of meaning to the categories.



UPGEM Understanding Puzzles in the Gendered European Map

Stayers & Leavers

All informants have, as a minimum, embarked on or obtained a Ph.D. degree.

Stayers were employed as scientists at a university at the time of the UPGEM study

Leavers had either left university in favor of research in the private sector or had left physics research all together.

A novelty to get an outside-perspective from the leavers, but methodological challenges in identifying and reaching leavers.

UPGEM Understanding Puzzles in the Gendered European Map

Women in physics
– cultural difference in numbers and interest

UPGEM Understanding Puzzles in the Gendered European Map

Cultural Diversity

The more industrialised the countries the bigger difference between boys' and girls' interests in science (Sjøberg, 2005)

And,

the representation of female scientists is higher in Italy, Portugal, Spain and many Eastern European countries than in the North Western part of Europe.

UPGEM Understanding Puzzles in the Gendered European Map

UPGEM Headcount

The Proportion of women at different levels of research positions in the UPGEM countries

	Ph.D. student		Post Doctoral		Assistant Professor		Associate Professor		Professor	
Country	Total	Women %	Total	Women %	Total	Women %	Total	Women %	Total	Women %
Denmark	199	**24**	100	**17**	36	**11**	135	**10**	79	**3**
Finland	325	**23**	102	**21**	48	**8**	51	**12**	82	**9**
Estonia	84	**27**	4	**0**	72	**22**	95	**11**	30	**10**
Poland	355	**37**	22	**18**	281	**24**	183	**14**	175	**13**
Italy	89	**40**	35	**34**	219	**26**	177	**33**	180	**23**

(Data analyzed and presented by Svinth in Hasse et al., 2008: 41)

UPGEM Understanding Puzzles in the Gendered European Map

Physics as a Gender & Culture Neutral Activity

UPGEM physicists define natural science as a gender neutral and culture neutral environment.

Qualitative studies of the physics activity reveal physics as a case of workplace culture, which is not unaffected by national cultural historical learning processes.

Three ideal types of scientific cultures identified in European culture:
Hercules, Caretakers and Worker Bees

UPGEM Understanding Puzzles in the Gendered European Map

Physics as Culture

	HERCULES CULTURE	CARETAKER CULTURE	WORKER BEE CULTURE
Work relation	Devotion to physics. No intersection of family with work.	A healthy work life balance is prioritized.	Research is 9 - 5. Clear division between private life and work life.
Workplace identity	Very individualistic. Praise initiatives, creativity. Not room for weakness	Group oriented with focus on social ties. Team can help the weak but maybe limit the creative.	Work alone and keep to oneself. Focus on the given task + work regulations and conditions.
Competition	One-on-one open and hidden competition is encouraged. All means are employed. Strategic thinking is necessary	In-group competition is unacceptable – only group vs. group. The group defines the means of competition.	Uninterested & somewhat scared of competing – requires extra effort. Competition only at top-level.
Power structure	Anti-authoritarian tendencies, challenge those with power through hidden power games.	Seemingly flat structure but team leader is powerful; use power to promote team. Young must earn team membership.	Clear and formal hierarchy. Distant but strong leader; one-man institutes.
Gender	Being woman (+ mother) is often used negatively in competition; gender overshadow competency. Sexual harassment most pronounced here.	Group loyalty comes before gender (and competency). Few cases of gender discrimination and/or sexual harassment.	Absence of competition makes gender unimportant.

UPGEM Understanding Puzzles in the Gendered European Map

Physics in Culture

Primary relation between scientific culture and national culture:

Hercules culture is most pronounced in **Denmark**.
Caretaker culture is most pronounced in **Italy**.
Worker Bee culture is pronounced in **Estonia** and **Poland**.

The **Finnish** data do not suggest a domination of either but a **mix** of the three.

UPGEM Understanding Puzzles in the Gendered European Map

General Push Factors Creating Leavers

- Competition - open and hidden (the latter bordering on harassment)
- Poor reconciliation of family and work life
- Demands of mobility
- Loneliness, lack of feedback
- Problems of time management (long hours at work)

UPGEM Understanding Puzzles in the Gendered European Map

3 Push Factors Affecting the Women Specifically

1. Perception of women's career as inseparable from children & family responsibility
2. Sexual harassment / need to downplay femininity
3. Lack of female role models and little identification with the (male) stereotypes in natural science

UPGEM Understanding Puzzles in the Gendered European Map

The Myth about Children

The main reasons stated are:

- That children take time from research & prevent women from staying long hours at work
- That women's interest in children override the interest in science

Are motherhood and a research career incompatible?

UPGEM Understanding Puzzles in the Gendered European Map

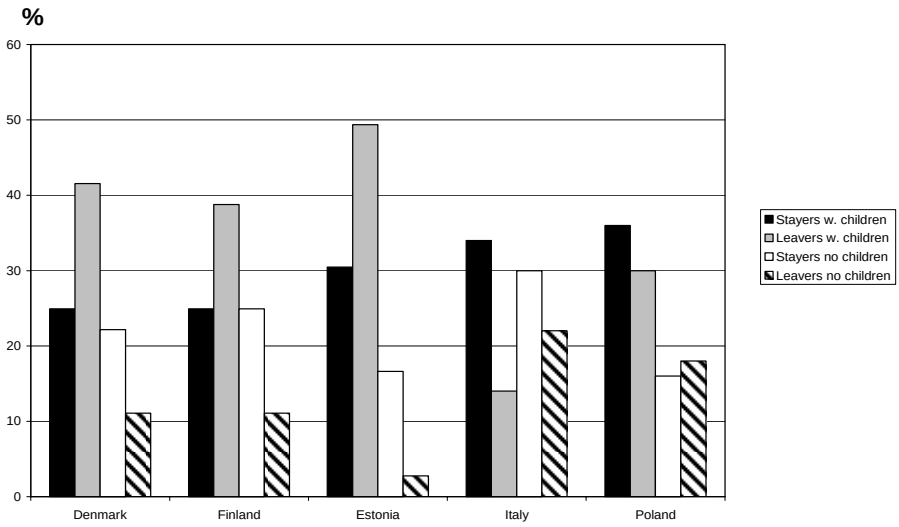
Family Responsibility

Denmark & Finland (partly Estonia)**:** (Nuclear family)
Older generation – men with children are typically married to a part time working or stay-at-home wife.
Younger generation – husband and wife share and negotiate responsibility for and interest in children/household.
Generally good day care facilities and parental leave arrangements.

Italy & Poland: (Extended family)
Responsibility is primarily on the mother while the father plays a more peripheral role.
Poorer day care facilities and parental leave arrangements.

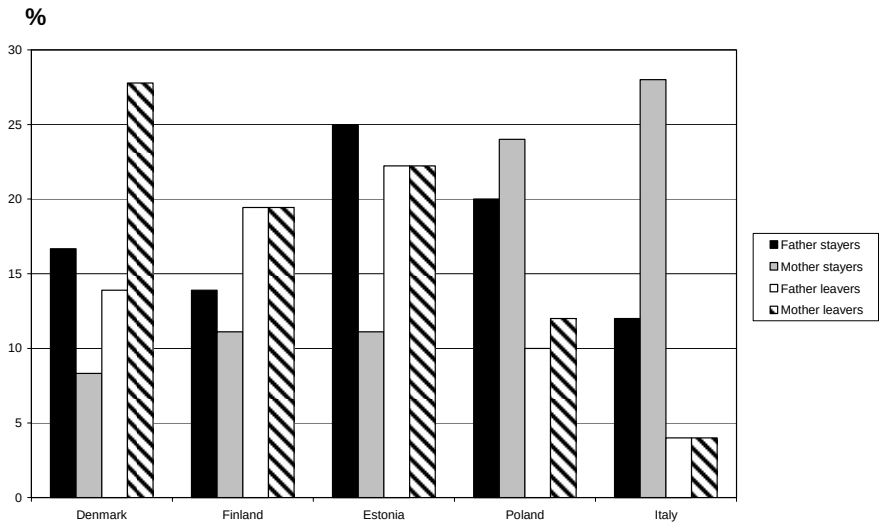
UPGEM Understanding Puzzles in the Gendered European Map

Parental status of stayer and leaver physicists:



UPGEM Understanding Puzzles in the Gendered European Map

Gender of stayer and leaver parent physicists:



UPGEM Understanding Puzzles in the Gendered European Map

Different Attitudes to Work Life Balance

Caretaker culture in Italy:
Prioritise a balance between family and work and accept intersection of family with work.

Hercules culture in Denmark:
Full devotion requires sacrifices, wherefore family becomes at the expense of research. Intolerant to intersection of family with work.

UPGEM Understanding Puzzles in the Gendered European Map

A Caretaker Group in the Danish Hercules Culture

- The highest representation of female physicists in Denmark.

- Many mothers (and fathers) – many children.

- Focus on reconciliation of work and family; no meetings in the afternoon + flexible hours, family may join fieldwork trips etc.

The main obstacle is not the children. The main obstacle appears to be the (self-evident) perception or assumptions about children and parenthood brought about by the scientific workplace culture.

UPGEM Understanding Puzzles in the Gendered European Map

Sexual Harassment / Downplaying Femininity

Many of the Danish female scientists feel a need downplay their femininity be “one of the guys”.

Problems with sexual harassment is widely acknowledged among the Danish informants, but also informally accepted that the responsibility lies with the women; who must draw the line.

UPGEM Understanding Puzzles in the Gendered European Map

Draw the Line

Sue (DK): You have to be able to see it coming, for example, there are certain kinds of people who I would decline even to dance with. Some might be prone to think nothing of it if their supervisor asks them to dance at a staff party. If I felt that he was looking at me in a slightly funny way or something then would make up an excuse not to do it. I would draw the line there to be on the safe side.

(Hasse et al., 2008: 86)

UPGEM Understanding Puzzles in the Gendered European Map

Female visibility – Danish data

Zindy (DK): (…) but there is something – I mean – what I find hard is – (…) what becomes difficult is actually eh – that you sort of get seen.
Interviewer: As a woman?
Zindy: Yes. I mean, you get – it's like you have a flashlight in your forehead [laughs]. I mean, (…) sometimes it is very demanding (…) and you talk to them [the men] and they talk to you just because you are a woman (…). And when you talk to them then they think you are interested just because you talk to them.
Interviewer: Yes
Zindy: And that can be really hard.

(Hasse and Trentemøller, 2008: 202)

UPGEM Understanding Puzzles in the Gendered European Map

Female visibility – Italian data

Interviewer: Do you think that your career would have been different if you had been a man?
Maria (IT): (…) I had some advantages because in a surrounding where they are all men, there is always some kind of pleasure in being kind to a woman, in giving her a bonus, in making her a favor (…) but there can also be some disadvantages.

(Ajello, Belardi and Calafiore, 2008: 313)

UPGEM Understanding Puzzles in the Gendered European Map

Connection between Female Visibility and Culture

In the Hercules culture and the Danish national culture:
Science is strongly associated with masculinity – only male stereotypes
A womanly figure or qualities can be used in competition to undermine or question the women's abilities.
Sexual harassment is the most violate form of male domination.

In the Caretaker culture and the Italian national culture:
Femininity and motherhood do not overshadow skills. It may even convey respect. Therefore, being visible as a woman is generally not perceived to be problematic.

UPGEM Understanding Puzzles in the Gendered European Map

Hercules, Caretakers and Worker Bees as Analytical Tools

The three ideal types of scientific cultures can be used analytically to understand tacit selection mechanisms, which constitute some sort of resistance to women in science.

Each culture type has positive and negative aspect. No one is better than the other.

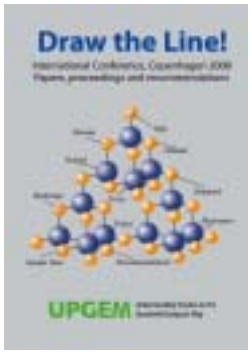
UPGEM Understanding Puzzles in the Gendered European Map

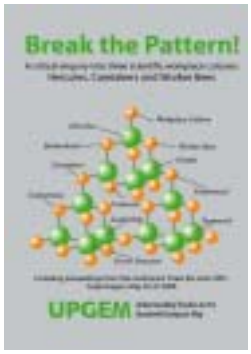
Overall Recommendation from the UPGEM Partners

To overcome problems of gender equality in academia it is crucial to identify and balance the workplace culture; a mix of the three types is preferred.

UPGEM Understanding Puzzles in the Gendered European Map

UPGEM Publications





www.upgem.dk

UPGEM Understanding Puzzles in the Gendered European Map

References

- Ajello, A.M., Belardi, C. and Calafiore, G. (2008). 'UPGEM National Report Italy' in C. Hasse, A.B. Sinding and S. Trentemøller (Eds.). *Draw the Line! University as workplaces for male and female researchers in Europe* (pp. 263–366). Tartu: Tartu University Press.
- Hasse, C., Trentemøller, S. and Sinding, A.B. (Eds.) (2008) *Draw the Line! International Conference,Copenhagen 2008. Papers, proceedings and recommendations.*Tartu: Tartu University Press.
- Hasse, C. & Trentemøller, S. (2008) *Break the Pattern! A critical enquiry into three scientific workplace cultures: Hercules, Caretakers and Worker Bees*. Tartu: Tartu University Press
- Megaw, J. quoted in M. Barinaga (1994) 'Surprises across the cultural divide' in *Science*, vol. *263*, 1468–1472.
- Sjøberg, S. (2005). *Naturfag som almendannelse. En kritisk fagdidaktik*. Århus: Klim
- Traweek. S. (1988). *Beamtimes and Lifetimes. The world of high energy physics*. Cambridge: Harvard University Press.
- Weisner, K in IUPAP 2001 rapport: http://www.ioppublishing.com/activity/groups/subject/Women_in_physics/IUPAP/file_7958.pdf