

## Gender and Mobility: Insights into the field of Physics



### 5. Mobility: career progression or regression?

#### Push and pull factors for mobility

Figures 5 and 6, which show reasons and obstacles for international mobility, are for science in general, but the interview results used for this report agree with them. The general results are also reflected in literature and further studies.<sup>1)</sup> As these are the most important reasons and obstacles to mobility of scientists it is possible to transfer these findings to the field of physics. Nevertheless, it must be noted that the field of physics is diverse and unique, and therefore has to be seen as a particular field of science.



Figure 5: Reasons why scientists go abroad<sup>2)</sup>

*"Without moving you probably won't get a job. But also it's how you meet the other people in your field. You get to know other ways of doing science. The atmosphere is different, the people are different. I think it is important to see that."* (female, senior scientist)

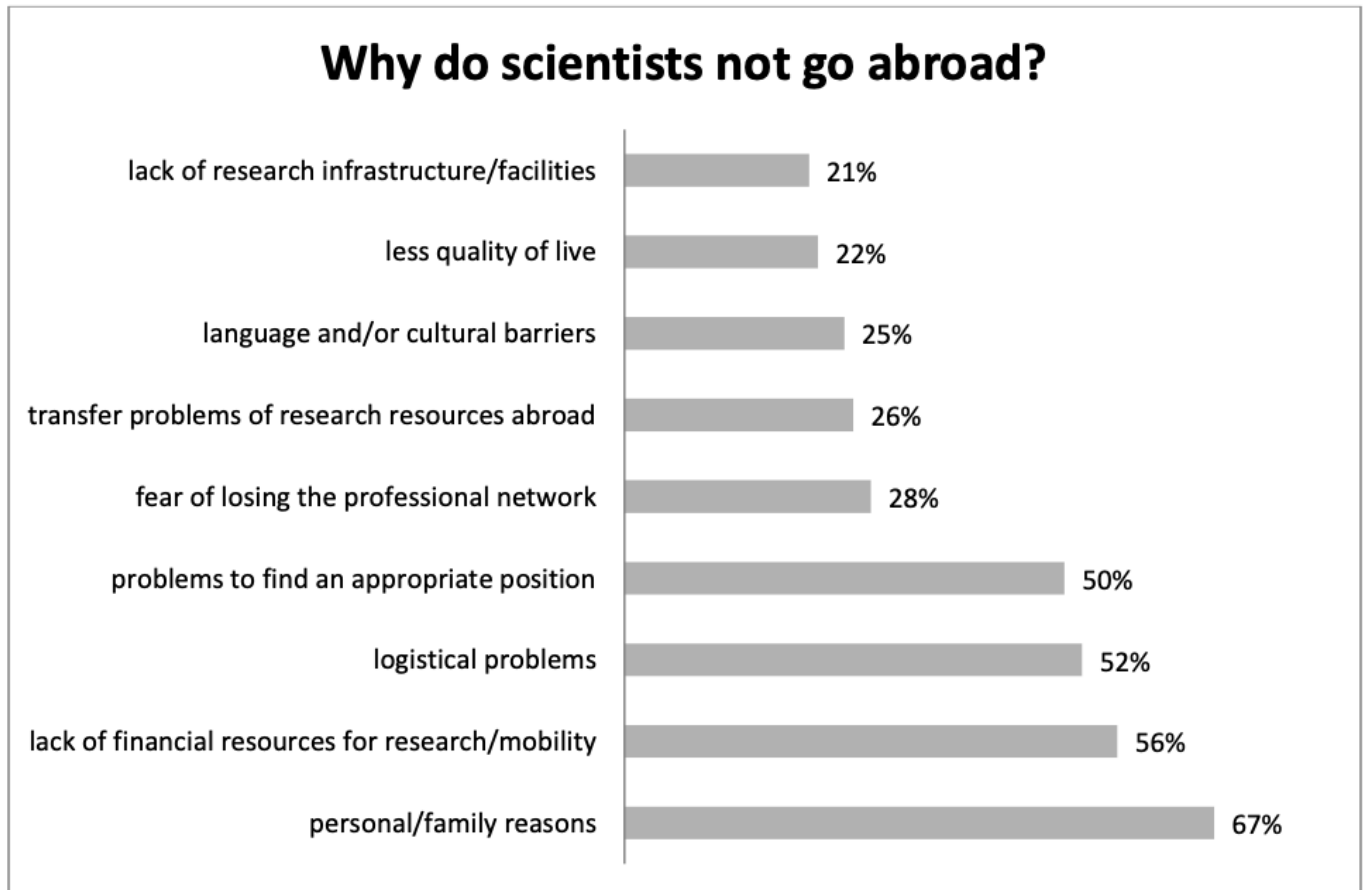


Figure 6: Obstacles why scientists not go abroad<sup>3)</sup>

Mobility within a country is less visible and therefore less often considered as crucial, yet it offers different perspectives and working structures through the experience of being in different research institutions. “[...] you could change within the country as well and you would still see something different, so as long as it is a little different in terms of topic.” (female, young scientist) Compared to national (internal) mobility, international mobility is often declared as a crucial factor for career development. Its importance is typically linked to early career stages.

## Career progression for young scientists

Physical mobility allows, especially in the narratives of younger scientists (also representing emerging subfields of physics like astrophysics, medical physics, engineering physics), the exchange of knowledge, new perspectives, experiences in and methods of conducting research. Young scholars and scientists are obliged to travel and cooperate closely with foreign research institutions and in international teams.<sup>4)</sup> “Yes, [...], you do not have to study somewhere else, but you have to, so that is what colleagues told me, that you have to have experiences abroad at some point. [...]” (female, young scientist) Being mobile and having experience of international cooperation is also positively evaluated when applying for research grants. “It is important because it makes it a lot easier to apply for grants and for funding if you were more mobile.” (female, young scientist)

Furthermore, mobility should be considered as one of the elements which constitute excellence. “For career progression [it] is mandatory to be mobile, connected with other people from your field.” (female, young scientist) However, some young scientists notice that mobility “counts for” career only after receiving their PhD (e.g. in the Netherlands they are supposed to spend a year or more abroad during post doc time). Such an understanding of mobility is reflected as well in the underlying significance of close collaboration with foreign and international research organizations.

*"When it comes to mobility, if you don't have any good excuse, lack of mobility would be frowned upon. Only if somebody has phenomenal publications and stays at home, that's fine. [...] But if somebody is located within 66% group, close to the average, then it's better if he or she travels, because mobility is good for one's scientific, global experience, it brings new knowledge [...]"* (male, young scientist)

In general, international mobility especially as a young scientist, can be seen as progression with regard to widening one's own network and personal development. Moreover knowing various scientific communities and different cultures is quite important for research. *"It is important to experience different dynamics and manners of conducting research."* (male, senior scientist)

*"[...] I decided I had to move in order to continue with my career. In spite of the fact that my partner was here, I spent several years abroad. (...) It was a personal sacrifice but it was very positive because I worked and published a lot."* (female, young scientist)

## **Mobility as career regression**

In terms of returning home, mobility is sometimes seen from both, women and men, young and senior scientists as a disadvantage. *"It is necessary on the CV. But to be honest, is it really necessary in the point of view of how much you can learn, I have my doubt... I mean, of course you learn different things in different places. But based on my experience on my 2 years post-doc, basically you arrive in a place, you have to adapt, and the time you realize you are there you are already gone."* (female, young scientist)

When scientists are abroad it is not sure that they can go back to their institution and get their prior job back. *"[...] getting back from an external period would have been very difficult in terms of getting again the position [...]"* (male, senior scientist) Additionally, it is more difficult when you already have reached a high level position and have to move to another research organization, possibly in another country. *"In my case, going abroad could be downgrading.[...]"* (female, young scientist) *"Mobility is important, but it becomes difficult when you are elder, when you have some positions."* (female, senior scientist)

Nonetheless, mobility does not only mean regression for a scientist's career, it can also mean career progression. Therefore it should be considered what the individual focus is. In summary, mobility fosters career development especially with regard to personal development as well as to individual qualification<sup>5)</sup>. But in some cases it also includes some negative aspects e.g. upon return.

*"It's not a necessity. It's a good experience, but it has maybe to stay time-limited. For me my post-doc experience was really wonderful, my partner followed me even though he didn't have a job, it was our couple project to live somewhere else for 2 years. But if it had gone on more and more years, it would probably have become a problem. When I see people who are doing their 7th post- doc in a 7th different country... I don't know how they can live like this; in my opinion I would have left the job if I had to work in such terrible conditions."* (female, senior scientist) *"Mobility for short periods is fundamental and it is occasion for personal and career enrichment."* (female, young scientist)

Summarized, a number of factors have to be taken into account when considering whether international mobility advances or hinders career progression. The advantage of international mobility for career progression depends upon, among other factors, the field of specialisation in physics and the current position occupied.



1)

Appelt, S. et al., 2015; Netz, N., Schirmer, H., 2016; Thorn, K., Holm-Nielsen, L., 2006

2) 3)

DAAD/DZHW, 2016

4)

Sekuła, P. et al., 2018

5)

Minssen, H., 2009; Netz, N., Schirmer, H., 2016

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Last update: **2019/10/22 12:48**

