



Gendering the Academy
and Research: combating
Career Instability and Asymmetries



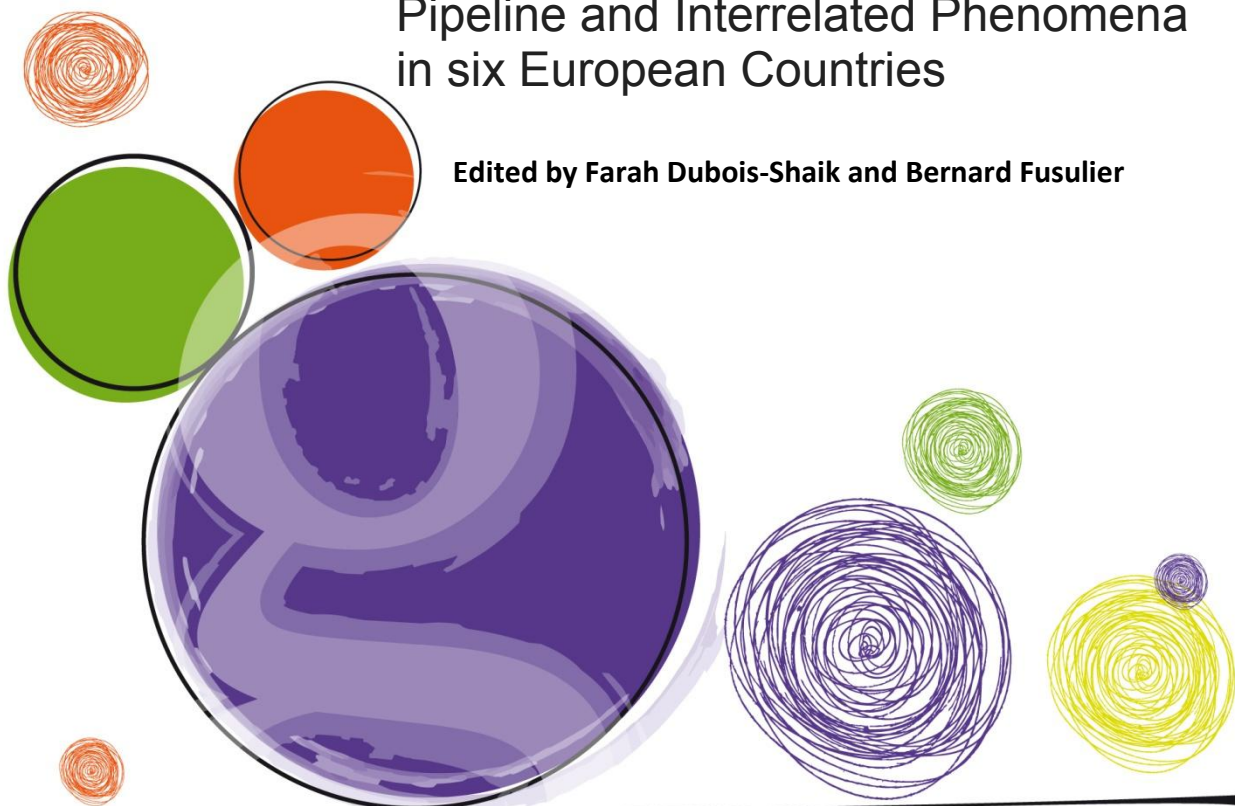
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GARCIA WORKING PAPERS

11

Experiences of Early Career Researchers/Academics: a Qualitative Research on the Leaky Pipeline and Interrelated Phenomena in six European Countries

Edited by Farah Dubois-Shaik and Bernard Fusulier





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INTRODUCTION AND EXECUTIVE SUMMARY

The main objective of this report is to provide a comprehensive overview of the 'leaky pipeline' in the different contexts of six GARCIA beneficiaries (Italy, Belgium, The Netherlands, Iceland Switzerland and Slovenia). It is based on a qualitative analysis of more than two hundred interviews in total (men and women in SSH and in SST research fields) conducted among three target sub-groups: movers/leavers, postdocs, and newly tenured.

Each national case shows the interrelated mechanisms operating in the leaky pipeline phenomenon. This report is complementary to the quantitative report (Deliverable 6.1.) edited online:

(http://garciaproject.eu/wp-content/uploads/2015/12/GARCIA_working_paper_5.pdf).

For instance, **in Italy**, despite the general growth of their educational endowment and their considerable involvement in PhD programmes, women continue to suffer from disadvantages in regard to employment in the academic and science sectors, performance of research and development activities (in their jobs), and career advancement. And they continue to be strongly underrepresented among the top positions in the academic hierarchy. Data confirm that women employed in the Italian academic system take more time than men to enter tenured positions. This dynamics seems almost stable over time – for the transition to both associate professorships and full professorships – and across fields of study. Women with children are less often involved in research activities. Parenthood, and more precisely motherhood, continue to be considered incompatible both with a successful (early) career development in the academic sector, and with the job instability that characterises the early stages of career within and outside the academic system. However, there is no evidence that not having children produces positive effects in climbing the career ladder. Childlessness is quite common among early career researchers in Italy.

Research and analyses focused on gender gaps in various selection processes within the Italian academic system highlight the persistence of a set of mechanisms that seem to feed women's disadvantages in their career developments. These mechanisms interfere with the accumulation of the various requisites needed to build a successful academic career: international publications; fundraising; being included in international and local research networks; visibility of own research within the research community and within the department. Focusing on the leaky pipeline and the mechanisms that foster the exclusion of early career researchers from academic and scientific careers, almost all the researches conducted on this topic in Italy showed that job insecurity is the most important barrier to the pursuit of a research career. The high level of job uncertainty experienced by postdocs produces negative consequences on researchers' ability to manage their present and future work, their chances of meeting the expected research performance targets, compromising their long-term career development and reducing their level of satisfaction with their jobs.

In line with such results, the findings of descriptive analysis conducted on the data collected through the Garcia web-survey showed that the decision to leave the scientific career is strictly connected to the lack of clear long-term prospects, as well as to the lack of job opportunities in the (Italian) academia. The early career researchers at the Department of Sociology and Social Research (DSRS) and Department of Information, Engineering and Computer Science (DISI) were highly dissatisfied with the level of security and the chances of career advancement related to their jobs. However, the interviews conducted at UNITN pointed out two interesting dynamics, the first related to the research field, the second to the job position of assistant professors.

Firstly, all issues related to contractual instability seem to affect more the postdocs at the DSRS than those at the DISI. Such difference is mainly due to the wider range of research chances outside the academic system available in the field of computer science and to the higher future. Secondly, the group of fixed-term assistant professors (in both departments) do not see the expiring of their contract as problematic. This group perceives themselves as part of the university community and assume that, given their current position and the internal recruitment/career advancement rules at the UNITN, they have high chances to obtain a permanent position in the short run within the department where they are working in. At the same time, female assistant professors showed a higher level of dissatisfaction and intolerance with the “long hours culture” characterising the current university system and with the difficulty to reconcile their private and family lives with their work when compared with their male colleagues and with (fe)male postdocs.

In relation to the job instability, leavers, movers and postdocs career trajectories allow to outline a range of different ways/strategies to reduce the level of uncertainty in the academic career development. Among leavers, finding a job outside the academia/research sector is a way to reduce the interference of work on their life, reduce the pace of work, reconquer a balance between private life and work, and limit professional dissatisfaction and the lack of perspective experienced in the academic sector. However, in the case of female leavers, the new working position is often described as under-qualified with respect to their level of education and they continue to show low levels of satisfaction about their professional situation. Among movers and postdocs, it is possible to identify some career paths that, more than others, seem to foster and enhance their long term career perspectives in the research sector. More precisely, early career researchers who have moved abroad and, only in the case of the STEM department, who are working or are planning to work in the private sector describe/perceive such job positions as more qualified, stable and better paid than those experienced in the Italian academy. Moreover, these positions are considered as an efficient way to improve both their professional skills, and their long term career perspectives and free time for their private life as well.

In Belgium, a massive feminization in the majority of fields over the past 10 years has occurred, with, however, despite this initial feminization at the level of Bachelors and Masters, the phenomena of leaky pipeline and glass ceiling that can be recorded, whereby fewer women are recorded the higher we climb the scientific/academic ladder. A significant link to the qualitative interview material

we analyse here is that the bottle neck is located at either the doctoral or postdoctoral level, with the difficult jump to obtaining permanent positions. With the results from this report, the bottleneck can be better understood by looking at the way male and female early researchers make sense of this period, which is fraught with multiple barriers and tensions in the work, organizational and life experience. The doctoral and more mainly the postdoctoral period, for all male and female interviewees – current postdocs, newly tenured and movers (both those who “left” and those who “stayed” in academia) – is something that crystallises itself as what can be called a “passport” period. This passport form is something problematic, because it presents an ambivalent rapport to work and the profession due to precariousness, pressures and tensions for early researchers in multiple professional and personal ways. The “passport” frame of the postdoctoral period also has significant gendered implications. Male and female interviewees in all groups describe and make sense of this period in various different ways according to an array of discursive resources. In terms of a career path, interviewees account for that in order to attain a permanent position and membership into the research career and academia they have to demonstrate and justify a consistency and productivity of their intellectual development over time. In this process there are multiple barriers and hurdles to cross before being able to build a sufficiently “important” CV to be even considered for a permanent position. On the whole, a picture emerges of a period of professional struggle, tensions with family building and stabilizing or settling into life. The professional struggles are essentially trying to meet with what interviewees believe and rarely question as being important career strategies, such as being mobile, publishing, building the CV, having career advice from mentors, collaborating to build research projects and moving towards advancing into a permanent position. However, in the struggle to meet with career advancement criteria and standards, arguably, important aspects of professionalisation are lost or difficult to achieve, namely a sense of working on research as an objective in itself instead of being a “means” to career progression.

Early career researchers experience their rapport to work/life interference in very significantly different ways depending upon the period and situations during their careers and personal lives. What emerges as a striking result is the way that parenthood will impact upon the rapport; while female and male childless postdocs are engaged and optimistic about their work level, intensity and male and female postdocs with children are more ambivalent about work and family. Moreover, the newly tenured males and females tip the scale of being optimistic toward being ambivalent by having children. However, there is a clear gender difference in the way this ambivalence is experienced: females have more ambivalence in the question about compatibility of children with career, more feelings of guilt for time away from children, and also speak about health reasons, overwork and infringement upon or sacrifice of family, mobility and leaving the country due to career choices.

A significant result is that interviewees speak about the importance of having the multiple pillars of academia/research, as it offers a balance between research, teaching and collaboration, but male and also female newly tenured express the frustration of “omnipresence”, which extends work towards multiple pillars in what

is a very “blurry” through flexible time/space profession (research, teaching, institutional engagement, community service). Moreover, there is a constant bid for funding that is lacking, a constant justification of research, which shifts the focus away from actual research and academic work. This also has multiple gendered implications. Although we are looking at a sticky floor phenomenon, which we identified in the quantitative report for the leaky pipeline, whereby there are more female teaching assistants without permanent positions, this report discusses how there is a paradox about the nature of the “sticky floor” itself that is the teaching task. Teaching has become undervalued and devalued in scientific/academic field, whereby competition-based recruitment criteria put all the emphasis on research development and production (publications, mobility, bidding for funds) and early researchers account for trying to meet with these criteria for career progression and obtaining permanent posts.

In the Netherlands, from the quantitative and qualitative data, we can identify key moments, mechanisms and factors playing upon the leaky pipeline, which are related firstly to both work decisions (grants, job applications) as decisions on ‘life’ (children, following partner). These moments are not necessarily in sync with one another; the decision to go into academia through doing a PhD; being stimulated, deciding to and doing a grant proposal; getting a grant honoured; being scouted for a position at e.g. a conference or through a supervisor: the significance of the evaluation moment of tenure track; of getting children; of the partner’s career decisions; of International mobility choices

Secondly, we can identify mechanisms and factors related to the leaky pipeline, impacting whether or not people (men and women) decided to leave academia, move from the GARCIA institutes, or stay at the institutes were both at the organizational and systemic level and at the individual level. On the organizational and systemic level: being academic as a ‘hero’ with all requirements, among which there is an increasing need for grants and funding; the existence of ‘old boys networks’, a need for networks and sponsors, a need for support within institute in getting position or grant; the existence of a precarity loop; the difficulty of balancing between teaching and education. On the individual level, motherhood is a key issue in terms of work-life balance, having children or not, especially for women (part-time working culture); a willingness to juggle work-life balance and tolerate stress; the partner’s presence; the foreign effect, going abroad and mobility, being Dutch or foreign; a ‘passion’ for the job

Although the numbers are straightforwardly showing a leaky pipeline in the national and local context of the GARCIA institutes, the factors and processes leading to the leakiness of the pipeline are multiple and interrelated.

Looking at individual stories, the norms and standards in academia are – sometimes explicitly, often implicitly – clearly impacting the trajectories and the sense-making of the different movers, leavers, and current early career scholars. Sometimes these pressures lead to people leaving, sometimes people cope with them and proceed, other times other factors are at play as to why people leave or stay.

Some patterns were found, as show the leaky pipeline mechanisms discussed above, among which the impact of being an academic mother (and father, but to a lesser extent) and of being a foreign employee in the Dutch, and more specifically the Nijmegen, context. The increasing demands on early career scholars were much present in their accounts, received with both acceptance and resistance. The report has brought some insight on how the academic system, the local arrangements and individual situations impact early career scholars, and how elements of this multi-level constellation are gendered.

From a qualitative perspective the leaky pipeline **in the Icelandic context** could be understood firstly in terms of the masculine habitus and its relation to high workloads and the resulting work-life imbalance that affects mainly women due to a broader social reliance on traditional gender roles. Secondly, the leaky pipeline is likely perpetuated by a kind of institutional sexism in academia that is reminiscent of the Matilda effect.

The masculine habitus of the scientific field visibly punished anyone who strayed from the path of the disposition of the lone and tenacious academic with no other responsibilities than their job. Failing or refusing to live up to these expectations ultimately made many of our movers/leavers quit academia. Broader societal gender regimes could be to blame for why women rather than men reported on the negative ramifications of work/life balance issues.

While there were of course exceptions in all cases, there was still a clear sense among SSH movers/leavers that workloads were a big problem with real consequences for academics and their families. While this was also the case among current SSH academics, this group had a tendency to downplay these problems. Across many SSH interviews, workloads and resulting work/life balance issues were emphasized. Only a few participants among our STEM movers/leavers counted workloads and work/life balance issues among reasons to leave academia. While all current SSH academics interviewees were parents as many as 4 out of 9 current STEM academics did not have any children. This could be an indication that the emphasis on masculine habitus is stronger in STEM fields. STEM fields are strongly masculinised and are generally rewarded more funding and have more prestige attached to them.

As such, it is predominantly women who end up being pushed away from academia, because the tremendous workloads of the masculine habitus do not sit well with the feminine habitus of being constantly present for one's family. This may be the case for both women and men, even though women academics tend to think of work/family issues as a condition while men still have the choice to choose career over family, again making women more vulnerable to the negative ramification of this social arrangement. Add to this that a masculine habitus also creates the kind of institutional sexism in academia that is still very much based on biological sex in the sense that examples of less qualified men being hired over more qualified women still exists. For instance, if movers/leavers women told stories about how men with fewer qualifications than them had been hired in their stead or how they needed to work harder to obtain the same influence as their

male colleagues, no men told these stories, which underlines the gendered urgency of this possible Matilda effect.

In Switzerland, we saw that this 'masculine' norm of devotion to scientific work is still predominant. Most of our interviewees declared that they worked more than full time and were not too critical about this. They generally considered this to be part of the game and were willing to play it this way. A large number of our women interviewees do not seem to see themselves as unable to conform to such a norm. The women post-docs use many strategies to fulfil this norm as nearly as possible. They do so even if such strategies might put them in a very vulnerable situation because of the gender power balance in their couple or the Swiss 'breadwinner' gender regime.

In the Swiss academic context, being mobile clearly appears to be one of the main assets for improving one's chances of achieving a stable academic career. By contrast, the pathways followed by those who do not or cannot move are longer, more chaotic and more contingent because they are more dependent on the occasional and local needs of the departments. Thus, since women (and especially Swiss women, who often are in an unbalanced conjugal situation) are potentially less mobile than men, they are more likely to be hired to less prestigious and more precarious positions. And once hired to such positions, their chances of achieving professional stability in the academy diminish considerably.

The co-optation logic is fundamental to understanding how tenure is achieved. Indeed, since having a mentor (and benefit of his or her social capital) seems to increase the chances of being one day tenured, one can think that the co-optation logic is working within this process. Some women interviewees seem not have benefited from such a co-optation logic. They thus are more likely to be pushed aside from the pool of high-potential candidates. But one must also note that not every woman seems to have been sidelined by such processes. And the ones who benefit from such a transfer of social capital are deeply aware of this issue. Thus, some of them are involved in one of the many mentoring programs for women organized at the UNIL.

Women working in research institutions are more likely to declare, especially among Swiss women interviewees, that they experience temporal and mental tensions between their commitments to their work and to their family life. At an individual and micro level, the intensity of the tension around work-life balance strongly depends on gender-role arrangement with the partner. When their gender-role repartition is egalitarian or inverted, women are less likely to experience work-life balance issues as a source of tension. 'Egalitarian' or 'inverted' configurations are pretty difficult to maintain because of the structural organization of the work-life balance in Switzerland (and especially the lack of childcare facilities). Thus, one must also note that the Swiss national gender regime is a source of tension between work commitment and family care duties per se, no matter the conjugal configuration. The lack of childcare facilities and the high rate of part-time work among academic women. These two factors are fundamental to explaining the pretty thick glass ceiling within Swiss universities.

Three other main characteristics define the Swiss 'academic pipeline'. First, it's a pipeline that picks up a very international flux of students. Second, this pipeline has a really narrow bottleneck (i.e. the chances of being stabilized are really thin), especially for women owing to the Swiss gender regime. Third, this specific pipeline 'leaks' in a potentially highly buoyant extra-academic labour market.

In Slovenia, qualitative analysis identified some potential sources for the leaky pipeline phenomenon. The first one is related to poor mentorship experienced in both test institutions. There is no official mentoring programme with clear protocol and responsibilities defined for mentors. As a result, the interviewees experienced various kind of mentorship, from appropriate step-by step socialisation into the academic world to the absence of any kind of relationships. All interviewees stressed the importance of mentors in the mentees' trajectories, but their role was particularly emphasised by the involuntary movers and leavers. Both female and male interviewees from this group of interviewees were left to themselves and were not adequately integrated into the academic environment. Their mentors did not equip them with necessary advice, support and skills regarding project and article writing as well as building necessary relationships with other associates.

Another source for the leaky pipeline phenomenon pertains to organisational culture. Yet, this source is identified mainly at the STEM institution. A climate of 'negative competition' is highlighted and connected to scientific excellence criteria defined by the national research agency, which follows the principles of the so-called 'knowledge society'. Tensions emerged between research groups and their members in constant fights for scarce national and hardly obtained international research funds. This masculine habitus can be recognised in the heads of the Chairs, leaders of research groups and programmes. The main strategy or politics of superiors, who are the best according to the national scientific excellence criteria, is to supervise and distribute tasks among the lower-ranked associates. According to this practice, the higher-ranked superiors are involved in financing, while the lower-ranked associates implement all necessary time-consuming tasks in research. This is a condition of production of a Matilda effect.

Difficulties of work and life harmonisation are identified mostly in the STEM competing environment, while at the SSH institution, this issue was recognised as a challenge only among the leavers/movers.

ITALY

Garcia institution: University of Trento

Authors: Daniela Ferri, Rossella Bozzon, Annalisa Murgia

1. INTRODUCTION

In the last decade, the Italian academic system was profoundly modified by a comprehensive reform which recast the institutional governance system, the internal organization of the Italian public universities, academic staff recruitment, selection and career advancement procedures, as well as flexibilizing early career stages (Bozzon et al. 2015). Such reform went hand in hand with substantial reduction of public financial resources devolved to research and development activities and with steady growth in the number of PhD-graduates per year, which almost tripled between 1998 and 2014. The ability of the Italian academic system to absorb the new generation of researchers has significantly reduced over the past decade, and it has only partially been compensated by an increased chance to carry on a research career outside academia in the wider Italian labour market (Martucci 2011; Ballarino Colombo 2010).

The current composition of academic staff reflects the consequences of the recent university reform. Between 2008 and 2014 permanent positions shrank by 18%, but they were not fully replaced by new entrants or career advancements (Table 1). At the same time, there was a substantial increase in temporary positions, all concentrated among early-career researchers. In 2014, more than a third of research activities were carried out by fixed-term researchers and postdoc research fellows. Given the lack of women in top positions, the incidence of non-tenured positions among women is higher than that among men (respectively 40% and 28%) (Bozzon et al., 2015)

Despite these substantial changes in the composition of Italian research staff, the gender gap among the various academic positions seems to remain stable over time (Bozzon et al. 2015). The structure of the Italian academic hierarchy maintains a scissor pattern (Fig. 1). The main bottleneck corresponds to transition to the assistant professor positions. While women outnumber men among students, and the proportion of men and women is quite balanced among PhD students and postdocs, only 46.4 percent of permanent assistant professors are female and 42.7 percent among fixed-term assistant professors (these latter are researchers hired after the introduction of the last reform in 2010). It has been documented that the disadvantage (understood as transition rate) of Italian female academic staff in career advancements did not change between 2000 to 2011 – for transition to both associate professorships and full professorships (Frattini and Rossi, 2012). These career advancement disadvantages of women are documented in various fields of sciences, such as physics (Lissoni et al. 2011) and economics (Corsi 2014), and for employees of the CNR (National Research Council) (Palomba 2000; Menniti and Cappellaro 2000).

In this context, the University of Trento (UNITN) is one of the Italian universities with the lowest presence of women among its research and academic staff (Frattini

and Rossi 2012). In 2014, the proportion of women in the university's entire scientific staff (full, associate and assistant professors, and postdocs) was 29.7%, while the Italian average was 40.5%. Figure 1 highlights how a strong gender imbalance characterized all the academic positions at the UNITN with the exception of students.

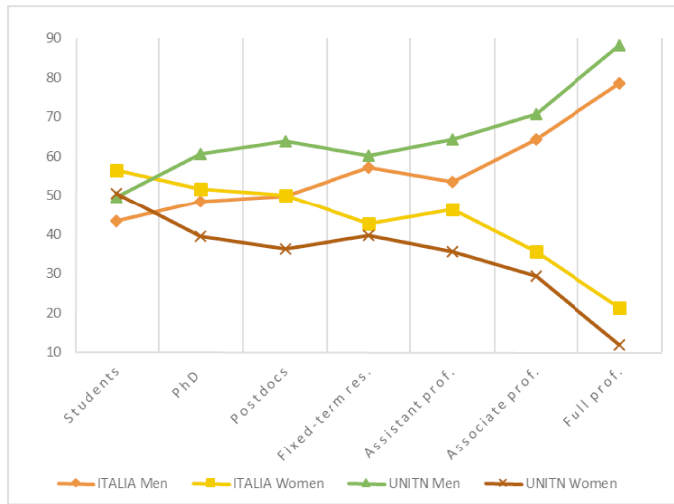
Focusing on fixed-term research staff, which represent the target population of the GARCIA project, the incidence of fixed-term assistant professors and postdocs at the UNITN reached 42.7% in 2014, about 7 percentage points higher than the Italian average. Also in the case of UNITN, given the lack of women among top positions, the proportion of unstable researchers is higher among women than men (respectively 52.6 and 38.3) (Table 1).

Study of the incidence of fixed-term researchers in the two Departments involved in the GARCIA Project – the Department of Sociology and Social Research (DSRS) and the Department of Information Engineering and Computer Science (DISI) – highlights that while in the DSRS these positions represent overall 35.5% of the scientific staff, in the case of DISI they exceed 60%.

The majority of fixed-term researchers (at national, local and departmental level) are research fellows. Postdoc fellow positions are usually financed by external funds and can be considered a proxy for the capacity of each university or department to be involved in useful research networks (within and outside the academic sector) and gather research funding, which is an indispensable feature of their scientific reputation. The DISI at UNITN, with a research staff composed by 57% of postdocs fellows, is an extreme example of virtuous interactions and exchange of resources between the university system and other public and private external interlocutors.

At the same time, postdoc fellows are a paradigmatic example of the precarization of academic careers. Differently from assistant professors, who are public servants with full access to welfare provisions at national, local and organizational level, research fellows are grant-holders not entitled to receive any unemployment benefit or other social security provisions or income support measures because they are considered 'students' (hence part of the inactive population). Moreover, they are often excluded by, or not fully included in, university policies at local level. Because postdocs are not employed with a dependent contract, they are simply not considered part of the university community.

Fig 1 Scissor diagram - University of Trento and Italy 2014



Source: For Italy: Miur data; for UNITN: Ufficio Studi

Tab 1 - Research staff and tertiary students in Italy, University of Trento, DSRS, and DISI in 2014.

	Italy				UNITN				DSRS				DISI			
	M	W	TOT	F/TOT%	M	W	TOT	F/TOT%	M	W	TOT	F/TOT%	M	W	TOT	F/TOT%
<i>Permanent positions</i>																
Full professors (a)	10431	2832	13263	21.4	150	20	170	11.8	11	1	12	8.3	10	0	10	0.0
Associate professors (b)	11300	6241	17541	35.6	181	75	256	29.3	16	9	25	36.0	22	2	24	8.3
Assistant professors (c)	11278	9757	21035	46.4	56	31	87	35.6	1	2	3	66.7	4	2	6	33.3
<i>Temporary positions</i>																
Fixed-term researchers (d)	2209	1649	3858	42.7	44	29	73	39.7	5	4	9	44.4	4	1	5	20.0
Post-doc research fellows (e)	11010	11083	22093	50.2	196	111	307	36.2	5	8	13	61.5	48	12	60	20.0
PhD students	15977	17060	33037	51.6	376	245	621	39.5	9	10	19	52.6	112	36	148	24.3
MA/BA students	728765	948191	1676956	56.5	7988	8131	16119	50.4	517	1128	1645	68.6	1161	175	1336	13.1
<i>%fixed term res./ scientific staff (a+b+c+d+e)</i>																
	4.8	5.2	5.0		7.0	10.9	8.2		13.2	16.7	14.5		4.5	5.9	4.8	
<i>% postdocs / scientific staff (a+b+c+d+e)</i>																
	23.8	35.1	28.4		31.3	41.7	34.4		13.2	33.3	21.0		54.5	70.6	57.1	

One of the main aims of the GARCIA project has been since its beginning to identify the main challenges in achieving gender equality in organisations by focusing on the early stages of academic careers as crucial for understanding how universities can prevent the 'female leaky pipeline' phenomenon and better support researchers' careers and working conditions. The approach adopted has been particularly innovative, since we decided not to focus on the leaky pipe phenomenon by looking at women and men still working in academia, as is usually the case in research on gender and research careers; rather, we decided – through the use of both quantitative and qualitative techniques – to understand the reasons why postdocs and early career researchers have been 'forced' to leave academia, or have 'chosen' to work outside the academic/research system.

The 'brain drain' of PhD holders has been analysed from a gender perspective, giving voice to 'leaked' people working as postdocs in two selected departments of the University of Trento – Information Engineering and Computer Science (DISI) and Sociology and Social Research (DSRS) – from the beginning of 2010 to the beginning of 2014, but who were no longer working in those departments at the time of the interviews (conducted between the end of 2014 and the beginning of 2015)

Contacting postdocs who had left the two departments studied was one of the most complicated and time-consuming activities of the GARCIA project. However, in order to understand in depth the reasons for the leaky pipeline phenomenon, we thought it essential to collect the experiences of people who had left the university in order to determine whether they had chosen to pursue a different career, or whether they had been forced to abandon research by discriminatory working conditions and/or organizational cultures that do not support researchers, and particularly female ones, at the beginning of their academic careers, both at professional level and also, and perhaps to an even greater extent, in reconciling their work with construction of a satisfactory private and family life.

Moreover, the research design envisaged interviews not only with respondents who had recently left the two departments studied but also with those still working in them with postdoc or assistant professor positions. By comparing the narratives on the career experiences of the early career researchers who had recently worked at the DISI and DSRS departments as postdocs, who were currently working there with a postdoc position, and who had been recently employed in those departments as assistant professors, we aimed to provide an accurate diagnosis of the leaky pipeline phenomenon and on the main institutional supports and difficulties experienced in the departments studied. Moreover, the use of an inductive approach allowed us to conduct an in-depth analysis which furnished interesting results on the organisational conditions which may help to pursue an academic career, and to devise self-tailored initiatives to be implemented in the two departments concerned.

The chapter is organized as follows. We first present the methodology adopted to collect the interviews. We then move to analysis of the three main categories of early career researchers involved in the project: (i) postdocs who had left/moved; (ii) current postdocs; (iii) newly-employed assistant professors. Finally, the conclusions make some recommendations for tackling the leaky pipeline phenomenon at organisational and national level.

2. METHODOLOGY

At the University of Trento, the study population consisted of a sample of 41 people (12 women and 8 men at the DSRS and 9 women and 12 men at the DISI). Interviews were conducted with early-career researchers, and in particular with three main target categories:

- Twenty one subjects who worked as postdocs from the beginning of 2010 to the beginning of 2014 at the DISI and the DSRS departments. More specifically, in each department, interviews involved PhD holders who: (i) had left the University of Trento to start different working paths unrelated to research (2 for DISI and 4 for DSRS); (ii) had moved from the DISI (9) and DSRS (6) to continue their research careers (in the same or a different country), at public or private universities, at research centres, or in the private sector.
- Twelve postdocs currently working at the DISI (6) and at the DSRS (6).
- Eight assistant professors without a tenure track currently working at the DISI (4) and at the DSRS (4).

Among the interviewees who were working or had worked in the past at the DISI, 5 out of 21 had children (1 woman and 4 men). Among the interviewees who were working or had worked in the past at the DSRS, 7 out of 20 had children (4 women and 3 men). However, among early career researchers still working in the selected departments at the time of the interviews, conducted from November 2014 to March 2015, there were only 3 male assistant professors and one male postdoc with children at the DISI department, and 2 assistant professors (one men and one woman) and 2 male postdocs at the DSRS department (see the table below). Therefore, we were not able to interview female postdocs with children in neither of the two departments studied.

Tab 2. - Interviewees by department, position, sex and number of children

	Male	Female	Total
STEM Department			
Assistant Professors with children	3	0	3
Assistant Professors without children	0	1	1
Current Postdocs with children	1	0	1
Current Postdocs without children	2	3	5
Ex-Postdocs with children	0	1	1
Ex-Postdocs without children	6	4	10
Total	12	9	21
SSH Department			
Assistant Professors with children	1	1	2
Assistant Professors without children	1	1	2
Current Postdocs with children	2	0	2
Current Postdocs without children	2	2	4
Ex-Postdocs with children	0	3	3
Ex-Postdocs without children	2	5	7
Total	8	12	20
Total Interviewees	20	21	41

In constructing the sample, the inclusion criteria also considered the research units in the selected departments, the purpose being to obtain an overview of different research groups. The interviewees agreed to participate in our study on having been fully informed of the research objectives and methodology.

A common interview guide was used for the interviews of all the target categories: the early stages academic staff (postdocs and assistant professors – the target of the WP4 of the GARCIA project) and people who had worked as postdocs at the DISI and the DSRS and moved to other institutions or had left research (the target population of the WP6).

In conducting the interviews, two different temporal perspectives were explored. The first was chronological, related to biographical life-lines, and focused on past professional trajectories and expectations for the future. The second one concerned everyday life, considering both work and other life domains. More specifically, five key areas were explored: 1) individual trajectory; 2) organisational culture and everyday working life; 3) well-being and work-life balance; 4) career development; 5) perspectives on the future. The interview guide was translated into Italian in order to interview Italian PhD holders in their mother tongue. In order to avoid interviewing colleagues working in our same departments, we took advantage of the collaboration of two external researchers.

At the end of the interview, several socio-demographic characteristics were collected: academic field; sex; age; nationality; educational qualifications of parents; professions of parents; relationship status (in couple/married, single, etc.); housing (rented or owned); co-habitation (living in a couple, with friends, colleagues, parents, etc.); children (number and age); partner's employment (type of work; part/full time; type of employment contract); partner's income (net monthly); interviewee's income (net monthly). Due to the small organisational size of the Department of Sociology and Social Research, these data are not included in the report in order to avoid the risk of not respecting the interviewees' confidentiality and anonymity. We faced the same problem for the Department of Information Engineering and Computer Science, but only for the data related to the assistant professors.

The interviews lasted between 50 minutes to 2.5 hours and were entirely recorded and then transcribed. The narratives collected were used for a thematic analysis by adopting an inductive approach. At the same time, a deductive research design was also used by following the guidelines developed within the GARCIA project in order to make possible future comparisons between the empirical material collected at the various universities and research organisations involved in the project. The material gathered was organised and coded using the Atlas.ti software.

The approach adopted made it possible to understand the interviewees' trajectories retrospectively by analysing the different experiences of PhD holders who – after a postdoc at the DISI or DSRS – had 'moved' to another university or the private sector, or who had 'left' the academic or research career to start different work paths unrelated to research. Moreover, as already mentioned, these interviews were compared with those conducted with postdocs and newly-employed assistant professors still working at the departments of the University of Trento. This comparison afforded understanding of the career trajectories of those who had remained compared with those who had moved/left, and the problems encountered by researchers working inside and outside academia.

In what follows, we report findings based on this qualitative analysis. These results introduce a discussion, for the three target categories, of the topics that we identified as key elements: the previous academic career; the reasons for moving from/leaving the DISI and the DSRS; the main difficulties encountered; the current situation (professional and private); expectations and future projects; representations of the most successful academic trajectories. When analysing the collected narratives, particular attention was paid to gender differences, parental situation, and the academic disciplines – Computer Science and Sociology – to which the interviewees belonged.

3. LEAVERS AND MOVERS

In this section we focus on early career researchers who had been postdocs at the DISI and DSRS but were now working elsewhere. In particular, we distinguish between 'leavers', who had left the world of research, and 'movers', who had left the departments analysed but continued to do research in academia or the private sector.

3.1. The previous academic career

The interviews conducted at the DISI and the DSRS evidence the differences between the two departments in regard to the previous academic career, but also a similarity between what the 'leavers' and 'movers' of the same department said.

3.1.1. Leavers

As regards the leavers, in the two departments investigated both men and women had usually remained, for an initial period, within the department in which they had received their doctorates, working with project contracts or as research assistants:

"[I received] my doctorate in April 2008. Since then I've had some project contracts, so that I've basically continued to work with the research team that I worked with before" (Woman, former DISI postdoc)

The main difference between the two departments was that postdoc posts were more often obtained at the DSRS by people who had received their doctorates in the same department, whereas at the DISI it was more common for postdocs to come from other universities. However, it should be borne in mind that the number of postdoc positions is much higher at the DISI: on 31 December 2014, there were 13 postdocs at the DSRS and 60 at the DISI.

3.1.2. Movers

A distinction must be drawn between the DISI movers and the DSRS movers as regards previous professional experience. Whilst at the DISI it is more common, for both women and men, to have linear careers and obtain a postdoc grant almost immediately after award of the doctorate, at the DSRS careers seem more fragmented:

*"I already knew before finishing my doctorate that there was a quite good prospect of their keeping me. They told me before I finished [...]. I worked a lot with *** and he told me that he wanted to continue working with me" (Woman, former DISI postdoc)*

*“I took the decision to try to get away from academic work to see if I had any other options [...]. I got a job at *** but after five months the situation became particularly difficult: [...] then after five months I decided to quit because it wasn't giving me anything” (Woman, former DSRS postdoc).*

“When the postdoc post finished and they let me know that there was no chance of remaining in the department, I knew I had to reorganize myself. I went looking for other contracts and until I decided to formalize things by opening a VAT position, and in the meantime I applied for teaching jobs” (Man, former DSRS postdoc).

3.2. Reasons for leaving/moving and main difficulties encountered

As regards the reasons that induced interviewees to leave the respective departments, there were some differences between the DISI respondents and those of the DSRS.

3.2.1. Leavers

At the DISI, among the interviewees who had entirely abandoned research work, the majority said that they had taken the decision for three main reasons: (i) the low level of pay and scant prospects of stable employment; (ii) the difficulty of reconciling private life with work; (iii) professional dissatisfaction.

The first reason was cited solely by the women interviewed:

“Speaking of salary, I don't think I was being paid enough at the DISI for the work I was doing. This is because the schedule was such that I had to work almost around the clock [...]. Then there was no chance of stabilization in either the short, medium or long term, so basically when I was offered this permanent contract I accepted it immediately” (Woman, former DISI postdoc)

However, the second reason cited – i.e. the possibility of reconciling private life and work – was mentioned by both women and men, who maintained that research imposes irregular work schedules which preclude commitment to anything except work:

“I realized that the work I was doing would have been hard to reconcile with family life and especially with having children [...]. I and my wife had two difficult lives because we were both doing research. We weren't Superman or Wonder-woman. So this would have also limited the possibility of managing any future children” (Man, former DISI postdoc)

However, it should be emphasised that while some men viewed time management as problematic – as in the interview quoted above – in other cases, they perceived it as one of the most positive aspects of being a researcher.

A third reason that had induced some male interviewees to leave the DISI, and research more generally, had to do with personal dissatisfaction due to a difficult relationship with the supervisor and/or the lack of clarity and definition of tasks.

At the DSRS, among those respondents who had abandoned an academic career, the reasons given referred mainly to: (i) the pace of work; (ii) the difficulty of reconciling family life with work; (iii) professional dissatisfaction.

The pace of work and the standards to fulfil in research were described as excessively demanding in terms of number of publications, conferences to attend, teaching, writing projects, and so on, thus leaving little time for private life. Especially the women identified the main reason for leaving the department as the need to invest too many resources in a professional career with an uncertain outcome:

“In fact, I’ve given up my academic career: to keep ahead in the rat race I would have to work at a pace incompatible with my psychophysical make-up. I’ll never have a contract as a researcher, I’ll never have a stable job. But I try to maintain a mental and physical balance; I’ll be happy if I can keep the contracts and research assistantships, but if I can’t ... never mind!” (Woman, former DSRS postdoc).

A second reason was cited by the (very few) female interviewees with children. These stated that an academic career was entirely irreconcilable with the family sphere:

“With two children it’s absolutely impossible to keep up with all the things that the university requires of you to be stabilized. There’s no compatibility between the two spheres, so you’re forced to make choices: either you focus on the career, and do only that, or you choose to have children, and so you have to look for other jobs” (Woman, former DSRS postdoc).

Finally, also in the case of the DSRS, some interviewees – all men – had left the department because of a lack of job satisfaction in academia. These accounts did not centre on reasons related to the impossibility of reconciling family and working life, but rather the decision to give priority to one’s own interests and research practices over affiliation with the department:

“It must be said that research is not always related to academic activity or that of the department. Sometimes research – in more or less fortunate circumstances – is also easier and freer outside departments because these are actually very hierarchical structures and it’s hard to find room for manoeuvre [...] and then what is the purpose of research in the end? What are its practical outcomes? I think it’s important to leave the university system” (Man, former DSRS postdoc).

In the stories of the leavers interviewed at the DSRS, there were some aspects of experience in the department which were not mentioned among the reasons for leaving research, but which recurred in interviews as particularly problematic issues. A first difficulty related to hostility among different research groups.

“A factor that certainly permeates the DSRS concerns negotiation on the policies that orchestrate everything [...]. Affiliation is deeply felt and opens the way for people who born already full professors” (Woman, former DSRS postdoc)

“What I’ve perceived is that the atmosphere in the department is fraught [...]. It’s a very hierarchized organization in which there are irreconcilable conflicts, and those affected are the most vulnerable people, those with fixed-term contracts” (Man, former DSRS postdoc)

Another difficulty experienced by the DSRS leavers was the impossibility of collaborative research. On the other hand, there were interviewees who preferred individual work:

“The work that I did was very individual. I didn’t have much contact with other people and I didn’t feel an atmosphere of collaborative research, which is very important for me [...]. Working on my own was tiresome. The work was fascinating but doing it alone, with just the computer screen in front of me, was harmful in the long run” (Man, former DSRS postdoc).

“I had to achieve the objectives that I had been set. Then I could manage things as I thought best. It was very individual work which frequently didn’t involve collaboration with others, but I didn’t see this as negative” (Woman, former DSRS postdoc).

A final difficulty – which was stressed by both female and male “leavers” at the DSRS – concerned employment instability:

“When you work with a postdoc grant lasting twelve months, you have to imagine what will happen after those twelve months, and you have to get moving to avoid ending up on the street [...]. It’s this precarious dimension of work that weighs you down, and it’s always present in research. I suffered experiences that I’d had before. Intermittent periods of work increased my insecurity” (Man, former DSRS postdoc)

3.2.2. Movers

As regards the DISI movers who had left the department but continued to do research, a distinction should be drawn between the reasons that had induced them to move to other universities and those that had led them to take jobs in companies.

Among those working in academia, both women and men emphasised two factors which had persuaded them to move to other universities: one – expressed especially by non-Italians living far from their loved ones – was the family:

*“I moved from the department to my country for personal rather than professional reasons [...]. I know it was fortunate for me to be back in ***, so at least I could be around the family. But it was really purely for personal, rather than professional reasons” (Man, former DISI postdoc).*

The second factor had instead to do with, first, the desire to have international opportunities – especially at universities of prestige in the interviewees’ areas of interest – and second, the desire for different experiences:

“I liked working at the DISI, but I wanted to gain different experiences [...]. I think it’s better to have more than one experience in different places than to have a very long one [...]. So I moved just to get better academic experiences. Basically that’s the main reason” (Woman, former DISI postdoc).

Among the DISI movers currently doing research in the private sector, the decision to work in a company was instead explained, by both women and men, as motivated by the desire to achieve the greater stability – in terms of contract and career – offered by companies with respect to universities:

*“I applied for a job at *** because basically there was no chance of staying at the DISI. So I could either remain there with a totally precarious post without any stability or guarantees, or look for another job but one still linked to research, because it’s what I like and what I want to do” (Woman, former DISI postdoc)*

“I didn't have any chance of staying there. Actually for the last six months I looked around for a job. I tried to write proposals for the European Commission or something like that, but I was not lucky at that time and found nothing. When I was offered a chance to enter this institution with a more stable contract, I accepted it” (Man, former DISI postdoc)

Interestingly, while none of the movers working at universities had children, several of those employed by companies did so.

Among those working for a company, another reason for leaving academia was the different level of concreteness of research conducted at universities and in industry. In fact, some of the interviewees working at the DISI saw university research as highly theoretical and excessively abstract. Research within companies was different, they said, because it has a greater impact on society:

“Research in the company is much more concrete, and that's what I was looking for [...]. During the PhD I thought that I'd like it a lot more, but I eventually realized that I wanted something more concrete because you don't know whether or not what we produce as researchers will be used by someone in twenty years' time” (Man, former DISI postdoc)

“I'm doing much more applied research. Because that's my goal. For me, technology is a tool, and I want to use it for projects that have a social impact. So, let's say, rather than theoretical research, what is needed is technology to implement [...]” (Woman, former DISI postdoc).

Finally, among those interviewees doing research in companies, there were both respondents who described the lack of teaching activity as a bonus and those who were nostalgic about their teaching duties when they worked at universities.

“When I was at the DISI, I also had to teach. It wasn't something that I particularly liked ... also because it often slowed down my research because I couldn't devote myself one hundred percent to it as I'd have liked” (Woman, former DISI postdoc)

“One thing that I miss somewhat is having discussions with students. I know that many of my colleagues consider teaching to be the boring part of the researcher's job, but for me it was never like that. Indeed, some students even gave me important inputs for my research” (Man, former DISI postdoc)

Among the DSRS movers, we found none who were currently doing research outside the academic system, but only researchers who had changed university, remaining in Italy or moving abroad.

“When I received this proposal and accepted it, the Sociology department no longer had the problem of finding funds to keep me there. This is not an accusation but a matter of fact [...]. It is not that I was encouraged to leave, but when I spoke to the department about this proposal, they told me that it was fine by them. As if to say: go, because there's nothing for you here” (Woman, former DSRS postdoc).

Only very few of the interviewees had moved to other departments after obtaining a post as an assistant or (more rarely) associate professor.

Also in the case of the movers, interviewees in both departments cited difficulties experienced during the postdoc; but these were not presented as the reasons for exit from the department.

As already said in regard to the leavers, a first difficulty was the lack of cooperation within the research group to which the interviewee belonged. However, among the movers it was mainly women who reported a lack of cooperation among members of the team.

“The things that I didn’t like very much were how that group was organized and how there was no real interaction in it: it was as if every member did their part without really constructing something ... and working together. And this was sometimes rather frustrating, because they saw something as an end in itself [...]. Each member had lots of potential but didn’t share it. The work was very individualised. This is what I perceived” (Woman, former DISI postdoc).

“I always felt like an appendage without being part of something ... I always had this sensation of suffocating [...]. I never felt fully integrated into the group’s dynamics. I don’t say that I was marginalized, but it was something that I sometimes felt. Perhaps because they knew that I wasn’t going to stay there long and had no desire to invest in relationships which would not last long” (Woman, former DSRS postdoc)

The majority of the male “movers”, however, in both departments, described a high degree of collaboration among the members of the group – even ones with different disciplinary backgrounds – when they worked as postdocs:

“I think it’s incredibly structured and collaborative. In fact, the way that people integrated and worked together was quite a revelation, I’d say [...]. The philosophy of the group was very efficient and everybody had input to give and people were valued for their input. The group was so collaborative and everybody was able to discuss the work that they were doing and get feedback from other people; I think it’s a very useful way of collaborating” (Man, former DISI postdoc).

“My relationship with the other members of the group was great. We went out together and also met outside the department [...]. We often collaborated, writing articles together” (Man, former DSRS postdoc)

If attention shifts from the research group to the climate more generally perceived within the department, apparent during the interviews were a number of critical issues regarding the DSRS which both men and women reported.

“I remember how hard it was to enter the department on some mornings, because I was associated with a particular group, and if I met a member of the Ghibelline or Guelph faction on the stairs, they’d scowl at me or wouldn’t greet me, not even in response to my own greeting” (Woman, former DSRS postdoc).

“It seemed to me that they had a parochial mentality: there were several people tied to research groups rather than to certain lecturers [...]. I sensed that they reasoned according to the scheme that ‘I’m on this side, and for any

proposal made by a colleague from another group I'll always be a nit-picker and find a reason to say that it's no good" (Man, former DSRS postdoc).

Another difficulty experienced by a number of interviewees – at both the DISI and the DSRS – concerned work not envisaged by the terms of the contract. At the DISI, these 'extra' tasks were mainly due to requests by project coordinators to 'lighten' their workloads. It was also one of the areas in which gender differences were most evident:

"Another thing which wasn't very nice was that I had to work on a European project. But I also did work that wasn't pure research at all: I organized conference calls, talked to the partners, emailed ... which was not what I imagined when I got this post" (Woman, former DISI postdoc)

"I helped with the writing, but the network, maintaining contacts with the partners, emailing, organizing project meetings and all these things... I was not really involved, there was a colleague, another postdoc who took care about these activities, and pretty well too" (Man, former DISI postdoc)

Also at the DSRS there was this implicit request to do work unrelated to research; and also in this case there were differences between women and men.

"I wasn't asked to do anything particularly heavy ... there was perhaps the expectation that I would organize some workshops or seminars. Activities anyway related to my subject and which I was interested in doing. I didn't feel any particular expectations about these things; they were more things that I wanted to do" (Man, former DSRS postdoc).

"During the postdoc I attended to everything, I did everything: I booked dinner tables, I took visitors around, I babysat for people who came for a few months, I did everything for the research group to which I belonged, not what others were asked to do ..." (Woman, former DSRS postdoc)

As well as a different distribution of roles, in some cases the women interviewees described gender inequalities also in the behaviour of male researchers towards them:

"I really feel that I should say this, because it's something that's well known, and I think it's because we study and work in a scientific-technical field [...]. In some cases I've had the impression that if a woman gives a technical opinion, offers advice, a suggestion or a point of view, the other person is already doubtful or anyway goes to check with a colleague, maybe a man" (Woman, former DISI postdoc)

"There were a whole series of masculinist attitudes disguised as gallantry, so jokes about how cute you were, opening the door for you, lots of idiotic and gratuitous smiling... a whole range of highly irritating behaviour of that kind" (Woman, former DSRS postdoc)

Conversely, the men working as postdocs in the two departments said they had not noticed any difference in treatment by their colleagues of one or the other sex. However, in both departments, the male interviewees maintained that there was an implicit tendency for positions of greater responsibility to be allocated more often to men than to women.

As for the leavers, who had left research, so for the movers – who instead continued to do research but at other universities or research centres – reconciliation of work and

family life was often cited among the difficulties encountered, but with important gender differences.

At the DISI, most of the men movers said that they could balance work and private life during their postdocs. In fact, contrary to what had happened during their doctorates, they had managed to achieve a balance between the two spheres by imposing more or less definite schedules on themselves and trying not to work at weekends, except to meet specific deadlines:

“During that period I didn’t work after six thirty or seven in the evening. I might work after seven if I had a deadline. But if I didn’t have one, I left the office and switched off completely. At the weekends we went into the mountains with friends, and I found a bit of time for myself ... I checked my emails on Monday” (Man, former DISI postdoc)

The same scenario was described by the women without children, who said that they had gradually set limits on their work. The only woman with children interviewed at the DISI, who had to move another university, instead stressed the difficulties that she encountered with maternity:

“I can’t work more because my body won’t let me. If the girl falls asleep at nine, say, I can’t work in the evening because I just can’t stand it psychologically, I can’t concentrate anymore, I’m tired, there are other ... more things to do at home than before [...]. Now I really don’t feel well, I don’t feel that I do enough work and that I work as I did before. And I know that it won’t be like that any longer” (Woman, former DISI postdoc)

Of the same opinion as this interviewee were the DSRS movers, both women and men, both with and without children. At the DSRS, in fact, the movers shared a narrative which centred on the reconciliation issue:

“On the one hand I feel guilty about my work because I can’t give it one hundred percent – even if they make me understand that I must always be up to scratch and show that I am. On the other, for the same reason I feel guilty about my daughter. The thing that happened and still happens is that when I’m with my daughter, I’m still thinking about work. It’s a schizophrenic situation: I’m never completely on one side or the other” (Woman, former DSRS postdoc).

Research is therefore described as a profession that does not allow periods of interruption which would slow down the activities required by the department for someone to be deemed worthy of career advancement.

3.3. The current position

3.3.1. Leavers

The interviews with respondents who had worked as postdocs at the DISI but were no longer researchers revealed a significant difference between men and women. The former were satisfied with their current jobs, and their narratives entirely reflected their enthusiasm. In fact, they had been able to find jobs which, though distant from what they had done previously, gave them a great deal of personal satisfaction:

*“I didn't feel satisfied with what I was doing. I realized that research was not for me. But when I started doing *** I immediately understood that this was the job that I wanted to do for the rest of my life because it fulfilled me” (Man, former DISI postdoc)*

The women leavers interviewed were very few in number, but their stories described pathways different from those of their male colleagues. These women, in fact, not only had jobs inconsistent with their previous experience and qualifications, but in some cases they were deeply frustrated:

*“Everything I've done since the doctorate, I could easily not have done at all. Even my degree is too much compared with what I do now in my job, because to be *** you need skills which were not on my degree programme and which I haven't acquired in my experience [...]. Let's say that I'm not satisfied with my job if I consider it on the basis of my curriculum and my previous professional experience” (Woman, former DISI postdoc).*

The DSRS leavers, who had (at least temporarily) left research, reported several episodes of unemployment:

“I've been writing projects for months, and I'm waiting to see if I'll get the funding. I'm in contact with various people to see if I can join a research team and get back on the bandwagon. This is my first episode of unemployment” (Woman, former DSRS postdoc).

Other women interviewees were likewise awaiting contracts that would allow them to continue in research, or they were concluding activities related to previous contracts, even though they had formally terminated. The men leavers seemed to be in hybrid situations more often than the women. It is also interesting that, whereas the women more often sought assistantships and projects which matched their research interests, the men were more willing to quit their specific field of expertise and 'reinvent' themselves according to the jobs on offer.

3.3.2. Movers

Analysis of the interviews with respondents who had worked as postdocs at the DISI, and were now at another university, showed several cases of interviewees with a second postdoc post:

*“I didn't get any offers, so I accepted the Marie Curie fellowship and then moved to *** to start another postdoc fellowship, which will last two or three years” (Woman, former DISI postdoc)*

Others had obtained assistant professorships, although not tenure tracked, again related to research or academic work. To be noted is that among those interviewees continuing in research, all of them – both women and men – had fixed-term contracts:

“My current contract is a fixed-term contract, which is for two years [...]. But neither is this one guaranteed, so I still have to bear in mind that at the end of that timeframe I may not have a job at all, and therefore this is another reason for making so many applications for different posts [...]” (Man, former DISI postdoc).

As already pointed out, among the movers of the DISI, unlike those of the DSRS, different stories were recounted, by both male and female researchers, about work in the private sector.

*“I applied for the vacancy open here and I got the job. I’m head of *** and I have a three-year contract which sets various objectives [...]. When *** assesses whether these objectives have been achieved, they should give me a permanent contract” (Woman, former DISI postdoc).*

While not all the women had permanent contracts with the company where they worked, all the male interviewees who had moved to the private sector had achieved contractual stability and also positions of responsibility:

“I now have a permanent full-time contract. I have a company car, I don’t have to clock in, I have thirty days of holiday and I can take another six because I travel a great deal [...].” (Man, former DISI postdoc).

Turning to the DSRS, to be noted is that all the movers were currently working in other departments and universities (none of them was doing research in the private sector), and the majority of them had postdoc contracts. Only very few of the respondents, and in this case mostly women, had obtained assistant professorships:

*“What I teach now at *** is the same subject that I taught at Sociology [...]. Last year was the first year of this kind of teaching because my contract at Sociology wasn’t renewed, for no particular reason. There was a call for applications to ***, I was successful, and now my appointment has been reconfirmed” (Man, former DSRS postdoc).*

The main differences between the current and past postdocs at the DSRS were described by those who had moved to a non-Italian university. In particular, they stressed the different ‘mentality’ regulating academic life, less marked by hierarchy or power relations, readier to recognize different research interests, and where early career researchers appeared to have a greater degree of agency.

Finally, as for the DSRS leavers, so for the movers there seemed to be a strong sense of insecurity, which sometimes had a significant impact on the choices of interviewees:

“I reasoned in terms of factors concerning academic work [...]. For a time I reasoned in terms of investment, but this was replaced by an objective problem, that of economic insecurity” (Woman, former DSRS postdoc).

3.4. Expectations and future projects

As regards expectations and future projects, to be emphasised, and in regard to both leavers and movers, both men and women, is the difference of opinions between the DISI and DSRS interviewees. In fact, at the DISI the future envisaged by early career researchers seemed to be quite positive and hopeful, especially if there was a willingness to move abroad – a possibility not regarded as problematic by the interviewees:

“Obviously [the future prospects of researchers] are more than promising [...]. I think that in the future there’ll be a great deal of work, because technology is evolving rapidly, and then there’ll also be a whole range of possible

applications and problems to solve. So I think that there's a lot of scope" (Man, former DISI postdoc).

The DSRS interviewees, by contrast, described the future of research in gloomier terms:

"I don't want to be pessimistic, but what I see is less and less reliance on research, especially on the research that we do [...]. Then it must be said that our work as social scientists is not appreciated. Here sociologists don't do sociology but instead work as politicians, bureaucrats, administrators ... there's no investment in sociologists, and with this mentality who knows what will happen? I don't have a very positive vision of the future for us researchers" (Woman, former DSRS postdoc).

3.4.1. Leavers

The expectations and future projects, as regards both profession and family, of the DISI leavers were rather different between men and women. The majority of the men felt very satisfied with their current work and would like to continue with it in the near future. Some men, but especially women, leavers from the DISI were instead not satisfied with the work that they were doing because it often did not allow them to put skills acquired over the years into practice.

"I honestly wouldn't mind returning to research, but in the private sector and not in the academic system, because nothing has changed in university research since I left it. The people who were working there are still precarious and see no chances of being stabilized [...]. I like doing research work, but I see it more as something to look for in the private sector" (Woman, former DISI postdoc).

Also among the DSRS leavers there was a difference between the statements of women and men. The former would mostly like to continue working in research, but in conditions different from those that they had experienced at the DSRS, and especially ones related to contractual stability. One of them, moreover, was unwilling to leave Italy because she considered herself an asset for the country and because she felt bound by family dynamics. The male DSRS leavers seemed rather more discouraged and did not believe that they could return to research:

"Awful, that's how I imagine the future. I imagine a future I don't know how closely tied to research, but a future that will come sooner or later, and I must prepare myself in some way ... for this reason not directly connected with research" (Man, former DSRS postdoc).

3.4.2. Movers

A first interesting element of the future prospects of the DISI movers was that a large proportion of those working in universities – both men and women – were considering the possibility of moving to private companies to do research:

"The university has temporary contracts, and the risk is that you'll reach the age of forty and still not be certain about anything. You can't start a family because you don't know if you'll be able to support it because you don't have a fixed salary. The ideal for me would be to continue working in research because I like it, it's my passion, but I also realize that if it doesn't give me

stability, I'll have to move to industry, where you have more guarantees"
(Man, former DISI postdoc).

This employment situation impacted on future family expectations that prevented making long-term plans. In fact, both women and men working in universities had the same opinion about a future family and stressed that research – and hence the irregularity of work and schedules – did not allow them to think about having children, who would be obstacles to the rhythm to be maintained in research:

"I don't think I want children, at least not at the moment because I'm going through a phase of my career that requires a lot of energy. Having children stops you from a professional point of view because you go out of the loop. I don't want that because I want to fulfil myself in terms of a professional career" (Woman, former DISI postdoc).

Most of the interviewees who did research in companies, however, had more precise ideas about their futures, both familial and professional. All of them, both women and men, expected to stay in the same job with a career ladder to more prestigious and better-paid positions. Moreover, an important difference between men and women leavers working in industry concerns the prospect of having children. In fact, whilst most male interviewees working in industry intended, in the medium or short term, to start families, most of the women procrastinated:

"I'm someone who tends to tread carefully. So until my prospects here become a bit more secure, to be honest, having children is a matter that I've set aside. A little because I have not this predisposition – in the sense that being an engineer is intrinsic – and a little because I want to concentrate entirely on my career" (Woman, former DISI postdoc)

As highlighted by the above interview excerpt, the women interviewees who had worked at the DISI believed that a career in science, especially in technology, and having children were mutually exclusive. Some said so because a family would hamper their career development, adducing arguments mainly to do with an organizational and professional culture based on total devotion to work. Others were not concerned about potential difficulties related to maternity because having children was not among their desires and life plans.

As regards the movers of the DSRS, once again it was the women who most often imagined their futures within academia, even if they had no certainties, while the men would be more willing to do research in non-academic contexts:

"My future is difficult to foretell. I see it in the academic system because in any case, with all my past experience, I'm now investing and working to stay at the university in order to build an academic career. What will actually happen I don't know" (Woman, former DSRS postdoc)

"I see myself still doing this type of work in the future, because I like doing research. Not necessarily at the university, but perhaps in another context, with somewhat higher pay, because in the meantime I'll have acquired more experience and can tell the commissioners that I have experience on the issues that they want me to study and I can give added value" (Man, former DSRS postdoc)

It should also be emphasised that many of the women interviewees at the DSRS wanted to have children, but their work insecurity forced them to postpone the decision:

“At the private level I can't deny that I'd like to have a child, but at the moment it's a difficult choice, and it also depends on how things turn out. If I don't get some stability, at least to ensure that I can maintain the baby, I certainly won't take such a reckless decision. To have a baby you need security so that you can have a decent standard of living. At the moment I don't have that security” (Woman, former DSRS postdoc).

The men movers at the DSRS were of the same opinion as the women. Also from their point of view the decision to have children depended on achievement of job security which would enable them to maintain the children with no worries about the future.

3.5. The 'best' trajectory for career development

The interviews showed that there were several components of the 'best' trajectory for career development. The most important of them were fundraising, the number of publications – preferably in leading international journals – internationalization, interdisciplinarity, and especially membership of prestigious research groups.

As for fundraising, much appreciated was the project culture whereby it is possible to do research work by independently obtaining funds for it. Linked to this principle is that of publications – preferably in English and in journals with a high impact factor.

An element stressed by a number of interviewees was the professional maturity of a candidate for a research post. Several interviewees said that, in the Italian academic context, the selection of winning candidates is filtered, even if not explicitly, by age. According to the interviewees, in fact, the Italian academic culture seems unable to break the relationship between a long 'apprenticeship' and achieving more stable positions, regardless of whether or not younger candidates have experience that would allow them to compete – like the 'older' ones – for the (few) positions available.

Hence, although rhetorically importance is attributed almost exclusively to publications in selection procedures for assistant professorships, in practice they seem to be outweighed by the criterion of age. Likewise, interdisciplinarity is another feature considered – in abstract – as essential for career development. Yet it seems that openness to other disciplines is deemed important but not given particular recognition in the evaluation phase. According to interviewees from both departments, interdisciplinarity was instead penalized because it prevented clear allocation of a researcher to a specific disciplinary area in terms of both selection procedures and publications.

A final factor cited by the interviewees as being important for career development was internationalization. It is widely believed that an international reputation demonstrates scientific excellence. However, in this case too, the interviewees said that visibility in the scientific community and internationalization are rhetorically considered key criteria for career development but in practice are often given secondary importance.

In summary, the interviewees considered the best trajectory as that of researchers able to build solid relationships with members of the department and/or obtain funds for research projects of international importance, and to have publications in prestigious

journals. Also described as essential was having worked, or at least spent periods as a visiting scholar, abroad, and having significant teaching experience. Finally, the prestige and negotiating ability of the supervisor seems to be crucial for obtaining a more stable position after one or more postdoc grants.

To conclude, the situation at Trento University as described by the leavers and movers seems to have been a hybrid between modernity and tradition. Modernity was conveyed by a rhetoric related to internationalization, the quantity – and quality – of publications of international impact, and fundraising; while tradition was transmitted and perpetuated by a logic still widespread in Italian universities whereby criteria of co-option, affiliation, and membership are still the tacit rules for promotion and career development.

4. POSTDOCS

A postdoctoral position is the intermediate and transitional phase between the initial step of an academic career represented by a PhD and an assistant professorship – a position which leads (if things go well) to more stable positions. Also in the case of postdocs, the interviews conducted in the two departments examined by this analysis – the DISI and the DSRS – revealed significant differences among the interviewees.

The first difference concerned the perceptions of postdocs of life in the department where they worked. In fact, while at the DISI postdocs were perceived as an integral part of the department, at the DSRS they labelled themselves outsiders: that is, people who collaborated with the department but were not involved in its everyday governance.

Another feature that differentiated, at least in part, the DISI from the DSRS postdocs was the perception of employment instability that permeated their working lives. As already evidenced for the leavers/movers, while the respondents at the DISI did not seem particularly concerned about the precariousness of their posts, those at the DSRS were more overtly worried about it. The DSRS interviewees cited not so much concern about pay levels (an element instead sometimes apparent in the DISI interviews) as the problem of employment instability. The different perception of job insecurity of those working in STEM or SSH disciplines has also been found by Nikunen's (2011) research on academics with temporary contracts in three Finnish departments: technical sciences, humanities, and natural sciences. Analysis of the interviews conducted by Nikunen showed, as did our research, that the perception of job security differed among the various departments. Those respondents working in technical sciences did not perceive employment instability as particularly problematic, unlike those in the humanities. This finding can be interpreted by considering the greater ease with which academics in STEM disciplines, compared with SSH ones, can find skilled jobs in the private sector outside the academic context.

A final feature distinguishing the two departments concerns the different types of position to which postdocs were appointed. While postdoc positions at the DSRS were based exclusively on projects – national, European and international – at the DISI they were also obtained on the basis of research commissioned from the university by private companies.

4.1. The previous academic career

It is first of interest to reconstruct the previous academic experience of postdocs at the DISI and the DSRS.

As regards the DISI, the interviewees had followed a fairly linear pathway and which was very similar for almost all the interviewees, both men and women. In the majority of cases, after completing their doctorates, they had obtained a postdoc post on a project, and frequently one with European funding. The research work required of them did not significantly differ from that of their doctorates, either in terms of activities or interactions with the research group:

“I finished my PhD at the beginning of April [...]. Basically, after finishing my PhD I started right away as a postdoc with the same professor at the same university, and everything; basically I was continuing the work I'd done for my PhD, just carrying on from my PhD” (Man, DISI postdoc).

Another feature common to the experiences of men and women working as postdocs at the DISI concerned recruitment. Interviewees of both sexes stressed the importance of the doctoral supervisor for the first post following graduation. Whilst some of the interviewees had doctorates from the DISI, the majority had PhDs from other universities but had nevertheless previously worked with members of the DISI.

“In my experience, unfortunately, all the calls for applications are made with people already in mind, and they are tailored to the person then hired. This has been my experience. That's why you see a perfect match between the curriculum of the winner and what they require [...]. It's obvious that in the case of postdocs they need very specific people, and it's clear that the supervisor decides in targeted manner on the basis of trust or reputation. And this is what happened to me” (Woman, DISI Postdoc).

As regards the DSRS, the career path was described as less linear than that of the DISI interviewees. Only some of the respondents were immediately recruited into the DSRS after obtaining their doctorates in that department. Some, not having found a position after the doctorate, had done other work, and only later, thanks to contacts maintained with the DSRS, were recruited to a postdoc position:

“On completing my doctorate I found myself, like everyone else, needing to find a future career which matched my previous studies. At that time I didn't have any offers, so I looked around [...]. But I'd maintained contacts with Trento, and in the meantime a lecturer for whom I'd been an assistant got funding for a project and asked me to work as a postdoc” (Man, DSRS postdoc)

We found partly different situations among the women. In fact, whilst some of them had obtained a postdoc position through contacts with lecturers responsible for project funds, others had instead continued to work at the DSRS thanks to projects obtained by themselves and financed by resources external to the department:

*“There were these calls for postdoc applications by ***, so it had resources to finance research projects for postdocs. I proposed a project, which was financed on the basis of my curriculum. The department had nothing to do with it. It was something that you do as an individual, finding the host institution and nominating a scientific coordinator from within the institution.*

I'm in the department as a postdoc, with funds that I myself have brought to the department [...]. I did the fundraising at no cost" (Woman, DSRS Postdoc).

4.2. The current position and the main difficulties encountered

The difficulties encountered by male and female postdocs at the two departments analysed evidenced different scenarios.

4.2.1. Participation in departmental life

As regards the DISI, both the women and men emphasised a positive and informal departmental climate among the various members of the research group:

"There's usually a full professor and the associate professors, who do what he tells them or work closely together. Then there are the researchers, then there are the postdocs, then there are the PhDs. And this pyramid structure is very strong in certain departments. The DISI is very different from this model. There's a horizontal model and the climate is very calm [...] everyone has always provided the conditions for me to do my research calmly, and they've really taken care of me and my work" (Woman, DISI postdoc).

At the same time, although the general climate of the department was positive, a large proportion of the interviewees – both women and men – said that they had not found a good level of collaboration at the DISI among different research groups. In fact, each research unit often carried out its activities independently from the others, and regret was expressed at this lack of inter-group interaction. By contrast, for both men and women, collaboration was very close among members of the same group.

*"I collaborate with many people besides those in my group. My group has more than twenty members, and it's not that I work only with ***: ***, I do things with ***, and we also have some previous stuff, things that we're writing and doing with some PhD students. We have overlaps with other postdocs, and we try to do some things together." (Man, DISI postdoc).*

Even more than at the DISI, the DSRS postdocs, both men and women, had professional interactions almost exclusively with members of their own research unit. They perceived themselves as marginal with respect to the department as a whole:

"I personally – and others as well, I think – don't feel that there's a departmental climate, but rather the climate of my research group. From this point of view, I'm a bit of a lone wolf, for better or for worse I do my own thing [...]. I don't notice a departmental climate, I don't have close relations. There's an aseptically cordial atmosphere among people" (Man, DSRS postdoc).

Some respondents also highlighted situations of scant interaction within the group to which they belonged, especially because of the lack of collaboration between tenured and non-tenured researchers. In other cases, they instead experienced positive cooperation within their research area:

"I'd say that there is a very good work climate in my research group. I feel fine. It's formal when it has to be, but also very friendly and with close personal relationships on another level [...]. From the internal point of view I'd

say that I'm very satisfied with the cooperation among us" (Woman, DSRS postdoc).

However, whilst good relationships with the research group allowed maintenance of good-quality work conditions, the topic of fragmentation among different groups recurred in the narratives of respondents, both men and women, with regard to recruitment processes and possibilities of continuing the academic career.

"Also the recruitment process takes place according to the reproduction of consolidated alliances. And from time to time it has been decided in the Department to support one group and then to support another" (Woman, DSRS Postdoc).

"I see the department as a set of different tribes, and if you don't belong to a tribe, you have almost no interaction with people in the Department. I've always had contacts with lecturers who don't really belong to the most powerful groups, let's say. [...]. I believe that serious research is done on the basis of shared interests, not on the basis of what group you belong to, or whose power you represent. I've never liked this. I find it very short-sighted" (Man, DSRS postdoc).

Turning to the DISI, a first difference with respect to the DSRS is that the interviewees criticised not so much the selection procedures as the lack of funds to create more posts.

"The situation is the same as it is in all the rest of Italy: there's no money and there are no investments. It's not the criteria which are the problem. The problem is very simple: if you don't invest, you can put whatever criteria you want. It's a question of funds, not criteria. I can't complain because as metrics they're okay. It's that if the posts don't exist, they don't exist. It's very simple" (Man, DISI postdoc).

One issue that seemed to unite the two departments concerned the problems faced by those interviewees undertaking interdisciplinary research because of the difficulty of locating them in the department's areas of interest:

*"I was told outright that they didn't want to hire me on an open-ended contract both because there was no money and because I'm interdisciplinary. So they didn't want to hire me either at *** or at ***. Okay, I made this choice and now I have to lump it [...]. In Italian academia there's this disciplinary closure – there are many reasons for it – but disciplinary closure is going on despite all the talk about interdisciplinarity" (Man, DISI postdoc).*

"I have a pretty interdisciplinary profile. But I see that it's not valued and recognized here. In fact, at times it seems that for this reason there are obstacles also for the scientific classification that I must have. I've perceived this obstacle only here, because in other places where I've been, it was appreciated" (Woman, DISI Postdoc).

Another element that emerged during the interviews with postdocs from both departments concerned recognition of work with students writing theses.

At DSRS it seems that men, more than women, sat on degree boards as co-supervisors, so that their work with students became visible.

“I supervised three-year and master theses; one as first supervisor, and the other as co-supervisor. This was a formal role that was recognized by the administration and which I can put on my curriculum.” (Man, DSRS postdoc)

“Then there are the students writing theses that I supervise informally. I supervise only a few by choice because it’s something that can’t be recognized on my curriculum and remains invisible. It’s something that I like very much, and I regret not being able to do more of it” (Woman, DSRS postdoc)

At the DISI the situation was different. There the men especially emphasised the difficulty of not being able to appear formally as supervisors of doctoral theses:

“Also abroad, people and colleagues expect you to supervise doctoral theses. They expect things that I know how to do but which aren’t formally recognized. I’m working informally with doctoral students, but according to the rules of the Doctoral School, it’s not possible for me to be co-supervisor” (Man, postdoc DISI).

The situation seemed to be different for the women postdocs at the DISI, who said that they were not formally recognized even for degree theses:

“I officially don’t exist, and my work with students writing theses isn’t recognized at all. I’ve never heard of postdocs being members of even undergraduate degree boards [...]. I have a friend who graduated here. He was mainly supervised by a postdoc like me, but who was not on the degree board because the professor went instead” (Woman, DISI postdoc).

Also as regards extra work related to administrative tasks, there was a substantial difference between the postdocs working in the two departments examined.

At the DISI, while there were significant gender differences among the movers/leavers, male and female postdocs said that they engaged to an equal extent in administrative tasks related to management of the projects on which they were working. At the DSRS, however, even among those still working in the department, administrative tasks seem to have been more often undertaken by women postdocs.

“What I’ve seen is that in my group everyone did everything, from the administrative part of the project to the actual research, from the writing of proposals to revision [...]. There was always an equal distribution of tasks between men and women” (Woman, Postdoc DISI)

*“Well, perhaps the gender dimension emerges here somewhat: the administrative and organizational work was carried out within the group by ***, so the burden of collecting time-sheets, sending emails for seminars, and organizing a mailing list was all on the shoulders of a woman, and I was relieved. It’s also true that it’s now a man, a doctoral student, who does these things ...” (Man, DSRS postdoc)*

More generally, in both departments the postdocs interviewed said that whatever the reference lecturer was unable to do, it was done by postdocs, from supervising theses to writing projects, which were then signed by the coordinator. The difference, however, consisted not so much in the type of activity as in whether or not it was formally

recognized. It is precisely this aspect that some interviewees emphasised, and it is interesting to consider the different perceptions in the two departments.

The DISI postdocs felt substantially satisfied with the responsibilities attributed to them and the recognition that went with it:

*“For example, I'm now coordinating the writing of a European project which is mine: the networks are mine, the topic is mine; *** puts the signature. Here postdocs put their names on proposals. Of course, if you ask the administration office, they say: ‘Well, the university would prefer the names not to appear’. But it's not that you can't put your name. It's not written anywhere” (Man, DISI postdoc)*

“I'm leader of a work package, and this is work with greater responsibility because I have to coordinate the activities of several people. I'm not just the postdoc who has to do her research and this is put in the deliverable X” (Woman, DISI postdoc).

At the DSRS, however, the majority of the interviewees, both men and women, perceived themselves in a more invisible position not consistent with the responsibilities given to them:

“Also this thing of recognition in projects ... for example, with a colleague I've written project proposals that have taken up a load of time and resources. But despite these efforts, our names can't appear on the proposals because we're not employees” (Woman, DSRS postdoc).

“Often, the responsibility or the type of research you do is absolutely comparable to that of a researcher. It seems to me that the status of a postdoc can be defined as a non-status, that is, an expectation of being recognized as a researcher. I think that the stress is due to this as well. We're in a contractual situation which is weak in various respects but with the responsibilities of a researcher. The difficulties are there, the status and the condition of a postdoc is weak from this point of view, with the type of responsibility that you have to assume” (Man, DSRS postdoc).

4.2.2. Gender differences and reconciliation between private life and work

The last two aspects to be emphasised concern answers to explicit questions put to the postdocs during the interviews on gender differences at the DISI and the DSRS, and issues related to interference between private life and work.

As regards the DISI, both men and women stated that they did not perceive differences in their overall treatment. However, especially the interviews with postdoc men evidenced the fact that the entry of women into computer science had been closely related to the opening of IT to 'softer' research topics.

*“I think the arrival of *** has done good in this regard. He has a research topic more suited or more interesting to women, which is why he has girls in his group. In our group too there's now a topic *** and also there it's easier for girls. There are a great many geeks, men, in hardcore IT. Of course there are some exceptions, some female researchers who don't do social topics or *** but also do serious research” (Man, DISI postdoc)*

Therefore, despite the rhetoric of no difference between women and men in the department, some of the interviewees emphasised that the few women present at the DISI dealt with research topics not entirely to do with information engineering, but rather with softer and 'less serious' areas of the subject. There consequently persisted a sub-text whereby women are considered less suited to the scientific and technological disciplines.

At the DSRS the situation was different. There the women stressed that the gender dimension was of importance mainly in the definition of trajectories:

“I know stories of female colleagues here who have been pressurized because of a gender issue [...]. You're female so I'll make you work more, I'll make you do administrative work. I won't let you get ahead because some day you may have children, or I may feel that you're less reliable and less strategic. In terms of attitudes, gender is still so important. If you asked me if things would be different if I were a male doing what I do, I'd answer definitely yes” (Woman, DSRS postdoc).

“What I've seen is that the medium and long-term expectations of a woman with respect to a man – I refer to people aged between twenty-five and thirty-five – are usually framed by the possibility that a woman may have family responsibilities and therefore give less support to the group's work” (Man, DSRS postdoc).

Focusing on the reconciliation of private life and work, especially the DSRS women highlighted the difficulty of finding a balance between the two spheres mainly due to the fact that, having no fixed schedules or obligations concerning presence in the office, they merged work with private life:

“The fact that I don't have an office and feel uncomfortable in my open-space is a problem, because when you work in an office you can unwind at home. But I mix work and everyday life. Maybe in the morning I start working, then turn on the washing machine, I start, I stop, hang out the washing ... it's a constant mix of an everyday life which is never such and work that squeezes everything” (Woman, DSRS postdoc).

The men were more often of the different opinion that the great flexibility in organizing their work was an absolute advantage for their private lives, which they could organize according to needs:

“I consider research work as very positive in some respects. It's obvious that on the one hand constant commitment is required of you, so you often have to sacrifice aspects of your private life. But the high flexibility of the working hours and non-obligatory presence in the office lets you organize things by yourself” (Man, DSRS postdoc).

Also to be stressed is the aspect of the presence or absence of children. Only two of the DSRS postdocs interviewed had children. In both cases they were men, and both described problems in reconciling work and family life which had forced them to sacrifice time for the family in order to achieve professional goals. Among the other interviewees without children, the large majority, both men and women, described the difficulty of planning parenthood due to the impossibility of imagining a future family with an unstable job.

“Non-fatherhood which may not be necessarily a matter of choice is an aspect of a lack of reconciliation. It’s clear that contractual instability, or at least a medium- or long-term prospect of it, has a negative effect on life projects like starting a family and having children” (Man, DSRS postdoc).

“My work in academia is the obstacle to motherhood. The absence of a secure job prevents me from constructing a long-term project involving the care of a third person [...]. This job requires me to be constantly updated on the international debate on my topic of interest, and the work interruption due the birth of a child would be an obstacle to my career development and being able to resume work one hundred percent” (Woman, DSRS postdoc).

As regards the DISI interviewee, once again the majority had flexible workloads that usually depended on project deadlines. Both men and women said that they were able to strike a reasonable balance between private life and work:

“I arrive at around nine o’clock and leave at around six or six thirty, it depends. I don’t usually work in the evenings because I want to keep the time for myself and have my own space. It’s obvious that if there’s something urgent that I haven’t done during the day, I do it the evening. At the weekend it depends, because if there’s something urgent, I do it, though I admit that I’ve eased off lately” (Man, DISI postdoc).

“I try to organize my work so that I can take at least one day off a week. If I’ve got a great deal to do, I try to increase the hours of work. I may wake up at seven thirty and work till eight in the evening. I don’t work at night. I haven’t done so for a long time [...]. Sometimes it seems to me that this work generally requires a commitment that not everybody would be willing to make. My friends often suggest doing something or other, but because I have a deadline, I have to say no” (Woman, DISI postdoc).

To focus on the family dimension, the DISI men were of the same opinion as most of those at the DSRS. They said that, although they wanted to have children, starting a family was impeded by uncertainty about the future. Reconciliation, in fact, was the only issue in regard to which employment instability was cited at the DISI department. On the other hand, as already pointed out, almost all the women postdocs interviewed at the DISI said that they did not want to have children in the near future because motherhood could not be reconciled with research work:

“I don’t want children, both because it’s not my greatest desire and because I believe it would be difficult to work if I had a child, at least at first, because there are very difficult periods. I like working long hours for three weeks always eating out and everything, but how could I do that if I had a family? I don’t think it would be at all compatible with the work that we do” (Woman, DISI postdoc).

4.3. Expectations and future projects

As regards the future expectations of the postdocs interviewed, differences were apparent between the two departments.

Most of the men at the DISI did not see prospects of permanence in the department and they planned to go abroad, both because there were no vacancies at the DISI and because, according to some, the value of the work done by researchers is not recognized in Italy. The majority of the men interviewed said that they wanted to remain in academia and would like to continue working in the research sector. But one aspect that many stressed concerned the planning of a professional life compatible with that of the partner:

“I want to remain in the academic sector, but my main worry when I think of the future is what the Americans call the two bodies problem: I’ve had a relationship with a person for many years, and if I go somewhere, it’ll have to be a place where there are opportunities for her as well, because otherwise it would be a dreadful wrench” (man, DISI postdoc).

Most of the women, however, wanted to remain in Italy in the future and, if possible, at the DISI. Despite this desire, however, they knew that the opportunities were limited, and some of them had already applied for posts abroad.

“In the future I see myself doing research. I’d like to stay here, but I know that there are no chances, so I’m already looking around. I’m not ambitious and I want to keep doing exactly the things I’m doing now, in the place where I am now. At present, though, I don’t have many projects for the future. I try not to think about it and continue like this, not having plans for the future and living in the present” (Woman, DISI postdoc).

As regards the future, the interviewees at the DSRS were of the same opinion as those at the DISI. They wanted to continue working in Italy and, if possible, stay in the same department. However, they expressed uncertainty more forcefully:

“I see my professional future as rather gloomy. I’ve always said that I wouldn’t want to go abroad because of family priorities that I must respect [...]. I’d like to be able to reconcile my affections and my roots with this mantra of international mobility, because if you want to be competitive, you have to go away. I have some family issues which at this time would make going away a bit problematic. Then I resent the fact that I must place my whole life in service to my professional development, because I don’t want to uproot myself” (Woman, DSRS postdoc).

Some of the other women interviewed, however, had less clear ideas about their professional futures and were not sure if they would continue in research, both because they were uncertain if they would be able to remain in the academic system, which is highly competitive, and because they were unwilling to devote their personal lives wholly to research. Nor did the majority of the men have clear ideas about the future: they were unable to envisage one extending beyond a time horizon of a few months. Many claimed that early career researchers people have few opportunities at the Italian universities, and that academic work offers scant chances of permanent employment, implying many years of precariousness:

“I can’t plan a future extending beyond a year, and this is perhaps one of the main problems. I know what I wouldn’t mind doing, which is continuing in research. Continue at the university? If possible, yes, but frankly I don’t see it as the only option. What I like is dealing with issues that I consider useful. Basically, I think we can perform a function for the public good, and if this is

possible outside the university, I wouldn't mind taking that road" (Man, DSRS postdoc).

4.4. The 'best' trajectory for career development

The factors considered most important by the postdoc interviewees in building an academic career were membership of a research group, publications, geographical mobility, and fundraising.

As regards membership and the capacity to activate networks, the majority of the interviewees said that this factor was central for making themselves visible in their department. Conversely, even those who had achieved significant international recognition said that if they were not supported by a person or a research group within the department, they had no chance of obtaining a tenured position.

Another element which should ensure a good scientific profile consisted in international-level publications. These should provide the basis for significant professional development. The possibility of having a large number of international publications was also favoured by geographical mobility, which was considered another factor important for professional development. This is because the internationalization of experience and opportunities to work in other organizational and academic contexts allows the construction of a solid network within one's area of research. International collaborations are of great importance because they certify that the value of an individual's research and his/her approach are recognized not just by one lecturer, research group or department, but by an entire scientific community.

The last factor considered essential by the postdocs interviewed was the ability to attract funds from outside. This ability was seen as highly positive because, at a time of increasing cutbacks in research, obtaining a project – whether national, European or international – or funding from private companies creates new opportunities to continue one's professional career.

To summarize, the interviewees described a very specific profile guaranteeing the 'best' trajectory: on obtaining a postdoc post, it is important to learn how to write projects, preferably European or international, to have individual or co-authored papers published in prestigious journals, and in the meantime to spend some periods abroad. Also important are teaching experience, which is considered very important in selection procedures for assistant professorships, and the bargaining power of the research group to which one belongs.

5. THE NEWLY EMPLOYED ASSISTANT PROFESSORS

Fixed-term researchers are hybrid figures in the Italian academic system. In fact, as reported in previous studies produced as part of the GARCIA Project (Peroni et al. 2015), the 'RTD-a' assistant professors analysed here do not have a tenure track, but a temporary professorship which lasts for three years and is renewable for only two further years after an internal evaluation.¹

¹ The RTD-a position is different from the temporary assistant professorship of "type B" (RTD-b), which is a three-year post, not renewable, but on the tenure track. However, access to a permanent position is conditional on possession of the National Scientific Habilitation,

Although the newly-employed assistant professors interviewed were not on a tenure track, they did not seem particularly concerned about the possible loss of their jobs, albeit with some significant differences between the DISI and DSRS. In fact, while at the DISI the newly-tenured researchers labelled themselves – as far as contractual status was concerned – ‘semi-structured’ (i.e. with structured but not tenured positions) and therefore had good bargaining power (though not comparable with that of the confirmed professors), those at the DSRS had quite the opposite perception of their position. The principle in that department was that people with fixed-term contracts were marginal to decision-making at the institutional level.

The different positions of the DISI and DSRS interviewees permeated all the areas examined in the analysis of the interviews with the RTD-a assistant professors. Another substantial difference revealed by analysis of the interviews was between the accounts of men and women concerning perceptions of their everyday work. In many respects, in fact, men and women RTDs expressed divergent points of view on both their recognition within the department and difficulties in their career pathways.

5.1. Previous academic experience

The interviews conducted at the DSRS and the DISI revealed similarities in previous career paths. Almost all of the interviews showed that obtaining a post as a fixed-term researcher was related, to a greater or lesser extent, to networks and experiences constructed during academic life in the department in which the post as researcher had been obtained.

The interviewees at both the DSRS and the DISI emphasised that their career paths had been to some extent linear. After the doctorate, awarded at the University of Trento but often also at other universities, they had spent periods abroad, and then returned to Italy to take up another postdoc post or participate directly in an RTD competition. It emerged from the interviews, as also recounted by the postdocs, that consolidated relations with figures prestigious from both the negotiate point of view and within the scientific community were considered important in the recruitment process. The fact that the evaluator already knew the candidate’s work was a factor that could help him/her to be selected for an assistant professorship.

“Certainly important for winning [the RTD competition] was the entire network of people that I knew. I’d already worked here, even though I then moved abroad. I knew some of the professors, and this helped me in being hired because they already knew how I worked. Let’s say I was ‘supported’ in a certain way” (Woman, DSRS RTD).

“At the end of the day, it’s obvious that if I hadn’t been known to someone – though nobody formally asked me to join a group – I probably wouldn’t be here” (Man, DSRS RTD).

Also the DISI interviewees maintained that prior collaborations are crucial for obtaining support in recruitment procedures:

“I was lucky to be part of a group and to receive support from lecturers who believed in me. [...] Also when the RTD competition was held, I found people

obtainable after a very long, complex and debatable procedure managed at the national level.

who believed in me, because without them you can't get ahead at a university in Italy, not even if you're a genius" (Man, DISI RTD).

5.2. The current position and the main difficulties encountered

It emerged from the interviews conducted at the DSRS and the DISI that the respondents, despite the above-described differences between the two departments, were largely satisfied with their current jobs, which put them on a path that opened a possibility of tenure, although not guaranteeing it. In particular, those who had already obtained the national qualification as associate professors described it as a 'springboard' to tenure.

5.2.1. Participation in departmental life

Both at the DSRS and the DISI, the researchers' main activities were research, teaching, and the supervision of students writing theses (also doctoral students at the DISI). Added to these activities – considered canonical – were further ones delegated by the department director, the head of the degree course in which the interviewee taught, or relating to research projects on which s/he was working.

As described for the postdocs, also in the case of the RTDs we found gender differences in the distribution of work, particularly as regards administrative tasks. In fact, these tasks – for example, those relating to project management – seemed to be assigned to women. The men interviewed at the DSRS instead said that such tasks were not important in their everyday activities.

"I've done practically everything in this project. Everything at the level of the empirical research, but also report writing, fund management, administration, and relations with the partners" (Woman, DSRS RTD)

At the DISI, the administrative workload was instead delegated to administrative staff specifically hired for the various research projects. This was made possible by the large amount of external funds – from national, European and international sources as well as the private sector – which financed the research conducted at that department.

"To manage so many people as we do is an activity necessary to support researchers. We have – paid by us – a full-time and a part-time secretary dedicated to the administration" (man, DISI RTD).

In regard to the difficulties faced by the RTDs at the DISI and the DSRS, the first concerned professional recognition of the activities carried out within the department, in particular as regards the writing of projects. However, this issue seemed to be regulated differently in the two departments.

"I've been both the overall head of projects and only the scientific coordinator, and these roles were formally recognized ... there are contracts on which my name appears as project leader" (Man, DISI RTD)

"The most grotesque thing that happened to me on a PRIN [ministerial project] a couple of years ago was that as a fixed-term researcher I was not formally eligible to be head of a local unit: I found myself doing all the work

but having to ask a colleague, who did it for me as a favour, to figure as head of the unit” (Man, DSRS RTD).

Interpreting these differences between the two departments requires a brief digression on the regulation of the Italian academic system. At ministerial level, the figure of the RTD does not fulfil the eligibility requirements to appear as a project manager. The Ministry, in fact, does not contemplate RTDs among those who can occupy coordination roles, which are accessible only to those with permanent posts. This rule does not apply to projects financed by private companies or by the European Commission. These are more frequently present as financiers at the DISI compared with the DSRS, where instead funds more often come from local or national public authorities. This largely explains the differences between the two departments in the possibility to coordinate research projects.

A second feature, once again linked to the recognition of roles, concerns the participation of RTDs in decision-making. Also in this case there were differences between the two departments. At the DISI, the RTDs interviewees stated that – although the most important decisions were obviously taken by the full professors – everyone could submit their ideas and proposals for innovation to the department council, and they were often supported. At the DSRS, both women and men thought that they were not fully involved in departmental life.

*“I and *** tried to put this matter as one of the central issues concerning the department [...]. I must say that they didn't say to me: ‘But you, RTD, what you want and where do you think you're going?’. Considering that neither I nor *** are full professors, I must say that there were some things that we were able to carry forward in the department. There was a bit of space, and we were given trust” (Man, RTD DISI).*

“I've participated in [the department council] ... When there's a faculty conference, where they talk for three hours about generic lines of development, we're also invited. In situations where it is decided what the strategy will be and what to invest in, we're not invited [...]. If you look from an institutional point of view at how we RTDs are informed and how we participate in decisions ... the level is zero” (Man DSRS RTD).

Another aspect to consider with regard to the distinction between the DISI and the DSRS is the difficulty of obtaining recognition for the work done with students writing theses. Although at both the DISI and the DSRS, RTDs may not appear as thesis supervisors if they do not have their own students' class, at the DISI there is nevertheless a mechanism that allows the formal recognition of supervision:

“I can be the supervisor, but usually in the group, because we are linked together for now, but maybe that's because these are my first years, so I prefer to have him in the loop as well, so we do it together. Now, for example, it is written that there's one advisor and I am a co-advisor” (Woman, RTD DISI)

One notes from the above interview excerpt that it is possible to supervise students despite not having a teaching responsibility. At the DISI, besides the supervisor there is the figure of the co-supervisor, together with two advisors, who have the task of discussing the student's thesis, but without having supervised the research and the writing. The situation is different at the DSRS where, besides the impossibility of RTDs

being recognized as co-supervisor, there appears to be an unequal distribution of tasks related to degree theses among the various members of the department:

“I assist students in writing their theses. It’s an activity that so far has not been formally recognized, in the sense that there is no formalization, and it’s not that the more theses you supervise, the better. There’s a very uneven distribution of tasks from this point of view, and there is no advantage in doing numerous theses: it takes up a lot of time, and there’s no recognition of this work” (Woman, DSRS RTD)

This interviewee’s opinion was repeated by her male colleagues. They too emphasised an unequal distribution of thesis writers. It was disproportionate not so much by gender as by academic position. In fact, the interviewees raised the problem of the refusal by some professors to assist students in the writing of their theses, especially if they were undergraduates.

5.2.2. The reconciliation of private life and work

A second area of difficulties for the RTDs concerned care responsibilities, and in particular having children.

The rhetorics of the men and women were similar with reference to the reconciliation of research with family life, described as an obstacle to the development of an academic career, to which the interviewees felt that they had to give priority at this stage of their lives. On the one hand, for men this meant their reduced presence in the family and a greater amount of care work for their partners/wives:

“What is valued in research and academia is also a certain continuity, especially in terms of publications. Mine have diminished somewhat because with the family ... of course, everyone’s sorry that I don’t have time to devote to my child, to my wife, or to go around” (Man, DISI RTD).

On the other hand, for women – almost absent from the tenured research staff at the DISI – who wanted to have children, there was a postponement of motherhood due to concerns about the disruption of work that this would cause, especially in regard to publishing – considered a factor crucial for career development and apparently impossible to interrupt:

“To have a relaxed mind, I’ll wait for a baby until I qualify as an associate professor. And then I’d like to have a baby, so we’ll see. This is the idea, because I don’t want the baby to arrive in a very stressful period” (Woman, DISI RTD).

Also at the DSRS, motherhood was perceived as a problematic event, and the very few women with children stressed the difficulties that they had experienced:

*“In Italy, motherhood is seen as an obstacle to research. If you did a survey on the women in the department, you’d find that very few have children. [...] But when I was in *** [other EU country], when I told them that I was pregnant and after six months I wouldn’t be able to work, they told me not to worry, that it was a private matter” (Woman, DSRS RTD).*

Maternity therefore still does not find citizenship in Italian academia, and the female researchers with children – none at the DISI and one at the DSRS – encountered considerable difficulties in reconciling work and family life. Although to a lesser extent, also the male RTDs with children – three at the DISI and one at the DSRS – considered it difficult to achieve a balance between work and family life:

“In the family, the burden of looking after the children is, of course, asymmetrical and it mostly falls on my wife. I’d say that I mostly take them to school in the morning, and when I can, I go and fetch them in the afternoon [...] But just about everything to do with feeding the children and caring for them is her responsibility” [Man, DISI RTD]

“Having small children cancels your free time [...] It’s a matter of balance between family life and work. Often my work time coincides with my free time in that I can have lunch and dinner with colleagues, or I attend conferences that allow me to be away from home and have some space of my own external to family life” (Man, DSRS RTD).

On the one hand, the above excerpts evidence that also men have no time for themselves if they have children. On the other, development of an academic career still seems linked to a gender model that allows men to devote themselves more to their careers than their partners/wives are able to do.

Entirely different was the view of RTDs without children. In fact, the male interviewees saw a permeability between the familial and professional spheres:

“I’ve never seen my private life as distinct from my scientific and intellectual life [...]. My whole life is my research. Maybe it’s also related to my situation, because being single and childless I’m not subject to the constraints of private and family life. But even if I had a private and family life, I probably wouldn’t be able to distinguish among my research, my interest, and my passion” (Man, DSRS RTD).

This interviewee’s words highlight how the professional and personal spheres are perceived as inseparable, it being almost impossible to draw boundaries that delimit them.

5.3. Expectations and future projects

The interviews revealed a substantial similarity between the future expectations of the RTDs at the DISI and the DSRS. Most of them, both women and men, intended to achieve a stable position and then advance their academic careers within the department to which they belonged:

“For example, becoming an associate professor or becoming a full professor, I don’t want to wait too many years for that. So, my idea is to fulfil all the requirements to apply for this position soon [...]. I know what I should do for that, so that’s why I’ve devoted most of my time to here” (woman, DISI RTD).

Some DISI interviewees, however, did not preclude routes alternative to academia, particularly ones related to universities outside Italy (routes, however, which were not found in the DSRS interviews) if they did not obtain satisfactory positions.

An issue worth emphasising, and which emerged in almost every interview, concerned the temporary nature of the employment contract, which significantly affected expectations even outside the professional sphere, for both the DISI and the DSRS interviewees. An oft-cited problem was, for example, the difficulty of buying a house or obtaining a mortgage. Furthermore, as already pointed out, some of the respondents were not yet ready to start a family because this might hamper their professional development by limiting periods spent abroad – which were considered important in fulfilling the requirements for professional advancement.

The specific theme of the temporariness of the contract and the influence that it might have on expectations about the future was dealt with in similar terms by the RTDs at the DISI and the DSRS, both women and men:

“In February next year my fixed-term contract will expire, but fortunately I’m in a selection procedure: an associate professor position has become vacant in my department, and I hope that everything will go well” (Man, DISI RTD).

“I’m an optimist and I hope that after this stage there’ll be stabilization, either through an RTD-b or through another type of mechanism, but I hope to continue and become a professor” (Woman, DSRS RTD).

As noted above, therefore, the RTDs interviewed did not view the expiry of their contracts as particularly problematic, and they were quite optimistic about being able to obtain a more stable position in the future.

5.4. The ‘best’ trajectory for career development

The interviews with the male and female researchers with fixed-term contracts at the DISI and the DSRS evidenced a well-defined profile of the trajectories and experiences that can be considered ‘best’ for career development.

The first phase assuming considerable importance coincided with the period of the doctorate. During those years, a person should begin to have their work appreciated first in their research group and, later, in other research groups within the department. Already during this phase, it is important to spend some time abroad, in order to expand one’s network and become known to the wider scientific community in one’s disciplinary field. Another element considered essential, already at this early career stage, is publishing, especially in prestigious international journals. Furthermore, a valued feature giving good future prospects is pro-activeness in developing ‘other’ initiatives within the department that extend beyond routine activities and demonstrate a team spirit. It is also necessary to find the right mix between being a good researcher and a good teacher – another element considered particularly important. A further factor in development of a ‘winning’ career is the support of one’s supervisor. Through the support of a senior researcher, especially if s/he has prestige and negotiating capacity within the department, an early career researcher is more likely to achieve a stable position at the University of Trento or at another university.

As regards the research interests of the future RTD, these should be as specific as possible. Although interdisciplinarity is regarded as an added value because it leads to broader approaches to certain phenomena, it is considered more strategic to focus on only one disciplinary sector. This is for two reasons: first because a multiplicity of thematic interests makes it difficult to fit into a particular competition sector; second

because a fragmentation of career and research interests gives the impression of not being an expert in any particular field.

We may therefore summarize by saying that the experiences enabling candidates to win RTD competitions began with the doctorate – which was when the RTD began to create his/her own network. A high degree of internationalization, gained mainly through experiences such as visiting scholarships abroad and participation in research projects of international importance, also appears to be particularly valuable. In this regard, some interviewees said that the award of a project of European or international significance was one of the elements that favour selection as an RTD and tend to provide job security. Finally, we turn to the moment of the competition. Besides having a strong curriculum in terms of research, publications and teaching, an element influential for the candidate's possible recruitment is, as already mentioned, the fact that his/her work is already known to the department, especially in terms of previous research assistantships.

Because the activities to be carried out, even if informally, so as to become an RTD are varied and require almost total dedication to work, the typical profile of an RTD seems to be that of a person with no family – or with limited care responsibilities – who devotes much of his/her time to work. This is especially linked to the frequency of publications, on which a great deal of emphasis is placed, and which is the basis on which to build a profile suitable for development of the academic career. Publications, in fact, are of central importance for recognition at both the departmental level and internationally, and hence for having a 'winning' professional trajectory.

6. TRANSVERSAL DISCUSSION

A matter widely investigated in the literature is why universities are male-dominated and hierarchical organizations (Saunderson, 2002) in which "gender inequalities appear to be global and persistent phenomena" (Husu, 2001: 172). The results of the GARCIA Project confirm this scenario characterized by the low presence of women, especially in the topmost levels of the scientific career. This situation is often described with the metaphor of the 'glass ceiling' (Hymowitz, Schellhardt, 1986), which is also well suited to the contexts analysed here. As in other professional contexts, so in academia women tend to be held down on a 'sticky floor' (Booth et al., 2003) which retains them, in greater numbers than men, at the lowest levels of the career. And it is on the early stages of the academic career that the GARCIA Project focuses.

This section of the report concentrates on crosswise analysis of the stories recounted by the three groups of respondents: the movers/leavers, the postdocs, and the assistant professors. The purpose is to understand how the 'leaky pipeline' phenomenon (Alper, 1993) operated in the two departments analysed. In the narratives of the interviewees, gender inequalities were cited sometimes overtly and sometimes more covertly. In any case, as we shall see, there exist diverse and complex social dynamics whereby women encounter more obstacles than men during their academic careers.

6.1. Gender cultures and organizational cultures

In this cross-sectional analysis of the empirical materials collected, we try to identify the elements making up the gender cultures conveyed in the two departments studied.

To start with the DISI, most of the interviewees, both men and women, said that they did not perceive gender differences in the department where they worked; indeed, they described equal working conditions and opportunities for career development. However, there were some interesting differences both between men and women, and within the three groups analysed.

The male assistant professors at the Computer Science department adopted a rhetoric that declared equality between the sexes; but it emerged from their narratives that women colleagues were considered suitable for the 'softer' part of their discipline (Kantola, 2008). This rhetoric reproduced a gender culture founded on the traditional division of labour whereby women are regarded as more suited to the 'soft' sciences than to 'hard' research, and which is typical of male attitudes. This view reproduces gender stereotypes which result in an unequal distribution of power between the sexes (Ernest, 2003).

Also the women assistant professors at the DISI claimed that they did not perceive a gender difference in their treatment with respect to men, and they tended to assume the 'malestream' point of view (Moller Okin, 1989) on their community of reference. This attitude was described by Gherardi and Poggio (2003), who observed the cases of women who enter traditionally male organizations and professional contexts and deploy various strategies to deal with their position, including complying with the majority male social group. Kanter (1977) had already emphasised this trend, noting that when women are in the minority in masculine cultures and want to avoid isolation, they often seek to become members of the 'dominant group'. The discursive practices of non-gender discrimination in academia, in disciplines that have always been male-dominated, can therefore also be read in light of the willingness of women to be considered and evaluated in the same way as men. The female assistant professors, in fact, rejected the narrative of diversity – though this was supported by their male colleagues – showing that they felt at ease with the conditions dictated by academia, which requires total dedication to work (Krais, 2008). However, constant availability for research and keeping abreast of the competition subtended an organization in fact male-oriented (Gill, 2009). It was based on a traditional gender model, the differentiation of roles, and an organizational culture unconcerned by the fact that researchers have a life outside work.

The fact that the all-encompassing nature of academia was not particularly problematized in the interviews – either by men or women – was certainly linked to a large extent to what Kvade (2011) says in reference to the ambivalence of knowledge work, considered "both seductive and greedy at the same time" (2011: 17). However, total availability for work has to do not only with the passion for research and the high level of identification with one's job, but also with rhythms that impede investment in other areas of life, in particular care tasks (Gaio Santos, Cabral-Cardoso, 2008). In this regard it is interesting to note that, in terms of reconciliation, the women assistant professors at the DISI, as well as the female postdocs, said that they did not want – at least at the time of the interview – to start a family, which they perceived as an obstacle to development of an academic career. The problem therefore consisted, not in the legitimate desire not to have children, but in the fact that this was perceived as incompatible with professional investment in university work. Moreover, as argued by

Armenti (2004: 75), "the first message that female assistant professors receive from the past is that taking time off from work for childcare can be harmful to their career progression". And this is all the more true when the assistant professorship is temporary and does not carry tenure (Nikunen, 2011). In these cases, women – those who want to have children – adopt the strategy of postponing pregnancy until they have achieved professional stabilization (Clegg, 2008).

The view of the university as incompatible with starting a family reflected adherence to an organizational culture – reproduced by both the men and women interviewees – which did not allow any slackening of performance, thus reducing life-spaces outside work to the minimum. Consequently, those with care responsibilities were penalized in particular as regards maternity, which was represented by the female assistant professors and postdocs at the DISI as too long a period of time to interrupt the academic pathway (Probert, 2005). It emerged from the interviews that motherhood was considered an obstacle to career development – a 'spectre' that seemed to loom over the career prospects of women – while the male counterpart, fatherhood, was perceived as less problematic, especially in cases where care work was the responsibility of women (Gherardi, Poggio, 2003).

Finally, as regards the DISI, whilst the assistant professors interviewed, both men and women, as well as male postdocs, claimed not to perceive differences between the sexes in the department, the female postdocs instead described 'hidden' situations of discrimination (Husu, 2001) which they alleged they had suffered at the hands of male colleagues. In this case the issue was not reconciliation, but legitimacy within the research group. In fact, several women said that they did not perceive an equal scientific legitimacy, especially because their positions and research proposals often seemed to need the support of a male colleague to be given full consideration. This situation perpetuated a professional culture that still regards the technological and scientific disciplines as not suitable for women, who are labelled "strangers in a foreign land" (Gherardi, 1991).

Turning to the DSRS, analysis of the stories revealed positions different from those at the DISI. To be emphasised in particular is the presence of concern about work instability which resulted in a sense of frustration that permeated both the present and the future, not only in the professional sphere but also in the private and familial one, thus influencing the decision concerning possible future parenthood.

As far as gender discrimination is concerned, at the DSRS there were interesting differences in the representations of men and women, as well as in the opinions of those occupying different positions (assistant professors, movers/leavers, postdocs). Whilst as regards women, the female component was explicitly cited as most penalized in all three of the figures analysed, this was not the case among the men interviewed. In fact, the narratives on gender inequalities within the department were mentioned and shared by both the movers/leavers and the male assistant professors, but not by a substantial number of male postdocs.

One of the main discursive practices deployed by the women interviewees to account for gender asymmetries was the prevalence of male figures at the apex of the academic career. To be noted is that – at the time of the research – there was only one woman full professor within the department (who recently became two). According to the interviewees, this made it more difficult for women to create networks. As widely shown in the literature (e.g. Knights, Richards, 2003; Benschop, Brouns, 2003), academic

institutions are traditionally considered social spaces in which a dominant male culture is still very apparent. In this scenario there are two types of successful scholar: the one willing to devote him/herself to research – which in turn erodes all other areas of life, as mentioned above – and the one who negotiates, in informal (male) networks, academic positions and power management. Women are unlikely to match either profile: on the one hand, because there is still a marked gender imbalance in care loads (Gaio Santos, Cabral-Cardoso, 2008); on the other, because women are excluded from the so-called 'old boys network' in which the main decisions on selection processes are taken (Van den Brink, Benschop, 2012).

As for the reconciliation of work and family life, as already emphasised at the DISI, so at the DSRS the situation was very problematic, as also highlighted by the fact that there were no female postdocs at the time when the interviews were conducted.

There was a wide variety of positions among the women postdocs, as already observed at the DISI. Some did not want to have children; others delayed the decision because of job instability and/or the heavy workload characterizing this stage of the career. In particular, it was believed that motherhood impeded professional ascent, particularly in regard to publishing, which is deemed essential for academic development (Lynch, Ivancheva, 2015). Once again, therefore, there was a narrative based on the irreconcilability between the family sphere and the work required by contemporary academia, which has expectations concerning performance by researchers that only those devoted solely to their work can fulfil (Armenti, 2004).

Also among the male postdocs, employment instability was cited as the main obstacle to starting a family. Their (non) choice of non-fatherhood was therefore influenced by the precariousness of the university sector and which affected both professional decisions and – above all – familial ones (Wöhler, 2014).

Although concern about job security permeated all the interviews at the DSRS, it does not seem to have had a significant impact on the experiences of male assistant professors, who being confident about a future permanent position, saw fatherhood as compatible with their careers. The dual role of academic and mother was instead exposed to various types of work-family conflict (O'Laughlin, Bischoff, 2005), and in particular to a time-based one due to the pressure to devote seven days a week to one's job as a research worker, from writing projects to teaching and research.

6.2. Network construction and the (de)valuing of work

The topics of building a strong academic network and recruitment processes were among those most discussed by the interviewees – both men and women, and postdocs, leavers/movers and assistant professors.

The majority of the stories collected, at the DISI as well as the DSRS, albeit with some differences, stressed the importance of establishing a strong network within the department in which it was hoped to obtain a post, and more generally within the scientific community. Abilities and awards remaining equal, in fact, those more integrated into the research community, those who have the right knowledge and relations both formal and informal, are more visible to the decision-makers in selection procedures for postdocs and assistant professors. Upward mobility in academia is often a 'sponsored mobility' (Kanter, 1977) in which the mentor's role is crucial.

In the interviews analysed, the women seemed to find it more difficult to construct networks and collaborate with other members of the research group to which they belonged. At both the DISI and the DSRS, and in all three groups of respondents, the women more often than the men emphasised a lack of cooperation. As pointed out elsewhere (Kantola, 2008), the lack of cooperation experienced by women can signal a form of subtle discrimination which may fuel dynamics of marginalization. Not feeling integrated into a research group, the women experience a kind of isolation that puts them at a disadvantage. The lack of cooperation among the members of the research team may also create further difficulty in understanding the informal rules of the game that one must know to progress in a scientific career.

Finally, a further issue in regard to which significant gender differences were described, albeit with different positions in the departments studied, was invisible and undervalued work. To analyse this phenomenon, it is fruitful to draw on the work of Acker (1990), resumed by Husu (2001) and later by Kantola (2008), to describe the process by which gender differences are consistently reproduced in academia. Four main dimensions are distinguished: (i) the gender-based division of labour; (ii) gender interactions; (iii) gender symbols and (iv) the gendered interpretation of a person's position within the organization. If one analyses the first dimension, one finds a gender-based division of labour which assigns less valued activities of little scientific impact especially to women.

The assignment of administrative and organizational tasks predominantly to women (Bagilhole, White, 2003) on the one hand tends to perpetuate the traditional idea that some activities are more 'suitable' for women than men, conveying gender stereotypes which label certain roles as female (Park, 1996); on the other, it generates a hidden discrimination whereby women's careers develop more slowly than those of men because of the time taken away from their research (Husu, 2001). Moreover, in both departments analysed, especially among postdocs, there was a widespread perception that women were entrusted with tasks requiring a lower level of responsibility with respect to men, who instead were given tasks more valued and visible within the department. Such situations, already analysed in other academic settings (Moss-Racusin, 2012), reproduce the stereotype that women are less suited to work carrying responsibilities than are their male colleagues. The allocation of prestigious activities to men and less recognized ones to women is the basis of what has been termed the 'Matthew effect' (Merton, 1968). This expression derives from the Gospel according to Matthew, where it is stated: "For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken even that which he hath". This principle manifests itself in a kind of cumulative process which rewards those who are already in advantageous or prestigious positions. The other side of the coin, namely the invisible work done by women, is termed - to emphasise how this discrimination is based on gender - the 'Matilda effect' (Rossiter, 1993). This was particularly evident in the planning work of the women interviewed, which, unlike that of men, was often undervalued and not formally recognized. At issue, therefore, is not only the type of work done but also how much it is valued according to whether it is performed by a man or a woman (Bourdieu, 1998).

In conclusion, therefore, we may say that the stories recounted by the women and men at the two departments differed from each other, and so did the stories of the three groups analysed: movers/leavers; postdocs; assistant professors. However, a linking theme in all the narratives was the increasing difficulty with which academics reconcile their private and family lives with their work. Changes in the university system, in fact,

have led to increasingly exclusive investment in the career. It is therefore not surprising that this organizational model gives rise to disinvestment by researchers, and particularly women, in the family sphere, since pursuing an academic career advancement proves impracticable if one tries to reject the 'long hours culture' characterizing the current university system.

7. CONCLUSIONS AND RECOMMENDATIONS

In the first Garcia report on the leaky pipeline phenomenon (D6.1), we showed that, from a quantitative point of view, it is rather difficult to obtain a systematic picture of the career trajectories and gender inequalities that characterise the early stages of scientific careers in Italy. The available data are often limited and incomplete. They focus mainly (or exclusively) on employment conditions and/or on specific cohorts of graduation, or institutions, or scientific disciplines; and they do not allow the monitoring of career trajectories over time. In most cases, it is possible to describe changes in the structure and some career transitions only within the academic system. However, a systematic review of the available data and quantitative researches makes it possible to outline a descriptive framework of the main dynamics that currently characterise scientific careers, as well as some of the disadvantages faced by women and early-stage researchers in their career development in Italy.

Alongside critical reconstruction of the main analyses and quantitative research on the academic careers available in Italy, the GARCIA Project has conducted qualitative analysis in order to propose interpretations of the leaky pipeline phenomenon based on the experiences of the early-career researchers who had worked or were still working at the two departments studied. The intent was to gain detailed understanding of both the events in the academic pathway that may induce abandonment of research and the dynamics relative to everyday work and gender cultures in the organizations analysed, namely a STEM and an SSH department. In this regard, it is interesting to note that both at the DISI and at the DSRS, the three groups of interviewees – leavers/movers, postdocs, assistant professors – men and women, mentioned similar problematic factors and singled out similar elements as those in which to invest since the beginning of the doctorate. The differences were found not so much in the factors described as problematic or advantageous, but rather in the different experiences of the interviewees in academia.

The various studies based on quantitative data evidence the persistence and reproduction of gender asymmetries already at the early stages of the career after PhD graduation. The leaky pipeline, glass ceiling and sticky floor emerge as interrelated phenomena both at national and local level. Despite the general growth of their educational endowment and their considerable involvement in PhD programmes, women continue to suffer from disadvantages in regard to employment in the academic and scientific sectors, performance of research and development activities (in their jobs) (Istat, 2010, 2015), and career advancement. And they continue to be strongly underrepresented among the top positions in the academic hierarchy (Table 1) (*vertical segregation/glass ceiling*). Data confirm that women employed in the Italian academic system take more time than men to enter tenured positions (Schizzerotto, 2006; Istat, 2010; Toscano et al., 2014) (*sticky floor*). This dynamics seems almost stable over time – for the transition to both associate professorships and full professorships (Frattini and

Rossi, 2012) – and across fields of study (Lissoni et al., 2011; Corsi, 2014, Palomba, 2000; Menniti and Cappellaro, 2000; Badaloni et al., 2011).

Women with children are less often involved in research activities (Corsi, 2014; Istat, 2015). Parenthood, and more precisely motherhood, continue to be considered incompatible both with a successful (early) career development in the academic sector, and with the job instability that characterise the early stages of career within and outside the academic system. However, there is no evidence that not having children produces positive effects in climbing the career ladder (Palomba, 2008). Childlessness is quite common among early career researchers in Italy. As explained in the methodological paragraph, among early career researchers still working in the Italian departments involved in the Garcia Project, we were not able to interview female postdocs with children (Tab. 3).

Research and analyses focused on gender gaps in various selection processes within the Italian academic system highlight the persistence of a set of mechanisms that seem to feed women's disadvantages in their career developments. These mechanisms interfere with the accumulation of the various requisites needed to build a successful academic career: international publications, fundraising; be included in international and local research networks; visibility of own research within the research community and within the department. Firstly, comparative analyses based on quantitative indicators document that Italian female researchers continue to suffer from a certain productivity gap and are less competitive than men, facing *ceteris paribus* more difficulties than men in publishing (D'Amico et al., 2011; Lissoni et al., 2011; Baccini et al., 2014; Corsi and Zacchia, 2014). Secondly, several analyses focused on selection processes within the academic system have pointed out the persistence of higher risk aversion among women in regard to competitions crucial for their career development, such as the National Scientific Habilitation (De Paola et al., 2014; Baccini and Rosselli, 2014; Pautasso, 2015), or applications to obtain European research funding (EU, 2013). Thirdly, a study focused on female economists has found that, although the investment of women in the profession (in terms of education, organizational activities and research) is significant, equivalent to, if not higher than that of men, women face more difficulties in career advancement, especially when cooptation is at work. In line with the transversal analyses proposed in this chapter, women do research, but they are less visible, often employed in less prestigious tasks and with low level of responsibilities, and less involved in professional networking (Corsi, 2014).

Focusing on the leaky pipeline and the mechanisms that foster the exclusion of early career researchers from academic and scientific careers, almost all the researches conducted on this topic in Italy showed that job insecurity is the most important barrier to the pursuit of a research career (Ajello et al., 2008; MORE2, 2013; Toscano et al., 2015). The high level of job uncertainty experienced by postdocs produces negative consequences on researchers' ability to manage their present and future work, their chances of meeting the expected research performance targets, compromising their long-term career development and reducing their level of satisfaction with their jobs.

In line with such results, the findings of descriptive analysis conducted on the data collected through the Garcia web-survey (Bozzon and Gurnet 2015) showed that the decision to leave the scientific career is strictly connected to the lack of clear long-term prospects, as well as to the lack of job opportunities in the (Italian) academia. The early

career researchers at the DISI and DSRS were highly dissatisfied with the level of security and the chances of career advancement related to their jobs (Figure 2).

However, the interviews conducted at UNITN pointed out two interesting dynamics, the first related to the research field, the second to the job position of assistant professors. Firstly, all issues related to contractual instability seem to affect more the postdocs at the DSRS than those at the DISI. Such difference is mainly due to the wider range of research chances outside the academic system available in the field of computer science and to the higher confidence of those specialized in this field in having access to new research funds in the future.

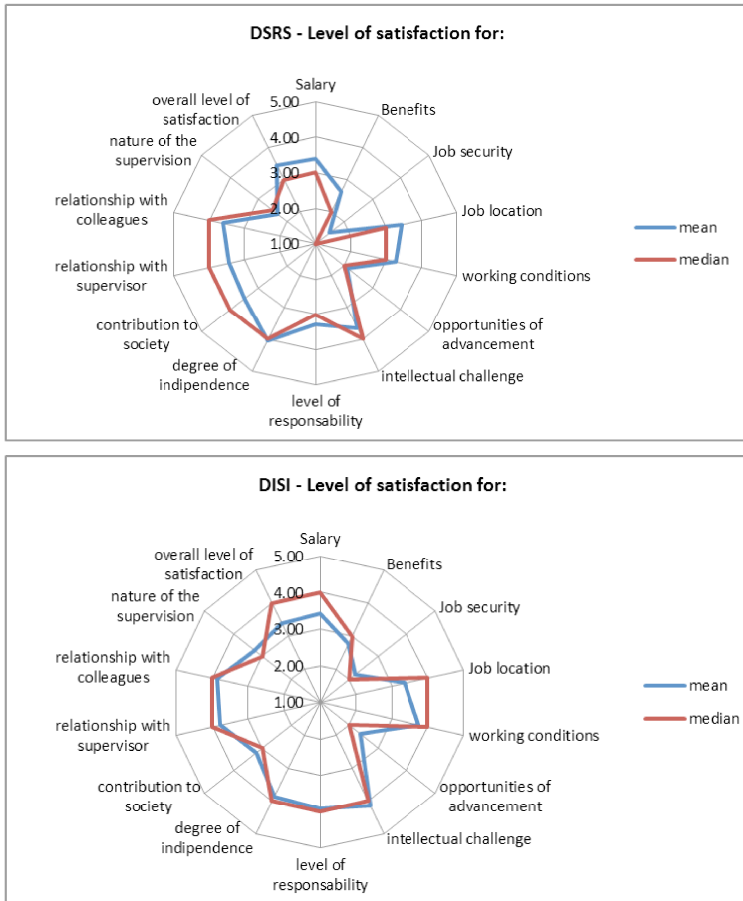
Secondly, the group of **fixed-term assistant professors** (in both departments) do not see the expiring of their contract as problematic. This group perceive themselves as part of the university community and assume that, given their current position and the internal recruitment/career advancement rules at the UNITN (Rapetti et al., 2015), they have high chances to obtain a permanent position in the short run within the department where they are working in. At the same time, female assistant professors showed a higher level of dissatisfaction and intolerance with the “long hours culture” characterising the current university system and with the difficulty to reconcile their private and family lives with their work when compared with their male colleagues and with (fe)male postdocs.

In relation to the job instability, **leavers, movers and postdocs career trajectories** described in the previous paragraphs allow to outline a range of different ways/strategies to reduce the level of uncertainty in the academic career development.

Among **leavers**, finding a job outside the academia/research sector is a way to reduce the interference of work on their life, reduce the pace of work, reconquer a balance between private life and work, and limit professional dissatisfaction and the lack of perspective experienced in the academic sector. However, in the case of female leavers, the new working position is often described as under-qualified with respect to their level of education and they continue to show low levels of satisfaction about their professional situation.

Among **movers and postdocs**, it is possible to identify some career paths that, more than others, seem to foster and enhance their long term career perspectives in the research sector. More precisely, early career researchers who have moved abroad and, only in the case of the DISI department, who are working or are planning to work in the private sector describe/perceive such job positions as more qualified, stable and better-paid than those experienced in the Italian academy. Moreover, these positions are considered as an efficient way to improve both their professional skills, and their long term career perspectives and free time for their private life as well.

Figure 2 – Level of satisfaction of those working in temporary positions – fixed-term assistant professors and postdoc research fellows – with the current work position at the DSRs or the DISI (1= very dissatisfied; 5=very satisfied) (DSRS n=18, DISI n=27)



Source: Garcia web-survey, 2015

During the interviews conducted with early stages researchers at UNITN, after exploration of various key areas – previous experience, the organization of everyday life, career development, and future prospects – the male and female early-career researchers were asked what actions or policies could improve the quality of life and work of persons with temporary positions at the university, the purpose being also to tackle the leaky pipeline phenomenon. Predictably, the answers of the interviewees referred to the main issues outlined above – contractual form, conciliation, career development, autonomy in the construction of networks – and they suggested interventions which would improve their current (or previous) situation.

In regard to policies that could improve the quality of the work of early-career researchers, one element recurrent during the interviews concerned the contractual arrangements of postdocs in Italy. It is of particular interest that, although both men and women at the two departments raised the issue, it was mainly DISI respondents who complained about employment regulations that did not recognize research as a job. In fact, although the majority of these researchers did not perceive themselves as being exposed to work precariousness, at the same time they claimed the right to have access to the same welfare measures that are available to other workers.

“We hybrid figures should be contractually classified in a manner which establishes that even if we have fixed-term contracts, we are employees. [...] Serious thought should be given to how to cover periods out of work in terms of redundancy pay. Put simply, I think that there should be serious action of income support because I think that the lack of unemployment benefits is the main source of suffering for people in our situation” (Man, DSRS postdoc).

“Well, in my opinion two things should be done: the first is unemployment benefit. This above all, because it's absurd that when you complete a work contract – which is not an employment contract but a scholarship, which is another absurdity – from one day to the next you're out of work. The second thing is, for example, calls to build your academic networks” (Man, DISI postdoc).

As already mentioned in the introduction (and in previous works within the GARCIA Project), the researchers interviewed stressed the issue of the contractual classification of a postdoc position in Italy, which in fact does not correspond to a job but to a grant, and therefore does not give access to any form of social security. Not surprisingly, therefore, the other issues raised referred to the rights of 'standard employees', but not of non-tenured researchers, such as sickness benefit and social security.

“Certainly the recognition of sickness. Given that these jobs are so fluid and brief, and not recognized – at least, my grant did not include sickness insurance – protection and health insurance are important” (Man, former DSRS postdoc).

“From my point of view it would be nice if there was greater recognition certainly in terms of pension contributions during the period of postdoc precariousness. It's true that the grant is tax free, but in the end you're still working. So I think that some sort of contribution should be paid” (Man, DISI RTD).

Another matter repeatedly cited – and which is also an issue for workers not in full-time dependent employment, also outside the research sector – is the difficulty of obtaining a mortgage, even for a relatively small amount.

“Right, the problem of a mortgage. The fact that with your contract you can't go to the bank and get a mortgage is already a problematic issue” (Woman, DISI postdoc).

*“For example, in *** [other EU country] the bank didn't ask me what type of contract I had. I had to show them my pay check, but they didn't ask me and my wife about the duration of our contracts” (Man, former DISI postdoc).*

“It’s unacceptable that, given this fact, there’s no attempt to adapt the institutional and organizational forms to this situation. It is absurd that a forty-year-old person who has a fixed-term contract – and this is no longer an exceptional case – and decides to buy a house is told by the bank that the pension policies of his father and mother must be provided as guarantees” (Man, DSRS RTD).

The researchers interviewed, therefore, on the one hand complained about their lack of rights, and on the other, emphasised how their (non-)employment contracts discriminated against them with respect to other workers and, above all, allowed only those with family support to pursue an academic career. In fact, only those with the resources to cope with periods of unemployment could look for a new position without receiving any income in the meantime.

“At the policy level, definitely that of income support, so that the researcher has a continuous income [...]. And also to get the state to understand that it shouldn’t take care only of pensioners, redundant workers, or public-sector employees but also of those trying with such difficulty to pursue a research career” (Man, former DSRS postdoc).

“I think that it’s crucial to give some kind of income continuity, because there’s the risk that only people with their own capital will be able to carry on this type of fragmented career. There obviously arises a situation of inequality regardless of ability, research capacity, and so on. And so only those who can afford to be precarious carry on, the others have much less opportunities” (Woman, former DSRS postdoc).

The interviewees at the DISI, and especially those from other countries, also made frequent reference to the pay of postdocs in Italy, which is well below the European average. Especially for interviewees from other countries, the pay did not match the standard of living that one would expect if working at a university.

“I think that maybe increasing the salary could improve living standards, this is for sure. You can have a better apartment, and then you can do so many activities without thinking about salary issues, money issues; in this sense it may improve. I think that the salary is not enough with respect to the work done in academia in general compared with other countries. In Italy I think it is really very low. But I am doing my best not to be affected by that in my social life” (Woman, DISI RTD).

Finally, as far as the contract was concerned, proposals were also made in regard to the University, more than a structural level. It appears that postdocs are given scant information when they sign the contract, in both the departments, and in particular about their rights and duties. The difficulties are especially pronounced for those who come from other countries because a postdoc agreement is not recognized as an employment contract.

“One of the activities that could certainly improve the career and facilitate it ... is the provision of better information. Therefore, more information, definitely: about subjects like rights or unemployment, because I really had to struggle to find the information, and I never knew if it was accurate” (Woman, former DISI postdoc).

“Another thing that could have helped was information provision, so that we could know how the law for PhD students, postdocs, and so on, works; what are their rights and duties. Because we are guided by the Welcome Office on what we have to do on arriving in Italy, then we obtain a stay permit, but as regards INPS [National Social Insurance Agency], for example, we register and enrol, but then nothing more is done, so it would be good to give information” (Man, former DISI postdoc).

“I think that forms of tutoring and other such things would be good, but also information on the regulations, your rights and your duties. They should explain who you are and what the rules are. This would be a very important aspect of transparency” (Woman, DSRS postdoc).

In regard to national policies, among the women interviewed, both with and without children, there were some who specifically referred not only to income support but also to the need to be able to take a period of leave following the birth of a child, which is currently not envisaged for postdocs.

“The fact that you don’t have decent leave, also in terms of pay, has been a major problem because the child grows, and if you need to get back to work, you have to put him somewhere. There is the need for broader support by the government on this problem” (Woman, former DSRS postdoc).

“According to me, it would make sense to think about more specific employment policies like income support or extension of maternity and paternity rights. Maternity and paternity coverage should be part of the package” (Woman, former DSRS postdoc).

To be called into question, as regards the reconciliation of work and family life, was not only the national level, but also the services that could be provided at the University. It should also be noted that, at the time of the writing of this report, there were very few places – just over twenty – at the crèche run by University of Trento, and access was regulated by a ranking list that penalized those who had non-tenured positions with respect to permanent academic and administrative staff.

*“Support for child care and then a series of internal university services: not only the crèche but also babysitting services, a list of child-minders who could be called in the case of illness. Or different opening times for the crèche. For example, in *** [another EU country] they’re open from seven in the morning to six thirty in the evening, and you have no obligation to enrol the child for five days out of five. It could be more flexible” (Woman, DSRS RTD).*

“One thing I think is essential is having a crèche in the department, so that women don’t have to stay at home or take time off but can continue to work by leaving their child at the daycare care ... but also services for personal wellness, which I think are important: also having a gym within the university, or organizing yoga classes, for example.” (Woman, former DISI postdoc).

“There’s not an office where you can breastfeed in peace ... or a space where you can change your child’s nappies” (Woman, former DSRS postdoc).

A third area in which the early-career researchers interviewed, both men and women and in both departments, thought that there was ample room for improvement concerned departmental-level actions to guide early career researchers in the academic

world. As seen in the above analysis, a key role is played by the supervisor's ability to teach the 'tricks of the trade'.

"From my short experience, what I have seen and more or less understood is that you need to have someone take you under their wing. [...] It depends on whether you have a supervisor or in any case a professor who helps you at the beginning, this definitely, and who gives you tips, who teaches you how to do your job. This for me is the crucial point" (Man, DISI RTD).

"I think that the important aspect of supervising doctoral students, but also postdocs, is informing them about themes and references, journals, conferences ... what is lacking, perhaps, is support for the research process" (Man, DSRS postdoc).

What the interviewees felt was needed (or had felt was needed when they were postdocs), therefore, was not so much knowledge about the state of the art in their discipline, or about conferences to attend and journals to read. In fact, this information seems to have been guaranteed at least to those who believed that they had a good supervisor. Rather, what appeared to be lacking were other types of knowledge more closely related to everyday research practice. In this case, there were differences between the two departments. In fact, whilst the postdocs at the DISI said that they needed to acquire management skills, those at the DSRS instead felt the need to develop skills related to the process of publishing in international journals.

"The big difference, I think, from when you were a postdoc is that you have to manage research projects more and to deal with students, which you perhaps didn't have the chance to do when studying for the doctorate. So on these two things, yes, there could be support on how to write a research proposal and how to manage people, because in our department we don't learn people management techniques, although these would be useful: people management, the management of resources, etc." (Man, former DISI postdoc).

"Activities related to writing would be useful, even very practical things: how to publish in international journals, what to expect when you submit an article, how to structure an article; things that may seem banal but which you only learn in the field. [...] What a department should do to grow its internal resources for retention, a training scheme, is one thing; but having a department that trains people to go outside is not necessarily the same thing" (Woman, former DSRS postdoc).

Both at the DSRS and the DISI, therefore, there was a desire to learn skills that enabled an early career researcher to compete in the international market of research. The interviewees described an almost paradoxical situation – one also confirmed by the projections of quantitative studies (Bonatesta et al., 2014): on the one hand, there was very little prospect of entering the University Trento, or any other university in Italy; on the other, the departments were deficient in supporting the careers of researchers so that they had all the credentials to be able to find work elsewhere.

*"A sort of career advisor. When I was preparing for interviews for an assistant professorship – now I've just won one in *** [EU country] – I was looking for suggestions on how to write the cover letter, the research statement, and the description of my teaching activities. These things I found by myself; there*

was no one to help me. I think it's important, because it makes the difference between whether your curriculum is discarded or whether you're invited for an interview. And then a network that advertises job opportunities at national and international level" (Woman, DISI postdoc).

A final area of action identified by the interviewees was the need to build networks, and to be able to do so independently without the supervisor's mediation. In this regard, one of the abilities that respondents in both departments thought should be developed concerned the writing of projects, especially European ones – probably also due to the fact that research funding is increasingly linked to external resources. As a result, the possibility of continuing the academic career was also entwined with fundraising capacity.

*"Activities that help with the writing of research proposals would be useful. For example, here at*** there's a specific service. There are people who help you write European projects, or help you write projects for the European Research Council. They really help you, because even if you're a good researcher, you may not know how to put your ideas in a decent project proposal with a chance of winning. And they help you so much. I think in general this strategy of helping researchers to position their research would be helpful" (Woman, former DISI postdoc).*

"In my opinion, it does no harm to teach people how to write a research project that may obtain funding. Many of my colleagues didn't know where to start, because it's one of those skills that someone has to teach you; otherwise you have to bang your head repeatedly against the wall before you learn it by yourself. This would be extremely useful in an area which does not receive massive funding" (Woman, former DSRS postdoc).

Especially at the DISI, where fundraising and writing project proposal were activities certainly more developed than at the DSRS (also funding possibilities were much more numerous) the more senior postdocs cited among the measures to be proposed to the University the possibility of presenting a project as Principal Investigator. This would enable early-career researchers, but ones with non-permanent positions, to demonstrate their independence in research and build their own professional networks. Some of the interviewees had already tried to carry out initiatives of this kind, but so far with little success.

"The academic senate could approve an incentive and permission for postdocs to be the PIs of projects: this would be useful for people's personal growth and would give some recognition and satisfaction. At the moment it's not allowed, except for funding like the ERC Starting Grant and the Italian SIR. But there's strong opposition, because when they hire a postdoc, he must do what they want him to do. They don't give a damn about the fact that a postdoc can bring in a project, money, jobs for new people, give visibility and resources to the university. Very disappointing. It's sad because in the end they have nothing to lose. [...] When you apply for an ERC or some more serious funding, they want to see independence in research ... but here they don't give you that independence. You can't have something that you can't have. Even if someone doesn't have a fixed position, the university could still advance their career, giving the recognition that they deserve. But it doesn't." (Man, DISI postdoc).

“The problem is that we can’t be the PIs of projects. In these years I’ve had a PRIN project [funded by the Ministry of University] – actually not as PI because I couldn’t be, but I was the who managed it. Not being able to sign the projects that you write is something of a recurrent issue for the more experienced postdocs and RTDs. It’s not a mechanism that has to do with the individual; it’s the system itself which prevents you from being PI in these projects” (Man, DISI RTD).

Besides the writing of projects, a further element considered essential for building academic networks was participation in conferences and spending periods as a visiting scholar at other universities. This was a topic not mentioned at the DISI, but it was prominent in the accounts of the interviewees of DSRS. Whilst at the Department of Computer Science, in fact, the large number of projects and the consequent availability of funds meant that it was not difficult to cover the mobility of early career researchers, frequent at the Department of Sociology and Social Research were situations in which postdocs had no mobility funding, not even for participation in conferences. As a consequence, the DSRS postdocs were unable to present their research work to international audiences and/or build networks outside Italy.

“One: to facilitate international mobility much more than happens now, which means periods of study in departments around Europe and the world. Two: encouraging participation in calls for papers, in serious and selective conferences where they do not take anyone who drops in while on a sightseeing tour” (Man, DSRS RTD).

“Clearly, if there were support for international mobility, conferences, and transfers ... that would be great ...”. (Woman, DSRS postdoc).

However, networking consisted not only in establishing contacts outside the department in which one worked but also in maintaining contacts with researchers who had worked in that department in the past but were now working elsewhere. On the one hand, this would allow construction of a kind of peer-mentoring system that fostered collaboration among early-career researchers; on the other, it would give greater visibility to persons who had spent part of their academic careers at the University of Trento and were looking for posts either at other universities or in contexts outside research.

“First, the department could gather together all those people who have collaborated in the past and of whom it has probably lost track. These are resources that have gone elsewhere to enrich other departments and other universities. The department has trained these people and then they have in some way vanished. I would gather these people together and I would brainstorm with them to try to understand – rather like you’re doing now – what has worked and what hasn’t, in a process that is shared and participatory. Another thing that I would do is ensure that these people talk to each other, that the various young researchers, PhD students and postdocs know what the others are doing so that they can develop ideas for organizing workshops, publish together or participate in calls. So it would be a networking process.” (Man, former DSRS postdoc).

“The University could seek to make it possible for researchers to continue to work, not only in academia, by creating an information and dissemination

system ... a sort of register of former collaborators". (Man, former DSRS postdoc).

The analysis of the interviews in regard to the policies – at national or organizational level – which the early career researchers proposed to improve the quality of their everyday work and support the development of an academic career, primarily evidenced the difficulties encountered by the interviewees. But it also enabled the team of the Project GARCIA researchers to plan actions for structural change to be implemented by the University, and in the two departments selected, using a participatory approach. The Gender Action Plan thus developed could in fact be based on the needs and proposals originating directly from the project's target: that is, people working in universities with temporary contracts.

REFERENCES

- Acker J. (1990). Hierarchies, jobs, and bodies: A theory of gendered organizations. *Gender & Society*, 4:139-58.
- Ajello A.M., Belardi C., Calafiore G. (2008). UPGEM National Report Italy, in UPGEM (eds), *Draw the Line! Universities as workplace for male and female researchers in Europe*, Tartu University Press, Tartu: 263-363.
- Alper J. (1993). The pipeline is leaking women all the way along. *Science*, 260(5106): 409-411.
- Armenti C. (2004). Women faculty seeking tenure and parenthood: Lessons from previous generations. *Cambridge Journal of Education*, 34(1): 65-83.
- Baccini A., Rosselli A. (2014). Abilitazione scientifica nazionale: miglioramenti da migliorare. *inGenere*, 28 October 2014. Available at: www.ingenere.it
- Baccini A., Barabesi L., Cioni M., Pisani C. (2014). Crossing the hurdle: the determinants of individual scientific performance. *Scientometrics*, 101: 2035–2062.
- Badaloni S., Brondi S, Contarello A., Manganelli A. (2011). Threatened excellence: Reasoning about young women's scientific and technological careers in Padua University, Italy, in A. Béraud, Y. Pourrat (eds.) *Women's Scientific and Technological Careers. Les carrières scientifiques et technologiques des femmes*, Sense Publishers: 119-136.
- Bagilhole, B., White, K. (2003). Created in their image: An analysis of male cultural hegemony in higher education in Australian and the United Kingdom. In *Researching research agendas: Women, research and publication in higher education: Proceedings of the Australian Technology Network-Women's Executive Development (ATN-WEXDEV) 2003 research conference*. Perth, WA: Learning Support Network, Curtin University of Technology.
- Ballarino G., Colombo S. (2010). Occupational outcomes of PhD graduates in Northern Italy. *Italian Journal of Sociology of Education*, 2: 149-171.
- Benschop, Y., Brouns, M. (2003). Crumbling ivory towers: academic organizing and its gender effects. *Gender, Work & Organization*, 10(2): 194-212.

- Bonatesta A., Montalbano G., Ferrara A. (2014) Quali prospettive per i dottorandi e i giovani ricercatori, in ADI (ed.) *Quarta Indagine annuale ADI su Dottorato e Post-Doc in Italia*. Available at: <http://www.dottorato.it/documenti/speciali/IV%20INDAGINE%20ADI%202014.pdf>
- Booth A.L., Francesconi M., Frank J. (2003). A sticky floors model of promotion, pay, and gender. *European Economic Review*, 47(2): 295-322.
- Bourdieu P. (1998). *Il dominio maschile*. Feltrinelli, Milano.
- Clegg S. (2008). Academic identities under threat?. *British Educational research journal*, 34(3): 329-345.
- Bozzon R., Murgia A., Poggio B. (2015) Quantitative report on Leaky Pipeline phenomenon in Italy, in F. Dubois-Shaik, B. Fusulier (eds.) *Academic Careers and Gender Inequality: Leaky Pipeline and Interrelated Phenomena in Seven European Countries*, GARCIA working papers n. 5, University of Trento: 7-31
- Bozzon R., Gurnet N. (2015) Researchers in early career stages: some learnings from/and on the web survey, in F. Dubois-Shaik, B. Fusulier (eds.) *Academic Careers and Gender Inequality: Leaky Pipeline and Interrelated Phenomena in Seven European Countries*, GARCIA working papers n. 5, University of Trento: 184-210.
- Corsi M. (2014). Piramide contro imbuto. Economiste e carriera. *inGenere*, 6 November 2014. Available at: <http://www.ingenere.it/articoli/piramide-contro-imbuto-economiste-e-carriera>.
- Corsi M. (2014). *Soci SIE: uno sguardo di genere*, Commissione di genere, Società Italiana degli Economisti. Available at: http://www.siecon.org/online/wp-content/uploads/2014/10/SIE_-report-di-genere_151014_MC.pdf
- D'Amico R., Vermigli P., Canetto S.S. (2011). Publication Productivity and Career Advancement by Female and Male Psychology Faculty: The Case of Italy. *Journal of Diversity in Higher Education*, 4(3): 175-184.
- De Paola, Ponzio M., Scoppa V. (2014). *Donne sull'orlo di una crisi di competizione*, 29 July 2014. Available at: www.lavoce.info
- Ernst S. (2003). From blame gossip to praise gossip? Gender, leadership and organizational change. *European Journal of Women's Studies*, 10(3): 277-299.
- Frattini R., Rossi P. (2012). Report sulle donne nell'università italiana. *Meno di zero*, Anno III, n. 8-9.
- Gaio Santos G., Cabral-Cardoso C. (2008). Work-family culture in academia: a gendered view of work-family conflict and coping strategies. *Gender in Management: An International Journal*, 23(6): 442-457.
- Gherardi S. (1991). L'ufficio come luogo di costruzione simbolica del femminile e del maschile. *Sociologia del lavoro*, 43: 116-136.
- Gherardi S., Poggio B. (2003). *Donna per fortuna, uomo per destino. Il lavoro raccontato da lei e da lui*. Etas, Milano.
- Gill R. (2009). Breaking the silence: The hidden injuries of neo-liberal academia, in R. Flood, R. Gill (eds.) *Secrecy and Silence in the Research Process: Feminist Reflections*. Routledge, London: 228-244.

- Husu L. (2001). On metaphors on the position of women in academia and science. *NORA: Nordic Journal of Women's Studies*, 9(3): 172-181.
- Hymowitz C., Schellhardt T.D. (1986). The glass ceiling: Why women can't seem to break the invisible barrier that blocks them from the top jobs. *The Wall Street Journal*, 24, 1.
- Istat (2010). L'inserimento professionale dei dottori di ricerca – Anno 2009. Available at: <http://www.istat.it/it/archivio/3903>
- Istat (2015). L'inserimento professionale dei dottori di ricerca – Anno 2014. Available at: <http://www.istat.it/it/archivio/145861>
- Kanter R.M. (1977). *Men and Women of the Corporation*. Basic books, New York.
- Kantola J. (2008). 'Why do all the women disappear?' Gendering processes in a political science department. *Gender, Work & Organization*, 15(2): 202-225.
- Knights D., Richards W. (2003). Sex discrimination in UK academia. *Gender, Work & Organization*, 10(2): 213-238.
- Kvande E., (2011). Disciplining processes in post-bureaucratic organizations. In: *GEXcel Workshop*, Linköping, May.
- Lissoni F., Mairese J., Montobbio F., Pezzoni M. (2011) Scientific productivity and academic promotion: a study on French and Italian physicists. *Industrial and Corporate Change*, 20: 253-294.
- Lynch K., Ivancheva M.P. (2015). Academic freedom and the commercialisation of universities: a critical ethical analysis. *Ethics in Science and Environmental Politics*, 15(1):1-15
- Martucci C. (2011). Le donne nel lavoro scientifico: un equilibrio imperfetto tra nuovi e vecchi paradossi. *Dialoghi internazionali*, Mondadori, Milano.
- Menniti A., Cappellaro G., (2000). Le ricercatrici non fanno carriera perché ..., in R. Palomba (ed.) *Figlie di Minerva*. Angeli, Milano
- Merton R.K. (1968). The Matthew effect in science. *Science*, 159(3810): 56-63.
- MORE2 (2013). *Support for continued data collection and analysis concerning mobility patterns and career paths of researchers*. Available at: ec.europa.eu/euraxess/pdf/research_policies/more2/Final%20report.pdf
- Moss-Racusin C.A., Dovidio J.F, Brescoll V.L., Graham M.J., Handelsman J. (2012). Science Faculty's Subtle Gender Biases Favor Male Students, *PNAS*, 109(41): 16474–79.
- Nikunen M. (2012). Changing university work, freedom, flexibility and family. *Studies in Higher Education*, 37(6): 713-729.
- O'Laughlin E.M., Bischoff L.G. (2005). Balancing parenthood and academia work/family stress as influenced by gender and tenure status. *Journal of Family Issues*, 26(1): 79-106.
- Okin Moller S. (1989). *Justice, gender and the family*. Basic Books, New York.
- Palomba R. (2001). Poche e invisibili: le donne nelle carriere scientifiche, *Rivista di cultura e politica scientifica*, 4:1-8

- Palomba R. (ed.) (2000). *Figlie di Minerva*, Franco Angeli, Milano.
- Palomba R.(2008). In the Shadow of Stereotypes, in C.M Hasse, S. Trentemoller, A.B. Sinding, (eds.) *Draw the Line!*, Tartu University Press: 51-56.
- Pautasso M. (2015). The Italian University Habilitation and the Challenge of Increasing the Representation of Women in Academia. *Challenges*, 6: 26-41.
- Peroni C., Murgia A., Poggio B. (2015). Italy, in C. Herschberg, Y. Benschop, M. van den Brink (eds.) *Constructing excellence: the gap between formal and actual selection criteria for early career academics*, GARCIA working papers, n. 2, University of Trento.
- Peterson A.M., Riccaboni M., Stanley H.E., Pamolli F. (2012) Persistence and Uncertainty in the Academic Career, *PNAS*, 109(14): 5213-5218. Available at: <http://www.pnas.org/content/109/14/5213.abstract>
- Probert B. (2005). 'I just couldn't fit it in': Gender and unequal outcomes in academic careers. *Gender, Work & Organization*, 12(1): 50-72.
- Rapetti E., Villa P., Murgia A, Poggio B. (2016). Italy, in F.S. Steinhorsdottir, T.M. Heijstra, T. Einarsdottir, G.M. Petursdottir (eds.) *Gender budgeting in academia*, GARCIA working papers n. 8, University of Trento.
- Rossi P., Marzano F. (2008). Le dinamiche di reclutamento e di carriera delle donne nel sistema universitario italiano, *ASTRID Rassegna*, 77, 12 September.
- Rossiter M.W. (1993). The Matthew Matilda effect in science. *Social studies of science*, 23(2): 325-341.
- Saunderson W. (2002). Women, Academia and Identity: Constructions of Equal Opportunities in the 'New Managerialism' – A Case of 'Lipstick on the Gorilla'?. *Higher education quarterly*, 56(4): 376-406.
- Schizzerotto A. (2007). *Gli esiti occupazionali dei dottori di ricerca degli Atenei di Milano, Milano-Bicocca e Trento*, Rapporto di ricerca, Università di Milano-Bicocca.
- Toscano E., Coin F., Giancola O., Gruening B., Pontecorvo E., Vitucci F.M. (2014). RICERCARSI – Indagine sui percorsi di vita e lavoro del precariato universitario. Available at: www.ricercarsi.it.
- Van den Brink M., Benschop Y. (2012). Slaying the Seven-Headed Dragon: The Quest for Gender Change in Academia. *Gender, Work & Organization*, 19(1): 71-92.
- Wöhler V. (2014). To Stay or to Go? Narratives of Early-Stage Sociologists about Persisting in Academia. *Higher Education Policy*, 27(4): 469-487.
- Zacchia G. (2012). Differenza di genere e di passo. Gli ultimi 11anni delle economiste accademiche italiane. *Meno di Zero*, 8-9, January-June.

BELGIUM

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1. INTRODUCTION

In a classic sense of pure numbers, the Leaky Pipeline points to a progressive evaporation of women in the academic career ladder. However, as discussed in the quantitative report, this merely gives us information about the “leaks” and where they are located, which points to the doctoral stage of the career, in which numbers for women are seen to be inverted for the Belgian French-speaking universities. This is an important information in terms of where the “leak” is located and allows us to ask the question, why at this stage. To recapitulate, for the Belgian case, the macro-sociological analysis (WP3, D 3.2) has shown us that the gender question remains an open one, even if significant advances towards greater equality are observable. Although women are now in the majority in higher and university education, with higher graduation rates than the boys, yet two important reservations are still present: firstly, access to the highest level of qualification, the obtaining of doctorate, still remains male in the majority; secondly, a horizontal segmentation between ‘male’ tracks of studies (sciences and technology) and female (human and social sciences) is still reproduced. The whole labour market has also been strongly feminized, but here too classical phenomena of horizontal segmentation (between sectors and trades) and vertical (employment and responsibility levels) are present, although they are decreasing. For that matter, an unexplained 10% gender pay gap is still present. One of the important aspects of female employment in Belgium is its part time character. The scale of female part time work can partially be interpreted as the fruit of work/family conciliation difficulties, expressing the persistence of a sexual and gendered division of work in which an essential part of “care” is still attributed to women. Such a division is also visible in how the time of social activities is distributed between men and women, and within households. This kind of data however is not clearly available for the particular case of UCL or the two Garcia institutes. However, what is notable is that as in the general case for French-speaking Universities, women in academic/scientific careers work more part time than men (13% vs. 6%), but these part time positions are in lower scientific/academic career posts, such as assistants. The higher one climbs the ladder the more full time work in academic careers seems to be a condition. This would perhaps partially explain the lower number of women in professorships and ordinary professorships, and even lesser in decision-making organs and posts.

Familial policies supporting work/family conciliation are nevertheless numerous and pursue two logics: a logic of decommodification via measures dealing with working hours (reduction, interruption, leave for familial reasons, etc.) and defamilialization measures via early childhood care and education, and service-vouchers. If we observe figures of maternity and paternity leaves for the UCL and IACCHOS/ELI in particular, it is noteworthy that not many maternity leaves were taken for the year 2013: 4 women in SSH of which two are each postdocs and assistants and 2 are associate professors/2 in STEM of which 1 is postdoc and other is associate professor. For men, there are 4

paternity leaves taken for STEM, of which all are assistants, in other words ongoing PhDs, and none in SSH. Other types of leaves for family care were taken 2 male and 2 female for STEM and none for SSH. Such familial policies undoubtedly support employment rates among women, who are their principal users. They do not however manage to do away with the work/family contradiction, which would moreover seem to imply basically reconsidering the organizing principles of the labour/wage society (Fusulier, Nicole-Drancourt, 2015). This argument could be supported by the conclusion of D 5.1 for WP5 for Belgium that points to the existence of a particular gender dimension in a professional bureaucracy that can be considered a main organizational logic in UCL, whereby an important glass ceiling is produced. A professional bureaucracy of this kind of constellation can point to an ever increasing workload transferred to individuals, which necessitates high demands of institutional commitment, not only in terms of political or governing involvement of individuals alongside their main work of research and teaching, but also an important increase in logistic, governance and administrative tasks, and of finding own funds, which research centres and faculties are not able to supply in sufficient amounts. There is a form of entrepreneurship (self-regulation and –funding) required on unit-and individual level, without adhering to managerialism. Parallely to this we can count in the effects of the university as a greedy institution (Coser, 1974; del Rio Carral, Fusulier, 2013) in that research and teaching demands are today increasing in complexity and availability of the researcher/academic; in 2012 the rector of UCL remarked in the constitution of the university that the researcher/academic needs to be entirely invested in his work. Women (and men) therefore not only have to meet high demands in research/teaching, but in addition also adhere to an important institutional investment and presence in terms of integrating into a hyper-complex system of bureaucracy and institutional culture. Moreover, this type of organization requires a significant actual physical presence of individuals, because decisions are made in meetings, deliberations and through a heady process of negotiation. There seems to be an increasing requirement of « omnipresence » in all three pillars, of which each pillar has increased in levels, demands and complexity of required personal engagement. It can be argued that this can represent important issues to work/life conciliation or balance or having a family life, and that wanting to climb the career ladder also means important choices and pressures in terms of personal life.

According to the findings in WP3 D 3.1 and 5.1, the problem of articulating work and family within a gender regime maintaining a sexual division of productive work and reproductive work is one of the apparent causes of this downfall. In addition, a horizontal segmentation is present too, certain scientific disciplines such as the sciences and technology remain male bastions.

In terms of the models of scientific/academic career and the pathways of progression or climbing the ladder, the nature of how recruitment works (see D 7.1) and the organizational culture point to an importance of the informal nature of dealings, interactions and local ways of integration into the system (see also above WP5 D 5.1). Firstly, for the primary stages of the career, doctoral and postdoctoral funding in French-speaking Belgian universities is largely dependent on external subsidies or funding bodies, such as the FNRS (National Foundation of Research and Science) or the EC. Some limited fundings is supported by industrial sectors. There is also some PhD research funded by governmental foundations. All these funding paths are however subject to a

very harsh, and what can increasingly be gleaned for the case of the FNRS, very political selection and appointment of a massive increase in candidates (especially international or external candidates to the given university, which is hardly surprising if we consider the “international mobility and attractiveness” discourse running in university policy lately, see WP5 5.1). However, the large numbers of ongoing PhDs, both male and female point to multiple possibilities existent. Obtaining PhDs is a grey zone upon which we do not have much data apart from the CDH study data. There is an ongoing study about motivation and abandonment of PhDs conducted currently at UCL by a group of psychology researchers with whom we have some collaborative interactions. It will be interesting to have their large-scale quantitative and qualitative data on how PhD's feel in terms of completing and advancing in their doctorates.

There is then after obtaining PhD and postdoctoral contracts, an important hurdle to overcome for young researchers to obtain or gain admission/nomination into permanent lectureship posts, which is the most common academic career path. Another pathway is through the appointment of a permanent FNRS researcher, affiliated to a particular university. However, this pathway too is very competitive and political often in nature. For the recruitment into academic posts, the figures at UCL point to as many female researchers being actually recruited as there are female candidates for the post (see D 7.1). However, at a closer look, the recruitment process is split into multiple complex segments: first there is a selection of “dossiers” of candidates (of which there are still many for very few openings per year or two/three year) based on competitive criteria (see 7.1 report for Belgium) such as publications, types of projects obtained, CV, place of education and PhD, mobility etc. Then upon closer selection, three or four candidates are retained for a three-fold interviewing and self-presentation recruitment process, in which recruitment committees (with very different dynamics and presidents) negotiate the “ideal candidate” for what is often a very local nomination, defending the interests of being able to integrate/fit and collaborate with existing teams, and being able to ensure the handling of and carrying out what are deemed all three (or four) pillars of academic work (research production, teaching, institutional engagement and perhaps also contribution to society). Qualitative and policy findings point to a recruitment and scientific/academic career model which favours general or competitive criteria and focus upon high production of research and research-orientated skills in the early stages of the career ladder (Masters, doctorate, postdoc), and a sudden expected leap into local integration and juggling multiple academic spheres, of which the institutional and self-administering engagement level becomes higher the higher the post. If we consider the age groups of persons entering and progressing (or not) up the career ladder then it cannot be disputed that this is between early twenties and late thirties for doctoral and postdoctoral levels, which are arguably family forming or settling more firmly into adulthood from a social point of view. The gender dimension therefore may play a more significant role as to how much women and men are willing to invest, to engage in and what they can actually perform in terms of work, production, engagement etc., and how open or closed the organizational culture and structures (both of which is created by all actors in the organization) are towards these performances, these work/life articulations and whether integration of either are at order.

However, an important further step is to understand the modalities and sense-making (Weick, 1987) of the scientific/academic career in the Belgian and UCL case in order to

situate the career. This would then take us a step further from merely analysing the “leaks” and glass ceilings, to understanding the nature of scientific/academic work and careers as it is experienced, conceived, structured, practised today (see Beaufays, Kraus, 2005; Fassa et al. 2012; Fusulier, Del Rio Carral, 2012). In this report we will analyse in an interpretative way the qualitative findings gleaned from three groups of interviewees – current postdocs, newly tenured researchers/academics, movers – by putting them transversally into perspective with the results from the quantitative report on the Leaky Pipeline (D 6.1), the results from the report on gender budgeting (D 5.2) and those on recruitment processes and deconstructing excellence. (D 7.2). However, an important point to make is that although we make an interpretative analysis based on the interviews we conducted with three groups of interviewees, current postdocs, newly tenured researchers and academics and with former researchers and current researchers, who have left UCL, we insist that the findings and interpretations are in no way representative for the entire university or for all persons working at UCL. We merely try to analyse the findings in order to identify and better understand some mechanisms interrelated to the “Leaky pipeline”, and in order to gain a more qualitative picture of the pipeline, the organization of scientific/academic work and work/life interferences. So the interpretative analysis is supposed to assist in understanding certain configurations linked to the Leaky Pipeline and have to be treated as a selective and translated interpretation.

In the last chapter, we will present an interpretative and transversal analysis of the principle results by zooming into the period of the postdoc that has been experienced by all three groups of interviewees and emerges as a most particular and ambivalent period full of ambiguities, tensions and gendered implications in terms of work, career, relationships and work/life interference for both male and female interviewees. We will look at some findings related to “**Mentors/Guidance/Gatekeepers**”, which looks at the high level of significance that crystallizes in the figures of mentors, of a need for guidance and the power of gatekeepers in the experience of interviewees. We will recapitulate the sensitive issue of ambivalent **parenthood** that throws a gendered picture on the results from the interviews. We will then situate the results in UCL as an organization with its particular system of functioning, governing and organizing, by looking at the phenomena of “**omnipresence**”, and by discussing the deceptive “**paradox of the sticky floor**” of teaching in scientific/academic early career that questions the current demands. Finally, we will try to map the sense-making, career strategies and professional identities of interviewees in a table that describes four areas of organizational regulations around scientific/academic recruitment in what can be called a loosely coupled system of university. The idea is to draw a picture of the “**Leaky pipeline that is created through the demands and criteria of recruitment**”, which are accounted for, enacted and enacting the academic institution.

2. METHODOLOGY

This qualitative analysis on «leaky pipeline and interrelated phenomena» was extracted from the WP4 and WP6 interviews conducted in our two departments/institutes SSH, the Institute of Analysis of Contemporary Changes in History and of Society, and STEM, the Earth Life Institute. The composition of the interviewees is as follows, 26 WP4

present postdocs (and some docs)/permanent lecturers and researchers, 29 WP6 movers (former UCL postdocs/docs, now in other sectors or research institutions). We conducted semi-structured interviews of around 2h, during which questions were asked about a) chronological and biographical events, b) everyday work and life experiences, and c) perspectives for their future. More specifically, five key areas were explored: 1) individual trajectory; 2) organisational culture and everyday working life; 3) well-being and work-life balance; 4) career development; 5) perspectives on the future.

Interviewee type	Institute	Female	Male
WP4 postdocs	IACCHOS	2	2
WP4 newly tenured	IACCHOS	4	4
WP4 postdocs	ELI	3	2
WP4 newly tenured	ELI	4	4
WP6 movers	IACCHOS	9	7
WP6 movers	ELI	8	6

For the interview analysis for WP6 'Leaky Pipeline', we propose in a first step to put into relation the summaries with four ideal-types, which were set up by Fusulier and del Rio Carral in 2012, which are essentially four types of work-rationales of the researcher:

- An « engaged » rationale: work before all things, with a total availability and a strong conviction of the qualities of the scientific and academic field; with a private life put on second place in relation to one's work and career.
- An « optimistic » rationale: work is combined with other strong engagements (for example, an artistic or sport-orientated passion, an enriching life in a couple or parental life...) The researcher experiences a kind of reconciliation of work/private life, which leads to her or him being optimistic with respect to her or his career and her or his private life.
- An « ambivalent » rationale: In contrast to the « optimist », the researcher does not manage to reconcile. She or her lives in constant tension with her or his professional and private engagements, pulled amidst the two or multiple commitments, in doubt, while wanting to do utmost and best in all areas.
- A « distant » rationale: The researcher continues to invest in her or his work, but does not believe in it any more. She or he develops a strong critique with respect to the demands of productivity, mobility and competition, which seem absurd. She or he puts things into perspective and thinks about reconverting to other professional fields and other existential dimensions. She or he is ready to leave the scientific career, if she or he may regret this decision (but which is not an existential crisis or drama as such!).

A Comparative analysis was done of the WP6 movers' interviews with the WP4 current postdoc and newly tenured interviewees, whereby we analysed sub-group by sub-group (postdocs, newly tenured and movers) by following these steps of pre-analysis:

For the current postdocs: Extracting from the narratives if they belong or come close to one or the other rationale or ideal-type (or a new one) and of giving one or two examples in terms of vignette (1 page max.) per rationale/ideal-type; Putting in relation these rationales to the variables « sex », « age », « marital and parental situation » and « scientific discipline/institute SSH or STEM »; Verifying if there are specific ways of "engagement", "optimism", "ambivalence" or "distancing" according to disciplines/institutes (or not) and gender

For the newly tenured: Understanding retrospectively how these rationales have impacted their trajectory (for example, have they stayed in an « engaged » rationale or have they changed toward an « ambivalent » or even « distant » rationale; Grasping their current rationale; Extracting their reasons for what in their eyes is a « winning trajectory in the scientific space » but also the difficulties they encountered and how they managed (or not) to overcome them; Trying to model the winning « rationales/ideal types » of trajectories and to give one or two examples in form of short vignettes per rationale/ideal-type; Put into relation with the variables "sex", "age", "marital/couple status and parental status", "scientific discipline/institute SSH or STEM".

For the movers: Understanding retrospectively how these rationales have impacted their trajectories (for example, have they remained in a « engaged » rationale, or have they become more « ambivalent » or even « distant »? ; Extracting the reasons of « moving from the scientific sphere, but also the difficulties encountered and how they managed (or not) to overcome them; Identifying their current situation (professional and private); Trying to model the « moving » types of trajectories and to give one or two examples in form of vignettes per type; Putting into relation these trajectories (and current situations) with the variables « sex », « age », « marital/couple and parental situation », « discipline/institute SSH or STEM ».

We conducted an analysis specifically focussed upon gender and the mechanisms of the leaky pipeline and interrelated phenomena and discuss this in terms of four interrelated mechanisms operating in the leaky pipeline:

- The masculine habitus of the scientific field, which operates as a masculine figure of « hero », who is engaged body and soul in his work: with a total availability for research, international mobility without taking into account private life, a spirit of competition, of putting yourself forward in the public space and of self-affirmation.
- The Matilda effect (versus the Matthew effect for men) by which women are less visible than men, and receive less support to develop their careers, are charged with less prestigious tasks...
- The co-optation logic in an « old boys club », which renders an entry more difficult for women into the leading networks and of gaining access to resources and more direct support systems by senior researchers (mentoring).
- The work/family balance, which is more disrupting for women.

3. QUALITATIVE ANALYSIS OF LEAKY PIPELINE

3.1. Postdocs

3.1.1. Postdocs STEM

Work/life balance

The first visible result for postdocs in ELI (STEM) is that they are rather more optimistic and engaged than newly tenured researchers or academics in terms of work, interactions at work, conditions of work and work/life balance. This is the case for both *female as well as male interviewees*, who are more optimistic rather than engaged. The significant characteristic is however that all postdoc interviewees for ELI, both male and female, were all childless (still) and in stable couples, except for one case of a single female, in which more ambivalence is given for personal life and the need expressed of not wanting to sacrifice private life (meeting someone and founding a family) for the sake of a career, and a professional reconversion is not excluded. *Females have more ambivalence* in the question about *compatibility of children with career* and also about *health reasons, overwork and infringement upon or sacrifice of family*, mobility and *leaving the country due to career choices*. Like the females, the males believe that their professional activity is limited by a family life, because this would decrease the professional engagement needed to advance the career. But unlike the female researchers, men do not feel a professional constraint on family building. In this manner, the work/family interference impacts upon time but does not result in questioning the academic career in itself.

Most postdoc females have (male and female) partners with high intensity or profile professions and jobs, which meant dual careers and dual planning within the couple. In some cases, this meant relatively less time spent together in evenings or weekends. For example, Emma does not feel that they are sacrificing anything as a couple due to intense dual careers in terms of time and spatial engagement. In her case, she feels that this can only be the case as long as they don't have children; children are therefore an element that would change this feeling. Also some female interviewees are far from their extended families (parents) and need to travel quite often in order to see them. In the case of Clarice, on the couple basis she feels like they are sufficiently stable and both loving their work, and having home-based "projects", but not children. She does not seem to feel any sacrifice in terms of her family life, despite the high level of professional engagements.

Most male interviewees have partners with unstable professional stage or contracts (PhD stage), which however does not diminish their optimism about their future as a family, or for family building purposes. In some cases for male interviewees doing postdocs abroad, they lived initially apart from their partners. These life partners would follow them eventually to their postdoctoral host country, this being possible due to their own uncertain job situations. For example Benoit is optimistic in terms of wanting to build a family (he is in a stable couple but without children) and saying that *work should be accommodated* to make this possible. On the whole, male interviewees speak about how

the precariousness and insecurity in the scientific career is lived as a “*normal and predictable*” *part of the career path*, about how short term projects are not seen as menacing, rather an advantage if you want to travel and have the experience of living abroad for a couple of years, albeit as a couple.

Professional precariousness and mobility

The most significant stance of most ELI interviewees, both male and female is that although job insecurity, precariousness or uncertainty is frequently spoken about and mentioned, it is *not questioned*; for example Emma, feels that this is “normal for a career in research/academia”, both of which do not seem very different to her. Eloise, however, who is single and childless, speaks about uncertainty in terms of personal life and compatibility with career choices that would in her view reflect a need to be mobile (as jobs in Belgian universities are slim to none). Feeling that she would need to go abroad for a stable position due to her international network and previous research stays; she is more ambivalent, not wanting to leave her family and country. In contrast, male interviewees often expressed an openness to long or prolonged research stays abroad, with their respective partners, with the idea of experiencing another cultural surrounding for a while, having the professional experience in another research context, meeting new people and living elsewhere. However, it must be said that their respective life partners seemed to have made this possible for them, either because they are themselves in unstable professional periods, or else sacrificing their professional careers. But male interviewees voiced the long term project of returning to their home country, Belgium, and settling here, buying a house, having children etc. Thus, males are more open to mobility than females and express less constraints for future life (both professional and private), despite their current short term postdoctoral situations. However, this is made easier for them through the given support by partner, being yet childless, and extended family, and the support of colleagues.

Work Conditions, workload, tasks, time and entering/continuing research

Work conditions in STEM are often lived as “part of the parcel”, as laboratory toxicology for example (using toxic products for treating plants or other organic material) and noise of laboratory machines are things you can “get used to” after a while. Interestingly, we came across more female ELI interviewees working in laboratory than males. Emma also speaks about lots of engagement in laboratory culture work, which has its own rhythms that you need to follow. However, many female researchers, when asked about the nature of work, preferred laboratory work to writing for example, and felt ready to be engaged at that level, even if this meant being obliged to conduct experiments throughout the day or evenings. The nature of STEM work was something that females spoke differently and more often about in terms of differences between preferring laboratory and field work, rather than writing, publication and literature work. Male interviewees often also spoke about how they preferred taking the research path in their respective STEM fields (for example in the case of Benoit) rather than entering industry or the private sector, which was about producing logicals or about specific “products” and the market, which they felt was not their nature of work. Although while doing

initial engineering degrees, they would not have thought about a career in research, having Masters supervisors proposing them to pursue a PhD in a specific field or topic, which made them enter this and develop a taste, if not a passion for research and the specific topics. In fact, both male and female postdocs spoke about how research was not a career choice from the beginning of their studies in their respective fields; it was something that they happened upon through their connections with supervisors and potential promotors, who sought them out. It is something that we could call a “scouting” process, of professors or supervisors, who “scout” for potential PhD candidates, and meeting with what they believe is a suitable person then guide them into a research path. We can therefore highlight the importance of connections and gatekeepers for entering research careers and more specific fields.

An interesting point is that amongst the ELI postdocs, male interviewees did not assume any teaching tasks during their postdoc period, and focussed upon research and CV building, whereas a majority of females did some teaching and Masters and PhD supervisions, which was sometimes “free” and voluntary, and which they seemed to like, even if this took up a lot of their time and engagement, and took time away from publications for example. In fact, relationships with junior doctoral colleagues were remarked as being valuable and often the only real interactions, rather than with promotors or other senior colleagues. This continues to be the case for newly tenured females in STEM, as we will see later. Male postdocs had more interactions with postdoc promotors, whom they sometimes referred to as “boss” or colleagues, rather than supervisors, mentors or promotors.

Not many ELI postdocs spoke about overwork, but Eloise expressed her concern about overwork that should not infringe upon her need to want to build a family, meet someone and have children, which is not yet the case. She worries about whether this type of career and overwork could restrict her personal development. But given a choice, she would want to pursue a research or academic career and especially continue working on plants/flowers, which is a subject she loves. Moreover, Eloise was an exceptional case of also having some teaching and supervision responsibilities, which she loved doing, but which were not easy to reconcile with developing research and building a CV with publications. Clarice was in an exceptional work situation of being involved in a centre within UCL, which deals with vulgarisation of research in society and teaching: Clarice is hyper-engaged in her different work spaces, vulgarisation of Science (creating exhibitions, workshops for teachers and prospective teachers and students) and also her teaching and current research project that she is working on; she is juggling constantly with the load of the different tasks, and does not feel like this is a burden, except in terms of the constant influx of never-ending emails. Moreover, she has trouble switching off and speaks about constant overwork in the different spaces of work (vulgarisation, teaching, research project), which could result potentially in a burn-out; she speaks about herself as a “borderline burnout”. Incidentally (or not), these two female interviewees were both childless (still) and showed a more engaged rapport to research. In parenthesis, we could refer here to the point made by Fusulier and Del Rio Carral (2012) Barbier and Fusulier (2015), in their qualitative research with FNRS researchers that parenthood, if lived with sufficient support, can assist in curbing the tendency to overwork and to over-invest in work, because children simply require a lot of time and can put work in second place in a person's priorities.

In contrast, male interviewees speak about being quite independent in their own work, such as Benoit (living and doing a joint postdoc in another European country) with a need to stop working evenings and weekends, taking also time during stay abroad to have a “personal experience” of the environment, other than work; social life, which is slow, as still new. On the whole, female interviewees feel more fragile about overwork and juggling different kinds of tasks, and its infringement upon personal life. In fact, they describe more *multiple and varied tasks* than their male peers, who have multiplicity rather *within the research activity* (seminars, conferences, publication collaborations, dissemination events). This is an interesting point, as arguably female researchers are being active in “academically” orientated tasks, such as teaching, and male researchers are investing in research-based development, networking and publication: potentially, this could also contribute to a more focussed CV-body-building by male researchers during the postdoctoral period, with more publications and international connections to show for in what can be an initial highly competition-based selection round in research and academic recruitment for permanent posts (see Dubois-Shaik, Fusulier, 2015). Female researchers, who could be building valuable skills and competences for academic work by assuming the less valued teaching tasks, could therefore be losing out on chances of selection by not “boosting” their CVs with quantifiable competition-based criteria, although they paradoxically could be suited for the multiple-task and -pillar based academic mandates.

Female postdocs also tend to have less social or other leisure activities than their male counterparts.

Interactions, Relationships and Mentors

On the whole, female postdocs in ELI speak a lot about former and current promotor as *supervisors*, even during the postdoctoral period. In one case, Clarice, speaks about how she has had many mentors, also her current promotor, and has had a very positive experience in terms of interactions and guidance on multiple personal and professional levels. She is also the only interviewee who has multiple work spaces and responsibilities, such as the centre for vulgarisation before having entered research and PhD pathway. In contrast, the other female interviewees speak about how they had had supervisors who are supportive, such as in Emma’s case; her PhD female supervisor was a mentor-figure, pushing her to try for the Marie Curie grant, which she obtained. Her current male promotor is for her a supervisor-type, and she feels that the postdoc is an extension of the PhD, both in terms of her needs of guidance, and the kind of work relationship she has with her promotor. Eloise has had very good supervisor and colleagues, but less in terms of internal strategic networks, as rather good working groups in her laboratory. However, none of the postdoc interviewees from ELI felt that there were significant differences or disadvantages of having female or male supervisors or promotor, but rather that different types of persons can have a stronger or weaker relationship, which can impact upon developing collaboration or not.

And as previously mentioned, female interviewees also speak about being engaged teachers, in terms of supervision of junior researchers and masters students, who are principal inter-actors in their work environment, more than supervisors or promotor or senior colleagues. Male ELI postdocs tend to be more lonely in their research work at

UCL, rather having more interactive collaborations with colleagues in centres abroad. This ties in with the point made previously that females tend to be more invested in local academic tasks with less “sales” value, whereas males have less local institutional links, rather more abroad and therefore are more lonely institutionally as a consequence. However, some female interviewees also spoke about having a very lively and active and continued interaction in terms of collaboration with international colleagues rather than UCL colleagues, relationships forged during their research stays abroad.

Many female interviewees speak about how their internal network are their lab colleagues, who also have become friends of sorts. Clarice is ambivalent in terms of her emotional proximity to the vulgarisation centre colleagues, which is like a “second family”, which is too close for comfort, as she tends to take things to heart. In contrast, male postdocs in ELI speak about good relationships with former supervisors and current promoters, but speak about these relationships more in terms of professional relationship such as colleagues, rather than guidance, friends or mentors, and sometimes use the term “boss”. However, few speak about strategic guidance for career purposes, and more in terms of research collaboration.

In both female and male interviewees’ cases, family and friends external to university are supportive, although some “know that research is not going to be about making a direct and visible service to society”, or family does not understand why they engage so much in a profession that is so less stable and so uncertain.

3.1.2. Postdocs SSH

Work/life balance

A significant difference between interviewees from IACCHOS and ELI is that there were more interviewees that were parents in IACCHOS. Moreover, within the IACCHOS group, the male interviewees express less feelings of regret than females of being taken up by parenthood and not being able to carry out their professional project or enjoy their leisure time. As with ELI females, IACCHOS females speak less about leisure, and when they do, it is about how leisure has become more difficult or impossible due to the arrival of children.

In a similar way to the optimism professed in ELI male postdocs, the IACCHOS male postdoc felt that even with the arrival of children in their family lives, their professional projects were not menaced as such, although the level of engagement in work may diminish in some respect, in research publication for instance. For example, in Martin’s case, who has a partner who is a researcher as well, and who has three children, he speaks positively about the possibility of work/life balance with research careers. But he expresses tiredness after his babies’ births and subsequent sleepless nights and having to “function normally” the next day. But the feeling was voiced by *mainly optimistic male interviewees* that research/academia is compatible with family life, picking children from school and crèche, being there if need be if they are sick. This flexibility was also expressed by some female postdocs with children, although with the added angle of *feeling guilty of not being there “enough” for the kids*. Thus a significant difference can be found in the interference between work and family between men and women for

both ELI and IACCHOS. Moreover, in postdoc females from IACCHOS, even the most optimistic women voiced feelings of guilt, and speak about how the arrival of children transform profoundly their relationship to work. Moreover, we can observe that having an optimistic stance (leading to the same level of investment in work and family) presupposes specific material conditions of existence: parent female researchers in fact present professional and family configurations providing favourable supports: the possibility of shared responsibility for the children between the female researcher, their partners and the family entourage; the use of collective services, a home near the work place, etc. This configuration allows them to ensure an extended presence at the work place, such as evenings, but also to cope with long absences for scientific stays abroad, such as in Mathilde's case.

Moreover, as will be also the case explained for newly tenured females, and also movers' females, beyond the respective life partner's availability, it's his understanding that favours optimism: he can liberate the female researcher by understanding the kind of constraints the female researcher is caught up in. Therefore the attitude and behaviour of the partner is an important factor in daily life in satisfying the requirements of the scientific environment. Optimistic female researchers in IACCHOS present a strong homogamy (sometimes endogamy). If the partner shares a professional activity based on similar operating rules, the female researcher can work evenings or weekends, at the same time as her partner, because he understands that this is necessary.

We can observe that there are *more ambivalent females in IACCHOS, especially those with children*. Simultaneously, the material living conditions mentioned above are lacking among the ambivalent female postdocs. This career relationship, which is only observed among the parents, is in fact based on the absence of an essential resource, even if, in theory, compensated for by the presence of other organisational resources: living far from the work place and caring for children, the partner's professional activity is not very compatible with the researcher's, the children's fragile health may require a prolonged presence at home, which is for example, Blandine's case. It may also result from isolation with respect to the family entourage. Consequently, family life weighs down on the practise of work: days are shortened and the interviewee cannot resume work at the end-of-day because the partner does not work evenings (or not at home), or because domestic chores are too weighty, etc. Those difficulties nourish a frustration which does not directly touch the pleasure taken in doing their work, which remains powerful, but rather the sense they attribute to their engagement. Whereas that sense may be solid and structuring, the arrival of a child in a context of not sufficient resources increases the cost of access to a scientific career (cost in energy, frustration and guilt feelings at having to ask so much of one's entourage and of not measuring up to the demands of one's milieu). Activities that were not perceived as efforts before come to be seen as "sacrifices".

Professional precariousness and mobility

In terms of mobility, unlike their peers in ELI, *IACCHOS researchers are less mobile, both male and female, with children*, whereby males try still to visit conferences and do field work abroad in average two to three times a year. Female postdoc interviewees are less close to the work place and in some cases even shuttle from other neighbouring

countries for some days of the week. Constantine, who is originally from a neighbouring country to Belgium, and whose partner lives in her home country, speaks about how the frequent travels back and forth are tiring, also in order to be with her children, who are still in toddler and even new born ages. Helena, who had done two postdocs abroad in two different countries along with her children and husband, speaks about how it is not easy to go abroad with small children; who were born abroad. Arranging hospital services during birth and maternity; of arranging child care later. She also had a seriously sick child just after birth, and this was a struggle during one of the postdocs abroad. She speaks about how mobility period was hard and intense but also worthwhile in terms of forging important relationships, one female mentor, who helps a lot in developing career and research. However, settling is not easy with having to go abroad in order to build career and for research purposes. Financially, depending upon the postdoctoral grant, and depending upon the host country, it was easier or less easy to live on, especially if you have a family who accompanies you, or if you are going to give birth abroad and need medical care and assistance. The Marie Curie grant is considered quite generous and good in terms of being able to live comfortably, even as a family, whereas other grants, such as FNRS were not deemed sufficient to cover all or additional upcoming expenses.

Professional precariousness is experienced similarly to male ELI peers, for male IACCHOS postdocs, such as for Martin: *Precariousness and uncertainty is not experienced as menacing*; often males speak about taking one stage and step at a time, not feeling the infringement upon family life, although with an awareness that the partner or wife is sacrificing more in her career due to arrival of children. Male IACCHOS postdocs are optimistic about future positions and possibilities, while being aware of the scarcity of academic openings and of the competition in terms of short term and long term contracts. Women are more ambivalent in the sense of their professional future; even in Helena's case, where nomination may be imminent, a lot of caution is exercised and professed. *Women live their uncertainty with more worry about the future, about family building and family maintenance*, especially in cases where the partner or spouse himself does not have a stable position either. The uncertainty in Constantine's case is also about the location of her current job context and her family situation, being far away and her husband's profession that is more stable and located in her home country. She feels more cautious about a future in this institution and feels that it is likely she will leave and look for more stable positions, or even a professional conversion or change of sector, in order to better adapt to her life situation.

Work conditions, workload, tasks, time, entering/continuing research and relationships

Collaborations are lived as positive, if not exuberant by both female and male postdocs at IACCHOS; they both express equally positive collaborations with colleagues and current promoters, but without speaking about mentors. In fact, in the female interviewees' case, *mentors at UCL were even deemed absent in terms of strategic career advice*. Helena speaks about having had a female mentor abroad, who had been vital for her personal research or intellectual development. But strategic advice in careers is rare if not found, and often females were speaking about how they had to

“*battle alone*” and how they “built their own careers and connections on their own”. There is the sentiment of having struggled and fought alone and being independent in her endeavours and strategies towards building her career. Once again, as with the ELI postdocs, intellectual mentors were found abroad, and in none of the cases in IACCHOS were mentors to be found on the level of the centre, former or current supervisors/promoters, or colleagues. However, the ambience of the centres were described as positive, easy to converse and collaborate with. There is more frustration expressed in both male and female postdocs about the processes of publication; although publication, both single and multiple author was possible – in Helena’s case, she was approached often for publications during conferences for special issues and did not in her own view ever publish of her own initiative – the process itself was seen as long and weary, which was not advantageous for CV building or for your own research dissemination.

Unlike ELI males, *IACCHOS males also assume teaching responsibilities in most cases*, and most females, except Constantine have teaching responsibilities, both lectures/seminars and supervision of Masters students. We can drop already a hint here that there is a significant difference between SSH and STEM males in their institutional rootedness in terms of career building; ELI males seem to have a more internationally based network and collaboration during their postdocs, consequently being more lonely upon their return to UCL, whereas IACCHOS males are more comfortable if not ecstatic about their local research centre.

In terms of female interviewees, in Helena’s case, there was a high level of institutional engagement, as she was co-director of a research centre, despite her unstable and non-permanent research contract; she invested in this task to a very high degree, and felt that she worked a lot during the last two years in the different tasks. She also had a burn-out of sorts with serious health issues. As co-director, she also supervised informally many young researchers, PhDs, without being formally involved in their theses. *Other female Postdocs speak about how boundaries of research and teaching work are sometimes hard to set and how this can spill over into other life spaces and times*; working during long travelling hours, working evenings and some weekends to meet with deadlines.

Even more than ELI postdocs, male and in some cases females had been *rooted at UCL since their studies and continued in the same research centres and former Masters supervisors as postdoctoral promoters*. Again the “scouting” process appears at play for the entering of research as a career, although an academic career seemed more likely envisaged at an earlier stage than for ELI postdocs, and *other career options seem less visible*. There is a lot of engagement in teaching, which however is not experienced as a preferred career option to research. We can make a note here that generally, we can observe a de-valuing of teaching vis-à-vis research, even in early career researchers (they remain true to their name), although teaching is one pillar of academia, without which it would crumble!

3.2. Newly Tenured

3.2.1. Newly tenured STEM

Work/Life Balance

One significant difference with postdoc males, is the tipping of the scale of male newly tenured in ELI towards a *frustration of not being sufficiently present for family and for work, thus being somewhat ambivalent*. This especially comes into play when both life partners are in research or high profile jobs; the male newly tenured from ELI speak about how it is not easy to balance work/family life. And also female spouses ending up “sacrificing” her career or at least the discipline in one particular case where both partners had same discipline and career paths, then but the need arising for one to accommodate, whereby the female partner made the change. This results in *the female life partner being the primary carer in the family*. Moreover, an important difference is that *male newly tenured who are optimistic or engaged have partners who don't work or work part time and are available for kids*. It is moreover observable that most newly tenured males have children and a family, whereby postdoc males did not. There are also some few engaged profiles (entirely invested in work), however without family or couple life, as in case of Manuel, who regrets not having taken enough time off work to construct a family life, but feeling that the time alone was necessary to build his career.

Female newly tenured academics tend to avoid speaking about their family life to colleagues, keeping silent about work/life interference. Even in some cases, such as Anna's, this leads to her not asking for parental leave because implicit/explicit comments are made or even mentioned by male colleagues or superiors as barriers to promotion. These same female interviewees spoke about how having children during doctoral or postdoctoral phase elicited different reactions from colleagues and supervisors: In the case of Cassandra, “while one of her promotors expressed joy at her news of pregnancy, the other never spoke to her again”. Being in family situations is not always easy to declare or speak about with colleagues, especially to male supervisors/promoters.

Women newly tenured in ELI are ambivalent about how their academic or research careers infringe upon family life and the plans to build family and being otherwise engaged outside of work; but as with the postdocs this is seen as being “normal” for this type of career or work, thus “taken into stride”. Having children is considered difficult and problematic during doctoral periods and postdocs especially; *CV building and being totally invested seems not compatible with family building according to newly tenured females in ELI*. Also in terms of working efficiently and being able to build the career whilst having maternity leaves, making delays or actual interruptions in publications and research work, as in the example of Manon. Manon knows that maternity leaves are taken into consideration for FNRS doctoral applicants, but she has the impression that the interruption in the research career and work will have important consequences for publications and can represent a slowing down of the career advancement. However, she also speaks about how she worked even during maternity leaves, whereby “this is

not a work in which you feel that you stop after the end of the day. One never really stops. *There is not really a clear limit between work at work and work at home*”.

Also, having children and doing a research careers, means making certain sacrifices because of the high investment of time and mobility, also needing looking after of your children by child care services: Manon speaks about how “the research demands, the high investment in time is not always compatible with the life of a mother.” For example during her research stay in a prestigious university, her husband and first child had to move abroad (her husband worked from this place) and that they had to often apply to child care services. Elise expresses how “work/family balance is not always easy and her work requires a total involvement.”

Moreover, in some cases, such as for Monica, her husband and herself had waited with having a child until after she had her permanent position as a FNRS researcher, because she felt more free to think about a child. She says “*it’s not so much about reconciling work and family life, but rather constructing both at the same time.*”

From all these points gleaned from both male and female interviewees, we can see a significant tipping of the rapport to work toward *ambivalence* and arguably heighten precariousness within the career once interviewees enter parenthood.

Professional Precariousness and mobility

ELI newly tenured males have all done at least one postdoc abroad, seeing it as an important experience in their career paths. They speak about *the strategic value of this mobility*: the prestige of the host institutions abroad and the networks you can build to publish and collaborate points to an important career step in order to obtain, in particular an FNRS permanent mandate. Some mentors have also been found abroad rather than at home, making you more eligible for publishing, research development, relationships during further career and guidance. There is therefore *a clear added advantage of mobility*. For example, Thomas speaks about how “In fact, my academic career would not have gone all the way or would not have been possible without having done a postdoc abroad. “During this research stay abroad, moreover, Thomas was single, which according to him helped him to advance in an “efficient” manner in his scientific activities without feeling any pressure of any kind.

The mobility is not always lived as something easy, in terms of expectations and stress in intense research and academic environments abroad, such as in the States, where there is a lot of pressure to participate and to “perform”. However, *all interviewees agreed that these stays are an enriching and stimulating experience all the same*. Sometimes, both husband and wife or partners have a research profession: mobility during postdoc is expressed as a challenge to the couple life, and is considered impossible once having kids; trying to settle and get permanent positions together is difficult. The impression of this particular male interviewee is that his wife had to sacrifice her disciplinary direction for family purposes and also professional purposes, so he could advance in the same discipline: taking herself out of the competition of some sorts.

A significant result that we found is that FNRS researchers, both male and female, seem to have more chances, or at least feel that this made a difference in their applications for

permanent research positions, *when they have done postdoctoral research stays abroad; have published in internationally renowned English-speaking journals*. We could be looking at the higher significance of competition-based criteria of excellence (Dubois-Shaik, Fusulier, 2015) in FNRS permanent recruitment versus more nomination-based criteria for academic recruitment (see D 7.2).

Work Conditions, workload, tasks, time, entering/continuing Research and Relationships

Omnipresence

The importance of having the multiple pillars of academia/research is important for newly tenured males, as it offers a *balance between research, teaching and collaboration*. Most newly tenured males work more than 8 hours a day, often also evenings and sometimes also weekends, but they don't feel that this infringes upon their family life. They feel that it is a flexible job that allows for work/family balance, such as is expressed by Jean, who believes that "teaching and university are compatible with children and that it is possible to make a balance between the two".

However, in contradiction to this need expressed of multiple and varied tasks, one major topic that emerged not only for male, but also female newly tenured in ELI is the frustration of "*omnipresence*" in multiple tasks, *which does not leave sufficient time for research development or for publication*, which is necessary for career advancement and the demands of the institution: being newly tenured means dedicating yourself to multiplies tasks, although FNRS positions still do not imply as much investment for example in teaching or institutional tasks. However, in practice, even FNRS newly tenured researchers are engaged on a high level in institutional service and in some cases also in teaching and supervision; in a way, FNRS permanent researchers have to meet with double demands: first from the FNRS commissions for advancement of their research careers, but also secondly to engage institutionally in the institution they are based in, *in order to justify of some sorts their FNRS appointment and institutional (UCL) affiliation*.

The *different pillars of academic/research newly tenured position are not easy to build up and to maintain (see Omnipresence)*: For example Elise speaks about how "once you are nominated, the nature of work changes drastically. Creating a research project requires from the beginning to build a research team, construct the project, responding to calls, getting and organising the finances. All these *competences, for which she does not feel formed during her PhD, she needs to learn by doing*. Today, she estimates that the administrative procedures represent 60% of her work, which she sincerely regrets. She has a nostalgia of the time when research was her primary and simple concern."

As for the male newly tenured, the female interviewees also regret having to *spend a lot of time to bid for funding, which are rarely granted* (by FNRS). Monica regrets the time she spends in creating research projects, which rarely get funded. There is often a "financial frustration" voiced by both male and female newly tenured of having to get research project financing, which otherwise is not foreseen in FNRS or on university level sufficiently: *collaboration seems very important, also in terms of sharing funds within*

research centres and distributing them according to needs. This “fits” with the professional bureaucratic model proposed for UCL in D 5.2: there is a lot of freedom in terms of units and governance, but also *less funding and more need to “fend for yourself, or fend for themselves within the centre”*: hence centres and individual researchers and academics also a need to show that you merit or can bid, whereby criteria of “excellence” in terms of publications come into play. We can ask ourselves if the frustration expressed by newly tenured researchers/academics about lack of time for publication also perhaps partly due to this pressure to “show excellence”.

Connections and support in career progression

What can be observed for both male and female interviewees is that *support from former PhD supervisors and postdoc promotors is primordial for gaining access to opportunities for applying and constructing a FNRS proposal, whereby male interviewees often had more access to this support than females*. Lots of colleagues and current work relationships for newly tenured males are forged during doctorate, or even Masters level with professors, who propose to them to do PhDs, or with other postdocs or docs during doc/postdoc. The international collaboration is forged during postdocs abroad, so adds to external networks that are useful for publishing and doing joint research projects. In conjunction to this, the advice to researchers by male newly tenured for a successful career is about being strategic and alert, taking chances and knocking on all doors, establishing collaborations and connections that will help you to progress, publishing in English. *This is more the case for permanently appointed FNRS researchers rather than for academic nominees*; in the latter's case, local networks and associations are more weighty than international networks, although, at a slightly later stage, for project and fund bidding, and research development, international networks become important for academic nominees too.

Generally, the gist from all interviews so far, postdoc as well as newly tenured in STEM is that there is not much supportive culture at UCL/ELI, and that often *true mentors were found abroad, where competition did not reign*, and where they were enriched rather than threatened by (mostly senior) peers, which could sometimes be the case at UCL; especially in the case of female newly tenured academics/researchers, especially before nomination during the postdoctoral phase.

Some female newly tenured speak about how the during the doctoral and postdoctoral phase they *felt still “young” to be having a permanent position or of being in a professional situation, lacking maturity of “full” researchers or academics*; this ties in with current female postdocs in ELI speaking about being in a prolonged doctorate still, with the same hierarchical relationship with promotors and the need of guidance, speaking of promotors more in terms of supervision rather than colleagues. This differs substantially from male newly tenured, who speak decidedly about colleagues, even during their previous postdoctoral phases with promotors. This points to the important aspect of guided confidence-building during doctoral and postdoctoral phase, the lack which of can lead to “shaky” feelings of self-doubt even after nomination for female researchers/academics.

Female newly tenured academics/researchers also tend to speak differently about mentors, although mentors, more roles of PhD supervisors in guidance on research itself, and less strategic support. Emeline for example speaks about two mentors, but not

entirely in the same way as masculine interviewees; her PhD supervisor, who was supportive, but who had not been her first choice as supervisor, as the other one was too overloaded to take her on as PhD; then the postdoc mentor abroad, who helped her advance in her research development, but not necessarily strategically for her career”. However, in some cases, there were important mentors abroad, who were strategically supportive for networking as well as research-wise (see gatekeepers in WP7).

Cassandra: “Abroad, I had a very good mentor, who could guide me in terms of research when I needed it. He also presented me to several brilliant scientists with whom I still have contact. And apart from academic and networking help, he gave me confidence in my capacities as a researcher”.

For female interviewees, the same things count strategically as for their male peers, especially with FNRS: international mobility and contacts, with an added angle of confidence-building that was either absent or given abroad in some rare cases, such as for Cassandra.

In terms of nomination/selection of newly tenured in ELI, one interviewee, Manuel speaks about the informal ways of proceeding and criteria of selection: “Because “co-optation” can play out in the nomination by a scientific committee, the rector has introduced another filter through the central administration, which means that the filter is much thicker; the administration tends to select by adhering to criteria of scientific excellence, and then having gone through this filter, another second selection is made by the academic council; this is the way the FNRS mandates are selected and nominated, which was the case for me for the FNRS and for the position of first assistant (permanent research position).” Filters and states in the selection processes for academic nomination is experienced as being complex, multiple-level, which also requires meeting the demands of both competition- and as well as nomination-based criteria (see Dubois-Shaik, Fusulier, 2015). Arguably, strategic career advice, collaboration, research development and guidance are quintessential for crossing these multiple “filters” or selection steps.

Vocation/passion, lonely heroine and sticky floors

Most if not all male newly tenured speak about *how research work is a passion*: however, many have a dual career in university and affiliated with industry or private sector, and often in the beginning having thought about going into private sector before doing a postdoc. However, after postdoc the desire to stay in university is higher and more pronounced. One could say that doing a *postdoc is already an important professional step or transition into the research profession* for males whereas the doctorate remains still open to changes and is more ambiguous.

As for men, women also speak about research as a passion, vocation even and of being inclined towards this at a very early stage. Also women speak about the importance of doing docs and postdocs abroad, and of *being at the right place at the right moment and depending on who you know is important for getting a permanent nomination*: for FNRS as well as for academic nomination.

Getting stuck in administrative and non-gratifying tasks is something that female newly tenured complain about, which can confirm the presence of the *sticky floor phenomenon* (Booth, Francesconi, Frank, 2003) (there are also postdocs female who complain about

this). Alicia speaks about how she regrets that an important part of her time is dedicated to secondary and assistance type tasks, she even refers to herself a kind of “luxury secretary”. This is something considered getting in the way of her actual work and institutional affiliation/loyalty/membership (Dubois-Shaik, 2014). Not being entirely taken for full.

Lots of newly tenured women interviewees (ELI and IACCHOS) speak about themselves as being their own “boss”, or “*left to their own devices*”: *there is much less narrative about collaboration than with male interviewees; there is more hierarchically lower interaction*, such as with their Masters’ students, doctoral researchers, or postdocs employed in their projects. This ties in with the system of increased auto-regulation we address in D 5.2 (see working paper N°8). Not enough peer support or collaboration as for males. However, women newly tenured speak about good PhD support, but not spoken about in terms of mentors.

There is also with newly tenured female academics a *pronounced narrative about harassment due to being a woman*: by senior colleagues who are experienced as being jealous of their younger female peers, who don’t propose joint publications, who bid for similar projects without proposing collaboration. Women speak about a *competition based culture experienced by them*. There is also conflictual relationships with other staff members, such as laboratory technicians, who are male and older, not liking to be “told” by younger female academics. Newly tenured female academics also speak about how in some cases, being mothers would expose them to have been “taken advantage of” by supervisors, who would systematically put their names on papers they wrote by themselves and of FNRS criteria for recruitment not being in par with their real lived situation, such as is the case for Cassandra: “The contrast with where she did her postdoc abroad was very great upon returning to UCL; the precariousness was lived in a more pronounced way, as the support from her former promotors had deteriorated, especially after announcing her pregnancy. In fact, one promotor took advantage of her publications and co-signed systematically without actually working on the papers, whereas she believes that publishing alone is important for her career and for gaining access to permanent positions.” There are therefore visible signs of *old boys clubs* (Case, Richley, 2012) or *male bastions*, with a *joint effect of Matilda/Matthew* (Rossiter, 1995; Merton, 1968).

The insecurity of short contracts during a long period of time was a *source of stress for many female newly tenured during their early career stage before nomination*, without any guaranty that this would work out. Also the thought of *professional reconversion seemed more difficult for female interviewees*, whereas male interviewees seemed more ready to change without feeling regrets or doubts. Manon: “This job insecurity (She had several short term contracts of 5 month to a year duration) was a great source of stress for me. It was impossible for me to think of a professional reorientation towards the private sector.” However, she still started to “job hunt” in case her application for permanent researcher would not work out.

In Monica’s case “she speaks about how the periods of applying for permanent positions as being the most stressful, because she would *question herself fundamentally* and wonder whether she wouldn’t try other career paths, she had applied for the second time and did not know if she would end up applying a third time.” The postdoctoral

period seems to have been harder for female interviewees from ELI; struggling to do publications and meeting with CV bodybuilding (Fusulier, Del Rio Carral, 2012) necessities. Also work/life balance is a challenge, whereby precariousness persists although females are newly tenured, by always having to maintain a borderline balance, like a kind of trapeze act, with danger on each side of not being able to reconcile. This balance is possible but with the support of partners who are not in high profile jobs themselves if children are around, or else childless with high profile partners' job.

For male newly tenured in ELI, the fact of having a stable/permanent position has done much in terms of diminishing stress and uncertainty.

3.2.2. Newly tenured IACCHOS

Work/life balance

Male newly tenured in IACCHOS – such as In the case of Jean, newly tenured, whose wife is also in high profile job – *find work/family conciliation difficult*, fraught with tensions, as they are not *capable of involving themselves as much in family chores*, and also *feel restricted in terms of mobility*. In the example of Jean, during the postdoctoral level, he is not able to travel with the family to a prestigious European university town, as father of his wife was ill. Also he cannot do research stays beyond 10 days, which seems for him a strategic problem in his career. Paradoxically, however, he does state that work/life is compatible. There is also for IACCHOS interviewees a major difference between male and female, in that high career and work engagement is taken in “stride” and not “complained about” as a true hindrance to working in this profession or career. This points to the difficulty of addressing the hidden carer aspect in researchers' lives; it is difficult for both male and female researchers/academics to reconcile academic work and family, however, it the carer role is often considered “regrettable” or “to be excused” in the name of the scientific/academic career in narratives, especially in male narratives. This points to the significance and existence of the *illusio* (Bourdieu, 1987) of the perfectly committed researcher/academic, unhampered by care or other considerations, which makes any existing care events and activities “chores” or “tensions” or “restrictions”; a kind of guilt in the fact of renouncing career or work activities.

However, contrary to ELI newly tenured, perhaps also related to professional profile of spouse or partner and children also present simultaneously, *IACCHOS newly tenured males tend to be more ambivalent about work/life interference and balance*.

For newly tenured females, the work/family balance is considered possible, but difficult to achieve, with a personal need of setting limits upon oneself, not working evenings and weekends; often this is considered more difficult during the postdoctoral period, and *easier after nomination, as you are more independent and less pressurized to “produce” and “prove yourself”* (see Helene and Chloé). Marine: “Despite the will to separate professional and private sphere, I often feel pulled apart by the two, which makes me feel guilty. I want to spend time with my children, but I also feel guilty when I am not working, so....it's always difficult to find a balance. “Other examples, such as Lola consider work/life balance to be possible, but admit having waited to have children in

order to attain stability, as in Lola's case, because "she wanted to construct a family once she had a certain stability and a "greater freedom" during her career. Today, her work demands are met thanks to the presence of family support and the atypical working hours of her companion." Thus, even in this case, having a partner, whose job or profession is "lighter" or more flexible helps in managing or obtaining a stable position and of assuring care within the family. Moreover, having support from other family is also needed. This ties in with the material and human resource conditions met with, such as with optimistic ELI females, which can make a balance possible. *Thus female newly tenured in IACCHOS are in some cases optimistic, with a balancing act that can easily tip the scale towards precariousness, and in some cases quite ambivalent.*

In some cases, as for Caroline, having children made work/life balance easier, as it helped to ease the rapport to the career, of having a certain distance in terms of uncertainty; "She feels that the arrival of a child was more "sane" for her, because after the birth, Caroline could differentiate work and family time in a better way. She felt more efficient, more productive and more organised in her work, which made "office hours" possible. And spending time with her family made her make a clearer "cut" with her work and of reconnecting to things that were more essential to her life, in order to work better later. "We are looking at what Del Rio Carral and Fusulier (2013) identified as a spatio-temporal logic of conciliation in work/family interference; the capacity to organize yourself better with work due to family considerations and schedules.

The precariousness of postdoctoral periods

The *period of postdoc was fraught with ambivalence for many now newly tenured females*; the uncertainty of what will come, the necessity to engage in many small contracts, often changing the institution, whether abroad or at home within Belgian institutions; not knowing whether to go ahead with building a family, buying a house or stabilizing/settling. The period of postdoc is considered precarious on many levels with many sacrifices made in order to continue in this career path. Caroline; "The period of postdoc was that professional period in her life, during which she had to make the most sacrifices in terms of her personal life. She felt like she had a lot of difficulties to enter into the scientific career and for remaining, with all the short-term contracts, which made life projects such as houses to pay off and keeping children difficult." Valentine speaks about how "she encountered difficulties during her second postdoctoral year, until which she had not felt any major obstacles. However, in this second year, she was struck with a doubt whether this career was really possible for her and whether she would ever find a permanent position. Especially, seeing her contemporaries in her immediate work environment and the difficulties they lived, she felt herself going down the same road." Marine, who is a mum speaks about how "she was always enthusiastic about research, but that during her postdoctoral period and the uncertainty that it brought, she felt like there was a stopper to her other life projects. She sometimes hesitated and thought about professional reconversion, which also meant reducing her full-time work. The position of permanent researcher is a real relief, although this does not rhyme with a reduction of stress linked to work:" It can be observed that on the whole male as well as female newly tenured in IACCHOS *speaks more ambiguously or*

with more ambivalence about their life situations during the postdoctoral period, and sometimes even extending the feeling of precarity or uncertainty beyond nomination.

For engaged profile types in males, this involves part-time work or non-high intensity or profile work of wives/partners, and if yes then without children, unless there is strong family support if children are there, for instance grand parents. Other optimal configurations for engaged newly tenured males are good international networks, available mentors, available internal or inter-university networks; and good publications on “original” topics, as is the case for Henrys and Gerard. This is very similar to the case of engaged newly tenured male in ELI.

Professional precariousness, career paths, transitions and mobility

As with most of ELI newly tenured, the social capital of familiarity with the world of university and also a rooted career in the same institution, along with trips abroad during the postdoc is a recurring constellation in terms of “winning type” career paths, especially for male newly tenured, and also female in most cases. There were some exceptions in which interviewees deviated from their social capital from home; but interestingly this is more present in non-stable postdocs, especially in females, and one male, whereby often the family does not understand the engagement in a profession that seems so fraught with uncertainty and instability.

As with ELI interviewees, IACCHOS newly tenured FNRS speak about how important it was to do postdocs abroad in prestigious universities, also having worked with affiliation to a prestigious French research centre, where for example “Jean” still teaches. According to him, this affiliation works as much in favour of CV building as well as “belonging” to a famous scientific school. However, mobility is not really lived positively by all newly tenured; there are tensions about travelling with family and also attaining the true value of mobility in terms of research development.

Mentors abroad are important for female newly tenured; mobility therefore during thesis or postdoc is important for accessing more possibilities of meeting with “true” mentors, something they found to be more lacking at UCL; intellectual mentors, or those contributing to a development of research. Also some strategic mentors other than UCL were named, for example external mentors in clinics or research centres, such as in Chloé’s case.

The postdoctoral period is lived with a lot of uncertainty at UCL by female IACCHOS newly tenured, with prolonged postdoc short-term contracts, without any perspective of prolonging or permanent positions. Maternity occurring during this time makes things harder, and some part-time work is also envisaged, and in some cases more than one maternity sometimes occurs during this period. And finally, at the end of what is seen as a weary road, then obtaining a FNRS permanent position (see Chloé), with a lot of struggle, or a permanent academic position (see Helena) after at least 8 years of postdoc.

In terms of mobility, female newly tenured speak about how they would like to go abroad more often, as their research stays, even if short *had been important in terms of research exchange, collaboration* etc. but family duties and presence does not allow this

or makes it difficult. This remains an aspect with regret, also voiced by some of their male peers. The arrival of children is experienced as slowing down mobility considerably for both sexes, especially in IACCHOS interviewees. Thus the clandestine carer struggles to keep up with yet another advantageous rule of the game.

Work Conditions, workload, tasks, time, entering/continuing research and relationships

For IACCHOS newly tenured males, the advice given to young researchers is to be “entirely invested” in work, without being encumbered by family and other obligations. However this is considered the “cynical” advice, as opposed to a real advice of reconciling. For example, Jean suggests that “for having an ideal career in the scientific world, researchers should not have families nor emotional relationships, which will put a constraint upon mobility and working hours. Also the need of learning how to publishing in English speaking journals. This is the “cynical” advice. But the “sincere” advice he gives is that young researchers try to come sufficiently close to the given standards, in order to not diminish their chances and at the same time not renounce having a family and relations outside of work”.

As with ELI FNRS newly tenured, IACCHOS newly tenured FNRS and academically tenured complain about the *lack of finances for research purposes and the constant bid for projects that do not always work out; sometimes interviewees auto-finance their research by working elsewhere in other universities or teaching.*

IACCHOS newly tenured males are ambiguous about work conditions, somewhat less speaking about collaboration and work culture/ambiance, and coming more across as solo-players, with international collaboration rather than internal. This is similar for ELI male interviewees. A theory yet to be confirmed is that FNRS newly tenured are more isolated and solo-players (especially in SSH) rather than ordinary newly tenured IACCHOS academics, as in the latter’s case nomination-based criteria and institutional rootedness play a key part for nomination in any case, so those interviewees tend to already have a solid internal network: whereas FNRS researchers with permanent status would have had to play to international standards and competition-based criteria more or on an equal level during the career progression and recruitment: which also means less of a previous institutional rootedness and less interaction.

Similarly to their ELI peers, IACCHOS newly tenured speak about the importance of having *alternative passions, and work possibilities, such as teaching is an important prerequisite for remaining optimistic.*

Like their male peers, female IACCHOS newly tenured speak about *some frustration about their publications*, which they think are too few and not enough time available to develop this. Also they spent a lot of time building their CV until it was “good enough” to be considered for permanent positions.

Female newly tenured IACCHOS don’t have it easy to build their own research teams; due to lack of funds and lack of Human Resources (Administrative and Technical support), they don’t really have the possibility to engage doctoral fellows, who would be important collaborators: so they hope to have this only in later years after their

appointment. Chloé speaks about how “there is a tension in the lack of personnel and financial resources, which make building my own research teams difficult. She regrets – in the absence of these resources – the lack of doctoral students at her side, whereas her research presupposes that she has a research team to work with. In this respect, she hopes to have the power in some years to build an own research team.” Another case is Lola: “In her future career, she hopes being able to build her own research team. She hopes that this can develop her own research and stabilize the nature of her research, which she has altered after her thesis, wanting to expand into other domains – and of collaborating more, because currently she is working in an “isolated manner”. This is quite significant in terms of findings for *IACCHOS newly tenured females as opposed to ELI females, who have sufficient funds to appoint doctoral researchers in their own teams*, and moreover express their main collaborators to be their own researchers, which the IACCHOS females don't have, therefore having even less of collaboration in terms of research development and advancement.

An important result gleaned from virtually all interviews is that “*relationships determine the job or the profession*” (Chloé), both male and female newly tenured and postdoc, it becomes clear that relationships forged or not forged before, during and after PhD, as well as during Postdoctoral periods, determine to a large extent the possibilities of collaborating, of gaining access to short-term contracts, to international collaboration and publication, and to important mentors, who can help in developing research, but also opening doors to future collaborations (in terms of publications, project funding, intellectual development, strategic advancement and team building, membership through knowing and working with gatekeepers). As with countless other male and female interviewees, often female IACCHOS newly tenured have entered into the research profession simply what they call “chance” of having a Masters promotor who “scouts” them out and proposes doing a PhD on a specific topic that they would not normally have thought of, but which they quickly develop a passion for and for research. Often these initial supervisors turn into PhD supervisors and/or postdoctoral promotors, who can play a key role in advancing and guiding their supervisee. This could also prove the point that *networks and gatekeeping* (Brink, Benschop, 2014) is a very important, if not elementary aspect in the research and academic social field: gatekeepers guard the entrance, uphold the keeping, guide the pursuing and define the membership. So these are persons who may or may not recommend you, advance you or promote you, may or may not guide you, may or may not include you and collaborate with you.

This can create disadvantages and advantages depending upon whether or not you are able to create a network, both internal and external. However, for competition-based criteria building (see Dubois-Shaik, Fusulier, 2015), such as quantifiable CV building, international networks seem more important, and for guidance external mentors are significant. In terms of the conditions for developing local rootedness, interviewees speak less about mentors at UCL. And if so, not necessarily always in the person of former supervisors or current promotors (with some exceptions), but rather about hierarchically other relationships “lower” in the ladder, often peers. However, for attaining permanent positions and furthering the career, contacts and mentors (and in some cases also the support from family) are essential, such as for Caroline: “One could say that I have always been supported in my career success by a strong encouragement from my professional peers and family. “Dominique considers her success in obtaining a

permanent nomination as a “victory of all the team”, as the fruit of an important contribution of work of all the members of her centre in which she works. Although there is a large element of chance as well, I have also worked a lot to achieve this.”

Moreover, relationships and support during years of uncertainty are deemed vital to “survive” during this period and not to get demoralized. *Also the family is important during this time, as it shifts the importance level of a hazardous career and also “allows” time to look after children.*

As their male peers, female interviewees considered *research and academic work as quite flexible in terms of times and allowing to work from home*; but this flexibility is *double edged* as it is also considered “elastic”, *which means you work from home, but you are always working in some sense*, and “have the impression of never stopping” (Lola). The working hours are estimated at 45h despite a contract of 38h; but not considered as negative, but “part of the type of profession of research”, for which a passion exists with the major part of the interviewees. Caroline mentions that she does not have leisure outside of work, but she considers work to be leisure.” As for Dominique, “she has some sports activities and reading, but a major part of her time is spent working, even weekends, which means that the lines between work and leisure are blurry.” Valentine (with no children or partner): “.It is not so much difficult to reconcile the two as it is to separate them. *The boundary between the two is nebulous and this leads to situations where professional and private life interfere.*” This kind of sense that researchers make of their spatio-temporal work interference can be a proof of an *illutio* (Bourdieu, 1987) that adheres to constant and totally committed engagement, but also a feature of intellectual or brain work that is “hard to switch off”, especially while related to non-immediate and non-tangible objectives in sight. A bit of a case of carrot and the donkey.

In terms of other task and multiple tasks, teaching is something many newly tenured FNRS for example also do, and some also teach abroad in other institutions (Lola). But although this adds to the workload, it is *considered a healthy balance in some cases, of being able to interact in what often is a lonely work of research*. Other newly tenured speak about how ensuring the 3 pillars (teaching, research, service to institution) is not easy to achieve in the beginning and how often research as practiced during the postdoctoral period is not possible anymore.

The hyper-productivity and current criteria and demands of the profession is something repeatedly regretted by all interviewees, especially females in terms of *maternity periods*; the fear of not being able to meet with the demands, and the regret of not having met with demands during previous maternity leaves and periods. The difficulty of CV “body-building” and producing research publications and output is considered difficult to meet in terms of maternity; and felt not taken into consideration.

The tenureship or permanent position make it easier to actually get on with work rather than CV building or accountability of your work in some interviewees point of view, as is the case for Valentine: “Gaining access to the position of permanent researchers permits me to really take time to work, without the need of being constantly accountable, which was the case during the postdoctoral period. However, despite these difficulties, there is a sense of pride in having achieved tenureship and a comfort about the future, such as in Valentine’s case.

3.3. Movers/Leavers

3.3.1. Movers who have “left” the academic institution

Initial “scouting”

The different interviewees, who have eventually moved away from UCL, have more or less all the same profile while entering the scientific career. For most, the entry into the scientific world was through opportunity, not envisaged, usually via a proposal of doing a doctoral thesis by their Masters dissertation supervisor. This ties in with the postdoctoral newly tenured interviewees from ELI and many from IACCHOS, who often did not think about research as a career and “happened” upon it through their professors/Masters’ supervisors. Most of these researchers entered the scientific career as a given opportunity, without at the time perhaps having a clear idea of what they want for their future. This is equally the case for male and female interviewees. In most cases, there is a love of research that develops during PhD. Male interviewees tend to speak about an appreciation for learning and skills that they could develop during the PhD and that they do not regret having acquired. Research thus has a certain appeal to most interviewees. However, what can be observed is that throughout all the interviews conducted with movers that have “left” the academic institution, there emerges a picture of confrontation with the realities of university environment and work that eventually induces them to leave it.

Work Conditions, workload, tasks, time, entering/continuing Research and Relationships

A lack of support, mentors and guidance

One of the difficulties that young movers faced is *the lack of support from her or his supervisor/promoter, and a second is a lack of funding*. The feeling of being left to oneself, often carrying out your thesis without assistance was considered a source of frustration by many interviewees, preventing them from carrying out their scientific work and advancing within their early careers, especially in terms of publications. This was as much the case for male as well as female movers, however female interviewees express much more “*self-doubts*”, as to their own capacity to live up to the demands of scientific careers, such as in Manon’s case (ELI), who thinks she was *not “excellent” enough to meet the needs of career advancement*. Moreover, female interviewees also speak more about the way in which doctoral assistants are treated and looked down upon. Also, supervisors are seen to be not sufficiently trained to give adequate support to PhD researchers, as Amélie (ELI) expresses. Moreover, in her case, her PhD supervisor became a member of the UCL’s authorities at a given point during her thesis and therefore did not dedicate enough time to her supervision. This points to the *divided and multiple tasks that often overtake tenured academics*, who therefore find less and less time to dedicate to supervision. However, as academic mandates require taking up

supervision, whether or not you have the time or inclination, this sometimes becomes an obligation for academics, who perhaps normally would not have been supervisors. Or else, they really do wish to further research and collaborate with young researchers, but supervision becomes hard to achieve due to their own overrunning work schedules, academic and institutional engagements.

Publications are experienced as an increasing source of frustration for both male and female interviewees, and often networks are created by ones' own initiative and not via or through the doctoral relationships or supervisors.

Interviewees, both male and female, speak about a *lack of mentors, lack of strategic guidance, lack of making useful contacts for them, lack of persons who care enough what becomes of them*. This lack of support in pursuing their scientific career causes in many cases, especially in the narratives of female interviewees a lack of confidence and "self-doubt" in their abilities and in their capacity to play the rules of the game of the scientific world. Manon (ELI), speaks about how "It's difficult since we're very lonely, each in our little box. Moreover, I seldom saw my promoter. I sometimes I think marks given at the end of Masters are much more clearer and precise and in fact this is a job where you work very hard to attain final objectives, which you have to figure out by yourself how to achieve. "

Evelyn, (IACCHOS), who now works in a non-profit organisation, expresses her lack of support and real collaborations with supervisors and other colleagues in her centre; she also speaks about how "real" support for research development and some strategic advice was offered by a postdoctoral female peer, herself in a non-stable position, who took the trouble to assist her in times of doubt and questions about the rules of the game. Otherwise she felt pretty isolated in her work environment, although she speaks about herself as someone "who battles things out" and "managed on her own for while". However, this professional isolation was not something she was willing to live with for a long period.

Karl (IACCHOS) speaks about how "there was a grant opening that was offered to me and I had to develop a proposal that needed to be accepted but I was also lucky that I was actually finding right at the end of my study a supervisor that was willing to support me and to go for this grant. But the promotor of Karl was less present after the doctorate. They still worked together a few times but he did not consider him a mentor. Karl then does research very independently and did not have access of the rules of the game." Karl: « but I think that what I have achieved so far academically was for very tiny part thanks to these kind of connections we were talking about. Which may be the reason why I don't have permanent job yet because, it may be easier to get one when you actually use the networks you have or you make more strategic networks. Yeah, I don't like that approach myself and I always said to myself I will try it in a different way, let's see how far I can get." Male interviewees actually also speak about the lack of support as being partially a reason for not advancing; but with an emphasis (unlike most female movers with some exceptions for those who had alternate professional options) how playing the hard-core rules of the game was not their cup of tea. In the case of Thomas, he worked five years at the centre, guided daily by this professor who became his mentor and proposed various projects that he agreed to do. But when his mentor became emeritus, someone else was placed at the head of the research centre, and this

moment was a turning point in the trajectory of Thomas: "[...] it means they would put someone else at the head of the research centre, that is to say someone who can continue this work as my supervisor had, as a centre manager, because as you can imagine, there is very less institutional funding, it happens to pay a research team for two, three, four years. The need was for someone who could respond to tenders, someone who could find projects and motivate a new dynamic, so it was really, about finding a personality that made it where his successor failed. That he was not of the same stature, it is the least we can say. [...] I say to you, professionally, humanely I respected my new "boss", who took over from my mentor, but I felt too stuck professionally. It was time for me to leave»

When the centre's director is replaced, Thomas decided to leave research. This event shows how the presence of a mentor can be significant. This professor had become his "mental model", a guide, who trusted him and coached him so he persevered up until then in the path he had taken. The departure of the mentor totally changed the game for Thomas who was then looked toward other professional horizons.

Thus where thesis supervisors "resign or leave" or are simply bad advisers, the result could be that the researcher will be much less likely to achieve all the right conditions to climb the rungs of the scientific hierarchy. *The absence of a mentor is indeed a major handicap for a researcher.* Paul was a researcher for twelve years before leaving the university, wearied by the uncertainty of temporary research contracts. He attributes his failure to obtain a permanent position to several reasons, including his inability to come across the right people.

Paul: "I think it really depends on you have to find a mentor, we are lucky if we find a good mentor. My supervisor was very nice, very motivated etc. However, he never played the role of mentor. This person for example did *not see the point of developing networks*. Now this is really something capital in research. It is a network within the UCL but especially outside the UCL is really develop contacts for future collaboration, information sharing on future contracts, on more young people entering etc. And I think my supervisor has not felt that need to share this information. And so he has not been a mentor in that sense. Although the funds were given for the research itself. But on the level of networking I was actually disabled. "Paul observed cases of researchers around him who "had much more chance of staying" because their promoter did what he had to present them to other teams, develop an international network, etc. He regrets not having better managed by himself to find the necessary resources. Roxanne too distinguishes the absence of a promoter that would have guided and pushed far enough for her to continue.

Many interviewees, both male and female spoke about the *lack of funding to finance research*. This ties in with newly tenured FNRS researcher interviewees, who speak about the constant bid for funding research, which takes up a lot of their time and energy, and *leaves lesser time for actual research development and writing*. Bidding for funds, both in terms of obtaining project funding during the financially insecure period after PhD, and then in order to have funds to do actual research and employ junior researchers for newly tenured is a significant feature of scientific careers, and a great source of frustration, time and energy consumption and stress. In some respects the criteria for obtaining project funding are introducing an element of **justification and**

demonstration of meeting with the high demands in order to even exercise research; making out of research an elitist profession.

Instability of a scientific career and the hurdles of the “passport” period

A lot of interviewees, who have “left” the academic milieu speak about how the *multiplicity of uncertainties associated with this kind of academic trajectory* motivates them to try in other sectors, such as is the case for Nicholas: “Financially it’s impossible. Then there are too many uncertainties. (...) So even after emigrating there are very few positions and that’s something I’ve realized fast enough. And for the few positions, competition is fierce, there are people applying from the whole world. So I was very happy to find this job at the Belgian centre for the study of nuclear waste, because I have a CDI (permanent contract).”

As we could observe with the narratives by current postdoctoral and newly tenured researchers/academics, they feel that in order to attain funding of a postdoctoral project already they have to demonstrate a consistency of their intellectual development over time. This is even harder in terms of attaining a permanent position. So in some respects *there are multiple barriers and hurdles to cross before being able to build a sufficiently “important” CV to be even considered for a permanent position*; this means obtaining funding for postdoctoral projects that can allow you to build a network, publish and thus build a CV, which is often not sufficiently the case during the doctoral period (especially if there was a lack of support during the doctoral period, see above). The criteria and demands necessitate the obtaining of postdocs that becomes a **“passport”** of the sorts to be able to progress and become permanent member of the academic/research club. After the nomination however, you have to prove yourself worthy as member and continue to justify yourself; so you have to keep showing and renewing your passport (through a rigid process of constant peer review) to move within and upward the academic country.

With female movers’ interviewees, this often elicits a sentiment of believing not to be “good enough” or “excellent enough”, such as in the case of Manon: “I never had extremely bright marks at college, I even did not make it into the first round of applications, so I never got into the FNRS panel. So it was for the moment and we’ll see. But I admit that at one time I had to ask myself whether it was not too utopian to attain an academic position. This is not utopian but it still needs a very large dose of optimism. Anyway I did not want to link multiple postdocs for 5 years with all the financial insecurity that is associated with all that.”

Before starting the doctorate, Pedro already knew the criteria of scientific excellence. That is why he opted for an international career by choosing a PhD abroad. As in the case of “winning trajectories”, the work took the leading role in his life. He sacrificed a lot in order to invest it completely. Pedro: “When we did research, there are bit of missionaries today amongst young researchers. You really have a strong conviction, may also have a passion and be ready for very big sacrifices in personal life. «However, despite this important commitment and engagement some movers are not always strategic, such as in Pedro’s example because they prefers to publish books knowing that they are less valued rather than articles in international journals. Pedro knew that this does not explicitly build his CV but it developed his scientific interests. However, swimming against the stream won’t necessarily help in getting you to a permanent position.

In Karl and Pedro's case, both IACCHOS movers, these two researchers saw few alternatives to their current job. Their very committed work is not translated yet into a permanent post. Karl explains his lack of permanent position by referring to instability, insecurity and a kind of social capital of the field:

Karl: "I applied to job offers for a permanent job but there is a lot of pressure, there is a lot of competition going on at the moment on the academic market. There is an *economic crisis* going on which makes even more people for sure looking for staying in the academia *because outside of academia the job possibilities are also not so easy*, there is a hugely internationalizing academic market which means that in a lot of countries you really have to compete with people from everywhere, not just with the best of countries. Or you can be confronted with the situation like in Belgium, where I also was looking for a permanent job in last two years and what I saw there, at least in my field, is that, either there are not a lot of permanent positions, really, really few, far too little actually,..., so they are looking for teachers on one hand, they're looking for professors who can teach and but they are not creating the permanent posts. And then, also in Belgium I saw that it's actually a system that is still very closed to internal candidates, so I had the impression that it's very difficult finding a permanent job in Belgium being someone that is not raised academically in Belgium." Not being socially and academically "rooted" or local can therefore be an important handicap for early researchers, either from abroad or from other institutions than UCL. In a sense, the "passport" image works also for this handicap, as obtaining passport or membership also means being sufficiently integrated, knowing and practicing the local culture, understanding at least if not practicing the local codes and taking an oath to abide by them.

Value of the degree, doctoral skills and reconversion

One striking result voiced by female movers, who have moved into the public sectors, is that *the PhD degree or diploma is not recognized or does not have an added value for your status as engineer or employee, thus not increasing your salary*. For example, Amélie does not feel valued in terms of her thesis because her salary scale in her new public policy job is that of an engineer. This is also the case for Manon, who is employed at the Ministry in the Walloon region. So changing the sector for ELI movers also means a de-valuing or reduction of value of your obtained degree of PhD: *leaving the academic field also means losing years invested in doing a PhD* in some respects. The skills and abilities that you acquire during the doctoral period are not taken into consideration or recognized when applying to most other sectors in ELI. This is also the case for teaching positions in higher non-university technical and practical colleagues. One IACCHOS mover, Jean-Marc, speaks about how his salary has decreased since he switched jobs to teaching in a teacher training college. However, he emphasizes several times that despite this shift in salary, he feels happier in his current job, because the work satisfaction is higher, interactions and non-competition based, less isolated, gratifying because of teaching and interactions with engaged students. Although research was a passion for him too, the dog-eat-dog and productivity-based university culture downplayed the merits of research as a passion. Sandra too speaks about how her current income with her own business is far less compared to research salaries, but the *satisfaction level is incomparable* (for much the same reasons as for Jean-Marc), as is the possibility to "actually tell my kids what my work is about", she jokes. There were quite a few male

and female movers interviewees who spoke about a reduction in salary levels, but increase in work satisfaction and overall happiness, although workloads are not often reduced in current jobs. Overwork is in no way an exclusive feature of academic/research work or world.

Family building

A significant reason for *developing a critical or distant rapport toward the research profession is the arrival of a child*, which will relativize the professional priorities, and renders the uncertainties more difficult to live. This tension was found in the majority of interviewees, both for male and female mover parents.

As we observed earlier amongst the newly tenured women, there were several that waited to get their mandate as permanent (FNRS) researcher before considering having children. In ELI postdocs, most female interviewees spoke to us about how children were a project that they were thinking of, but only once they were stabilized: this was quite a significant difference between current ELI and IACCHOS female interviewees. Most ELI female interviewees moreover were younger and had had a rather linear career path of doing Masters, PhD and then postdoc, whereas IACCHOS female interviewees had already done more than one postdoc and had already started a family quite a while ago. Moreover, the newly tenured researchers had to provide a significant amount of work while developing a strong geographical mobility, and felt this to be at the expense of family life. The age at which the researcher is entitled to a permanent position is when important life choices facing him and her for their future.

We can take as example Pauline's case, a mover into another university going into part-time work. Two years after her appointment as permanent biology researcher and in teaching, she falls pregnant with her first child and the second follows two years later. She feels a big sense of dissatisfaction: she cannot be fully in her role as mom nor do her job properly as a researcher. For her, the work comes in second place, she needed to be there for her children and to fully assume her role as a mother. She decided to resign and focus on her family life. This choice is not well accepted by her colleagues and her superiors who believe that this is an attitude born from a negative and depressed thinking. Finally, they offer her a halftime position, mainly in teaching, which she still holds today, twelve years later. However, there remains a sense of regret of not having "gone all the way" or of doing things the "full way". For female interviewees in ELI, movers as well as current postdocs and newly tenured, *motherhood is lived with a lot of anxiety in terms of image and in some cases harassment from male colleagues, and overt disadvantages in terms of career promotion and progression*. This is less the case for IACCHOS females in general.

However, quite a few IACCHOS male movers decided to start a family in spite of unfavourable conditions. Indeed, as well as Karl, Pedro, while living abroad could not count on the support of the family to care for the child. Moreover, their companions with more precarious contracts could not ensure the stability of the family. In addition to this Pedro has not met with support from his colleagues. Pedro: "I have recently created a family ... so this has exposed me to some criticism from colleagues, who suppose that with a family now I am unable to do research. »

When we look at the “winning trajectories” of newly tenured and also the movers, who have obtained permanent positions in other institutions, work proves compatible with parenthood through an extensive support from the life partner, often at the expense of their own careers. Karl's wife works part-time, while Pedro's wife made according to him some sacrifices in order to be mobile, in order for him to have a more stable position. Traveling abroad in order to find a permanent position becomes more difficult with a family. They are ready to go, but not too far. According to Pedro, international mobility has become a necessity. However, in both cases, both partners were not happy about their spouses “sacrifices” and decided that it was *not worth pursuing an academic career at this cost*, amongst other things.

So a researcher can find it more or less easy to combine their family and professional life for current postdocs or newly tenured, depending on the help of an available environment and support from the partner, who is less engaged in his work, help from extended family. But looking at movers who have “left”, *priority is given the family to the detriment of the scientific career*.

Alternate professional experiences

There are movers who leave the academic world, when they already had professional experience in another sphere. This was the case for some male interviewees, where academia was experienced as too much of a cocoon, less involved in “real” society and a seen as having lesser direct visible impact. The majority of these movers, after professional reorientation, spoke of a satisfaction now be able to work to a greater extent toward the service of society and offering concrete solutions.

Thus, these former academic researchers have had changes in their relationship toward work. While entering the world of science, which has often been seen as an opportunity, and nonetheless a rewarding experience. However, during their PhD's and postdocs, they developed an ambivalent relationship due to the isolation they experienced in their university work environment and the futility of the nature of work. This was the case for example for Nicholas, now working in a nuclear waste research centre. Or for Omer, a bio-engineer who arrived in the world of research by chance. However, while developing his thesis and being an assistant, he launched his own private forestry firm. He greatly enjoyed his doctorate especially in terms of the skills gained there, such as the rigour, analysis and research. Moreover, Omer, through his work with forestry experts, is in permanent contact with the field, which gave him a certain status within his lab: it is recognized by his peers as a reference person on ground work. He says he feels a certain humility before these academic/research players and this gives him a moral distance between him and the world of research. Omer felt that this *proximity to terrain is lacking considerably in academia*. With a change in direction taken in his life, Omer acquired a distance and was able to relativize his relation to his work as a researcher.

One female mover, Sandra, who set up her own business with a former colleague from the PhD period and with some family members, speaks about how her time spent in research was agreeable, although not compatible with building a family and being truly engaged in her profession at the same time. She managed to set up this business eventually and had a professional reconversion without a period of joblessness. She had three children during her PhD and feels as though taking an academic career is a matter of choice as much as chance, as she did not feel that this kind of work without any direct

social impact was for her. Now in her business she interacts a lot with people and feels like she can directly provide to society. She also found academic writing very restricted, with little appeal to the outside world and society, catering only to an elitist few. Dealing with literary books today, she speaks about how *writing should be able to reach many not only a select few*.

Both these examples show a disillusionment vis-à-vis the sense making of doing research; research is experienced as an elitist and abstract activity, far from real social issues and impact. Paired with the isolation that often experienced in the academic/research social field, and the insecurity and lack of institutional membership or recognition, work is increasingly experienced as futile and not worth going down as a career path. Arguably, making sense of ones' work in terms of personal contribution to society, to the institution and being taken seriously as a worker and even recognized as being such is essential in creating a professional self.

Jessica is an example of an engaged and optimistic researcher because she sees her UCL passage of doctorate and postdoc as an important "passport" to other, social professional engagement. Her case remains atypical in several dimensions as she gets funding for her PhD at UCL by her research and Education institute in an African country, where she has already a researcher position in sexuality education / AIDS prevention. She is strongly committed with respect to the social work of youth coaching in this theme. She does not really intend to remain in Belgium after the termination of her contract. She knows she wants to become a teacher / researcher, and she is already a permanent employee in her home country. She had invested heavily in her thesis and considers this investment as crucial to achieve this goal in order to be professionally valued in her home country scientific and social field. She is rather optimistic regarding her couple life; she is married and lives her marriage well, despite prolonged time apart. Her husband also undertaken studies at UCL in order to join her at some point. She explains that years where she lived alone was more conducive to productivity. She and her husband chose not to have children. She explains that her career approach is not always understood in her own society, even if she comes from a middle-class educated milieu, because there is an important obligation to participate in social life. Prolonged absence from the local social life is considered as an indifference vis-à-vis important cultural practices. Also, personally, she takes when she returned to Cameroon and sees friends who already have their stable life; home, kids, work fixed. She believes that what she is doing is necessary to become who she wants to be, but it makes her still a "student" at her age (38 years), which are family building years. There were tough periods during her thesis for a lack of adequate funding, which were not sufficient. So although she is hyper-engaged and relatively stable in her professional career and her couple life, her experiences during her PhD and postdoc are similar to those of other mover interviewees and current female postdocs in terms of lack of support from UCL supervisors and lack of support for maintaining a balanced life, and struggling to reconcile a scientific/social career with social life and getting settled.

A striking difference is the way a lack of preferred alternate or parallel professional sphere can impact upon the rapport to work and the academic world upon leaving: most ELI female mover interviewees had a harder time to distance themselves and developed rather an ambivalent rapport toward the academic world, because it seemed to them a kind of "failure", not having "gone all the way", and their current professional work is still

hampered with a kind of *lingering regret*. Most male movers, and most female IACCHOS movers felt more as though the academic milieu was not in par with their own aspirations, whereas ELI female movers felt as though they themselves could not meet with the demands of the academic milieu; this is a significant difference arguably in the way the rapport to work has impacted upon the personal development of males and females in different fields, with the former being more distant, along with IACCHOS female movers, *whereas female ELI movers remain ambivalent*. It can be observed that alternative professional options and opportunities have presented themselves to those who could then eventually develop a distant and healthier rapport to their academic/research past, whereas those females who changed into research done in other sectors feel more ambivalent.

Movers into permanent research positions in other research institutions

Support configurations of “winning trajectories” elsewhere

What can be observed for the “winning trajectories” of movers is that usually the trajectory is very fluid, even with multiple postdocs in some cases. They don't really experience a period of unemployment. There is usually, in most cases a lot of support offered by those around him, family, spouses and colleagues. Children have often come only after obtaining a permanent position and bring some harmony in work/family balancing.

Carole (IACCHOS), for example, has a career that could be considered an ideal type in terms of its fluid continuity. First, she was a FNRS doctoral candidate, then a FNRS postdoctoral research fellow now has become a qualified permanent researcher for FNRS, however changing the university institution. There is often a very high level of investment in their work. Camille for example, started her PhD at 22. Having no family obligations and having a companion with atypical hours, she explains how she was sometimes able to work 18 hours straight. Romain describes himself as being a “great worker under stress”. During the PhD he felt pressure from his girlfriend who wanted to leave time for taking while he wanted to work consistently: “When I was working I was not feeling very guilty about it, for her it was a nightmare!”.

Often, most movers into permanent positions have had according to their own perception “promising” marks at Masters level. Work is a priority in their lives, in order to build a good CV, they invest a lot, and even go on investing after permanent nomination, as is the case for Geraldine (IACCHOS) “Then I felt the pressure to publish in order to build my CV, in order to be recruited. I really felt this pressure. That is to say that I do not write solely for the pleasure of writing an article, but there is also a lot of pressure to have good reviews and all, but, I consider that it's part of the core of the profession. What I found disagreeable, is the idea of saying “it is imperative that I published in such and such journal, because it is essential that it has to be on my resume, so it is good for me to be recruited”.

Moreover, most “winning movers” do not hesitate to sacrifice free time by working evenings and weekends, due to the hard competition. Geraldine speaks about how: “When I apply to a position, I would follow the other candidates, see what they are publishing, seeing whether they are better than mine, were equivalent, and so on. So

yes, I felt this competition when was applying, and where I was like "oops, my file should be better than someone else".

Sometimes this competition is felt in everyday life, as in the case of Carole during her post doc. Carole: "I found myself in a team where any person was the same, could claim the same kind of position as me. So there we were really in competition, rivalry. Well, we got along very well, and that's very well-but it's sometimes difficult times because we said "bah why something works for her and ... not for me? » This is considered a vicious circle that makes the atmosphere among the young researchers very complex ridden.

But often the "winning trajectory" mover is not alone in this battle. Firstly, there is *often a support by their partner*, whereby often partners are themselves researchers or academics, who understand the need for a strong investment and the need to go to abroad for conferences. This is for example the case for Geraldine whose husband already had a permanent position at the time they became a couple. But he also had the ability to move easily and was ready to move according to her eventual permanent position. As researchers in the same field, the couple easily shared their experiences, which is a source of confidence for Geraldine. The partner also had an impact on the course of Camille. She was in a couple for a long time with a "workaholic", who did not allowed her relativize her over-investment, and rather reinforced it. With the birth of her child, she now has a more balanced relationship to work. During the times of thesis, her new companion was available to care for the child. But the couple also controls each other in order not to work too much, especially during bedtimes.

The family can also represent a support. For Géraldine it was psychological support: "at times when I thought of giving up becoming teacher-researcher, they were there telling me" but wait, you have not done all this for nothing, it is necessary that you hang on to what you have done and you should continue ".

Moreover the family helps especially at the time of arrival of the child. Carole had her first child who already have a permanent job. Through the support of her mother, mother-in-law and crèche services, she has no difficulty in continuing to invest in the workplace:

Carole: "So there I am expecting a second baby, I'm pregnant with my second baby, I ... it's not my intention to request parental leave. I feel that I am surrounded by my family and I ... uh I can handle it ... without having to ask too actually um, assistance from the employer. (...) My daughter was in the nursery soon end, I think when she was four months, and then my mother took care during the day, so every day it was really kept therefore nurseries that opens early and closes late so that ... I ... we can say that it was easier when she was in kindergarten and now here in September she returned to school. And school, it ends sooner. I have a mother-in-law who can pick her up. My companion has irregular hours, so we also arrange like that ". Family support is thus experienced as a great support, making working hours possible. However, the paradox within this narrative is that Carole also feels that she doesn't "need to request parental leave, or does not need to ask assistance from her employer. This shows in some respect that *carer roles are suppressed as much as possible* through family support or child care services, which means that we are looking at **defamilialization logics** to make work possible in a macro-and meso-level analysis on work/life balance policies in the French-speaking Belgian context.

At the professional level, *colleagues play a major role by giving a lot of encouragement*. This is in terms of being a source of information and motivation as well as emotional support. Although Carole mentions this great rivalry within her working group and colleagues, and she also speak about how they often helped each other: "Such as the exchange of information since it was in this group of ... doctoral and postdoc, because we exchanged a lot of information on scholarships or ... on the possibilities of living abroad or on a new online database updates. So there is some solidarity. "

Sometimes the "winning trajectory" mentors identify one or several mentors who played a crucial role in their career. A mentor is not only a support but also opens doors or influence of a very important way during the career path. The mentor can play a stronger role in times of transition and at certain levels. In the case of Carole, there was a person who accompanied her throughout the scientific career: "[...] this academic played a very important role in the constructing of my CV ... and also in promoting actually. This is a person with whom I started my studies after I did not do my thesis with it because I went abroad. But this is a person with whom I have always had contact and after the postdoc, she has become very close and means a lot to me, always encouraged much, always supported. She supported me when the constitution of my application file ... and later ... I have a promoter who was instrumental ... a strong role. (...) I feel that I just doubled my... those resources. Uh ... and my supervisor was also somebody who I ... who was very supportive. Uh the people [...] the person with whom I worked closely (...) also supported me a lot. So when, for example of the construction of a qualified researcher application file, I had anyway some references uh, that I think were quite strong and could demonstrate a real relationship with me actually. People with whom I really worked during a long lapse of time."

Some researchers do not like the concept of "mentor" and they use the term "resource person". Geraldine values her independence at work and does not think she had mentors, but some people have marked her career. But she did not want to disappoint her thesis promoter, which led her to apply in her work. She was brought also into contact with a person with whom she found a postdoctoral contract, without whom she would not have had her permanent position. But this person was not someone who could guarantee her a stable position. Instead, Carole, who does not accept the term "mentor", got help from people who prepared her for an application file for FNRS or academic application: "No, not a mentor but people who ... who at times during my career, especially during my FNRS assessment for the post of permanent qualified researcher, were very present, who invited me to go to talk to coach me, tell me, "Well, it'll be like this audition, I advise you this, that, put the focus on it, you mean that, "that's it. "

The "winning trajectory" mover has *more international experience than other movers, that allows him/her to develop his social network and expand their intellectual horizons*. Not leaving for very far countries, he/she tries to keep a common life with her/his partner, even if it is only for some days of the week. This was the case of Geraldine and Romain who both made their post-doctorate in a Belgian university while living abroad. They worked for 3 days in Belgium and returned home to their partner and also for their stepchildren for 4 days. In the case of Geraldine, a part of her research work was precisely in the city where her companion was situated so she could easily articulate its work with a home outside Belgium.

However, the *postdoctoral period*, due to the different life spheres, is not the easiest period. A lot of time is spent in transport, remote environments from home, a new social environment, which create tensions within the researcher. But having no parental obligation, the "winning trajectory" mover can take his/her time to the maximum and develop his/her CV in terms of for example International experience, which is not only about having a prolonged stay abroad but also about developing an international network. Camille speaks about how this international network was indispensable. Working in a small institute she has to look for colleagues abroad: "Collaborations, I have to find them elsewhere. So I too early on, in fact during my postdoc, have been used to working at a national or international level, with people from other universities, with people who came from elsewhere, and converging, or, with whom I converge at the level of my research actions."

However, "winning trajectory" movers also speak about how investing heavily in work before the permanent position, reduces the time spent on hobbies.

The child's arrival for a permanent researcher position is less scary. Often it is even beneficial for the job. In some cases, parenting is seen as an enrichment, especially as family and partner are ready to help at any time. For Romain, who had his child and his permanent position within in a short period of time, it is a great moment of joy and relief (although the workload has been increasing) "I feel that it's better because my child made me relativize many things. I used to have more fear of, needing to have a work, and now I suddenly find the fear about finding a job has settled (...) I think I was more efficient before because I have to pick up my daughter and once you get home, I cannot work as efficiently, because children require a lot of attention." Or Carole speaks about how: "the fact perhaps of having my little girl here allows me ... it sounds very mundane, but provides a slightly different value scale. And so to say, ... well "if this article it comes out in six months instead of three months it is perhaps not too dramatic." And yes, maybe it helps a little ... to put a value to things that matter more. "

4. THE LEAKY PIPELINE REVISITED: AN INTERPRETATIVE AND TRANSVERSAL ANALYSIS

In this section we will analyse in an interpretative way the qualitative findings gleaned from all the three groups of interviewees (current postdocs, newly tenured researchers/academics, movers) by putting them transversally into perspective with the results from the quantitative report on the Leaky Pipeline (D 6.1), the results from the report on gender budgeting (D 5.2) and those on recruitment processes and deconstructing excellence. (D 7.2). We emphasize that this is an interpretative and selective analysis based on the interview results conducted with the three groups of interviewees in two departments (SSH/STEM) and therefore cannot be representative results for all work experience at UCL; it merely is supposed to help understand certain mechanisms.

We will segment this analysis into five parts, by firstly 4.1; zooming into the **period of the postdoc** that has been experienced by all three groups of interviewees and emerges as a most particular and ambivalent period full of ambiguities, tensions and gendered

implications in terms of work, career, relationships and work/life interference for both male and female interviewees. In 4.2 we will look at some findings related to “**Mentors/Guidance/Gatekeepers**”, which looks at the high level of significance that crystallises in the figures of mentors, of a need for guidance and the power of gatekeepers in the experience of interviewees. In 4.3 we will recapitulate the sensitive issue of ambivalent **parenthood** that throws a gendered picture on the results from the interviews. 4.3 will then take us to situating the results in UCL as an organization with its particular system of functioning, governing and organizing, by looking at the phenomena of “**omnipresence**”, and by discussing the deceptive “**paradox of the sticky floor**” of teaching in scientific/academic early career that questions the current demands. Finally, in 4.5 we will try to map the sense-making, career strategies and professional identities of interviewees in a table that describes four areas of organizational regulations around scientific/academic recruitment in what can be called a loosely coupled system of university. The idea is to draw a picture of the “**Leaky pipeline that is created through the demands and criteria of recruitment**”, which are accounted for, enacted and enacting the academic institution.

4.1. The Ambivalence of the “Passport” Period

In the quantitative report for the leaky pipeline and interrelated phenomena, we identified or reconfirmed as with previous quantitative studies; a massive feminization in the majority of fields over the past 10 years, with, however, despite this initial feminization at the level of Bachelors and Masters (still less so in STEM fields!), the phenomenon of leaky pipeline and glass ceiling that can be recorded, whereby fewer women are recorded the higher we climb the scientific/academic ladder. A significant link to the qualitative interview material we analyse here is that the **bottle neck is located at either the doctoral or postdoctoral level**, with the difficult jump to obtaining permanent positions. We would argue that the bottleneck can be better understood by looking at the way male and female early researchers (current postdocs and some docs, newly tenured and movers) make sense (Weick, 1976) of this period, which is fraught with multiple barriers and tensions in the work, organizational and life experience. The doctoral and more mainly the postdoctoral period, for all male and female interviewees – current postdocs, newly tenured and movers (both those who “left” and those who “stayed” in academia) – is something that crystallises itself as what can be called a “**passport**” period. This passport form is something problematic, we would argue, because it presents an ambivalent rapport to work and the profession (Fusulier, Del Rio Carral, 2012) due to precariousness, pressures and tensions for early researchers in multiple professional and personal ways. The “passport” frame of the postdoctoral period also has significant gendered implications. Male and female interviewees in all groups describe and make sense (Weick, 1976) of this period in various different ways according to an array of discursive resources (Kuhn, 2006):

“Passport” application criteria: In terms of a career path, interviewees account for that in order to attain a permanent position and membership into the research career and academia they have to *demonstrate and justify a consistency and productivity of their intellectual development over time*. In this process there are multiple barriers and hurdles to cross before being able to build a sufficiently “important” CV to be even

considered for a permanent position; this means firstly, after PhD, in most cases interviewees were “scouted” for by Masters dissertation supervisors and motivated to go in for a PhD. However, after this initial scouting, they are then themselves responsible in order to obtain funding for postdoctoral projects that can allow you to build a network, publish and thus build a CV, which is often not sufficiently the case during the doctoral period (especially if there was a lack of support during the doctoral period or postdoctoral period, which is the case for female ELI postdocs, IACCHOS and ELI male and female movers, see above). The competition-based and nomination-based (Dubois-Shaik, Fusulier, 2015) criteria and demands necessitate the obtaining of postdoctoral projects that becomes a “**passport**” of the sorts to be able to progress and become permanent member of the academic/research club. After the nomination however, you have to prove yourself worthy as member and continue to justify yourself; so you have to keep showing and renewing your passport (through a rigid process of constant peer review) to move within and upward the academic country. This demonstration and justification of being a “good enough” researcher/future academic in order to gain access, requires fulfilling and meeting with competition-based criteria: *“body-building your CV” by writing peer reviewed publications in renowned journals; by having achieved postdocs in renowned international universities or research centres abroad, international mobility which helps with networking with gatekeepers abroad, experienced as rarely found at home.*

A time experienced as **being important for being (obliged to be) mobile**, which is seen as a clear and definitive criteria for increasing your chances as a candidate for a permanent position, especially for FNRS researchers, and especially for ELI FNRS and academic candidates. However, this mobility, although with positive experiences for males and females (current postdocs, newly tenured and movers), is often a source of stress in terms of moving with family, or leaving family, or giving birth and being in maternity/paternity (more so for mothers); sometimes in terms of living up to high pressures of research participation in other institutions abroad.

A time experienced as **needing to build networks** that are essential in order to publish together, build projects or establish links with potential mentors and gatekeepers (see Brink and Benschop, 2014). Networks however are seen to be built especially abroad during this period, because often local networks were harder to access, as former PhD supervisors were often not very attentive to introduce interviewees to networks or to advance them strategically; this was more the case for ELI female postdocs, IACCHOS and ELI male and female movers. Often, this would increase the pressure for being mobile, because this would potentially open new doors to new people, potential mentors, career advice, research collaboration and development, publication projects, joint research project proposal creation etc. However, being mobile was more difficult once parenthood was a feature, for both males and females, whereby females had a harder time to reconcile, except where partners were extremely supportive.

Work/family interference: A period experienced by all interviewees as **essential to family building and “settling” down**, whereby female ELI postdocs and movers experienced delays in having children, because they feel that this is not compatible with this period and its demands and requirements. Most females have more ambivalence in the question about compatibility of children with career and also about health reasons, overwork and infringement upon or sacrifice of family, mobility and leaving the country

due to career choices. There is also more guilt in females about juggling between work and family duties. Like the females, the newly tenured and movers males believe that their professional activity is limited by a family life, because this would decrease the professional engagement needed to advance the career. But unlike the female researchers, most men do not feel a professional constraint on family building. This is however linked to a lot of support conditions (supportive and available partner, extended family). Females are more often the primary carers in families.

Professional precariousness: A period experienced by male and female interviewees (ELI female postdocs, ELI and IACCHOS male and female newly tenured, ELI and IACCHOS movers) as “unsettling” and “stressful” due to the instability, uncertainty about obtaining a permanent position and settling future, family building and high demands upon time, work and work/family interference, especially in the case of parenthood occurring at the same time. All interviewees speak about *lack of sufficient funds for actual research* and in female narratives *lack of funds for building research teams*. Building their own teams seems essential for female newly tenured, because their relationships are usually horizontal with peers or lower with younger researchers (doc, postdoc), with a lack of collaboration from senior (male) colleagues.

Professional sense of self: For many female interviewees during the postdoctoral period,, especially in ELI, due to a lack of guidance, “failing”, they feel “*regrets*”, “*insufficiency*”, “*self-doubts*” and not “*good enough*” or “*excellent enough*”.

Lots of movers' interviewees speak about how *alternate professional pathways* can give a better work satisfaction, social sense of self and service. Many movers and female newly tenured interviewees experienced “*struggling alone*”, “*working in an isolated manner*”.

Academic writing and publication is considered difficult, a weary and long process, with less collaborations on UCL level, and with some joint Matilda/Matthew (Rossiter, 1993; Merton, 1967) effects, especially during maternity periods, where supervisors tend to take advantages or pass over.

Most interviewees, male and female, speak about building your “application file”; the professional advancement was translated as CV building, strategic advice from colleagues or supervisors, publishing for CV purposes etc. Looking at research work as a *means* to career progression.

Female ELI postdocs and IACCHOS postdocs, both male and female assume a lot of *under-valued teaching and supervision tasks*, which they care for, more or less deeply, but which they feel is underrated both in terms of what counts in a CV (competition vs nomination based).

Lots of mover women speak about how during this period they had to *assume undervalued administrative tasks*.

Mentors and gatekeepers: A time experienced as being lacking in sufficient UCL support in terms of supervisors/promoters, other and more senior colleagues, and a lack of mentors in the intellectual and strategic and collaborative sense. This is more the case for female ELI, male and female IACCHOS newly tenured and ELI and IACCHOS movers.

On the whole, a picture emerges of a period of professional struggle, tensions with family building and stabilizing or settling into life. The professional struggles are essentially trying to meet with what interviewees believe and rarely question as being important career strategies, such as being mobile, publishing, building the CV, having career advice from mentors, collaborating to build research projects and moving towards advancing into a permanent position. However, in the struggle to meet with career advancement criteria and standards, arguably, important aspects of professionalization are lost or difficult to achieve, namely a sense of **working on research as an objective in itself** instead of being a **“means” to career progression**. In the case mostly of female postdocs, newly tenured and movers, and also some IACCHOS male movers, **gaining a healthy professional sense** of self by being “confident”, by “valuing your own contribution”, by “being part of a professional practice”, without being constantly “questioned”, without having to constantly “justify” and “demonstrate” your capacity and “excellence” that is defined through the CV and “application file”. Collaboration is often seen through the filter of career advancement during this period, and **research development** suffers in the process. Professional precariousness and instability moreover makes this period hard to live in terms of stress, overwork, family and parenthood lived badly or as a “menace” or “obstacle” toward career progression.

We could say that we are looking at a kind of rite of passage that is extended or prolonged from the PhD toward postdoc, where perhaps initially was located during the PhD. In many ways, the postdoc has become an extension of the PhD, in the way that it is experienced by female interviewees (supervisor relationships, guidance, confidence building, stabilizing, justifying, proving yourself worthy, network building, showing a continuity in intellectual production) but also by male interviewees (network building, stabilizing, justifying, proving yourself worthy, capable of showing a continuity in intellectual production and development). But the formal configurations of the PhD are not applicable anymore, as promoters are not supervisors (*strictu sensu*), and postdocs are contractual employees. Moreover, if we look at the **professional stage of postdoc** during the scientific/academic career, postdocs are researchers who have already obtained their PhD, who are engaged usually on full-time research projects as persons responsible for carrying out their own or collaborative research, usually assume teaching tasks, and are also institutionally active, thus are already fulfilling the academic pillars of full academics. They are moreover at a **personal stage** in their lives, of a certain age, where family building has already begun, where family life is in need of being settled or stabilized. The **form of postdoctoral research projects** moreover are adding to the short-term thinking and organizing of this period. From the interviews in 7.1 with postdoctoral recruitment committee members, we can learn that **research projects are structured as short-term contracts, without any institutional obligation to prolong or make permanent posts at the end of their terms**. So doctoral and postdoctoral researchers are left to fend for themselves by creating social networks strong enough to continue the bidding process, this time a bid for tenureship or further employment at university. They are moreover at the mercy of powerful external public (FNRS) and private funding bodies, which have their own non-accessible and non-transparent stronghold of competition-based criteria, assembled committees and recruitment in order to filter and select amongst a host of candidates. So candidates have to not only “prove” their worth to the institutions that they are bidding membership for, but also the funding bodies for research career pathways. Both research and academic career pathways and recruitment

are therefore fraught with **high competition-based schemes**. We would argue that this adds to the “passport” form and scheme of the postdoc and does not assist early researchers in professionalization, nor in institutional membership and local or institutional interactive research collaboration and development. Postdocs become thus “outsiders” while already playing the rules of the game, and more importantly are becoming lost in the career progression game, rather than being professionalized in what is an actual scientific/academic work.

4.2. Mentors/Collaboration/Gatekeepers

Often male and female postdocs spoke about how research was not a career choice from the beginning of their studies in their respective fields; it was something that they happened upon through their connections with supervisors and potential promoters, who sought them out. It is something that we could call a “scouting” process, of professors or supervisors, who “scout” for potential PhD candidates, and meeting with what they believe is a suitable person then guide them into a research path. We can therefore highlight the importance of connections and gatekeepers (see Brink, Benschop, 2014) for entering research careers and more specific fields. However, although the entry was done by gatekeepers through initial “scouting”, the continuity and maintaining early researchers in the field is something that supervisors, promoters and senior colleagues are less willing and less able to do. Our hypothesis would be that there is a competition-based culture on the one hand, and “self-manager” culture on the other (see D 5.1) that dominates the field and interactions, whereby mentoring is a rarer commodity.

A very significant aspect that emerges in all interviews is what early researchers see as a vital need for mentors. Interviewees, both male and female, speak about a *lack of mentors at UCL, lack of strategic guidance, lack of making useful contacts for them, lack of persons who care enough what becomes of them* at UCL. This is the case for current female ELI postdocs, current female IACCHOS postdocs, newly tenured male and female ELI and IACCHOS in some cases, and for most movers, both male and female. This lack of support in pursuing their scientific career causes in many cases, especially in the narratives of female interviewees a lack of confidence and “self-doubt” in their abilities and in their capacity to play the rules of the game of the scientific world. And often they would feel “lonely” in their work, having to “battle things out on one’s own”. However, this professional isolation was not something that many movers were willing to live with for a long period. In some cases of movers and also newly tenured, “real” support for research development and some strategic advice during their PhD and postdoc was offered more by peers, (rather than by supervisors or promoters), themselves in a non-stable position, who took the trouble to assist in times of doubt and questions about the rules of the game. There is generally a need voiced for knowledge of organizational culture, ways of doing things, informal institutional and institute codes that were considered very important elements of integration for young researchers. This knowledge can be gained if you have had an institutional history already through your studies and during your PhD, such as was the case for the “winning trajectory” newly tenured and movers. But this knowledge becomes solidified through the interactions with supervisors and/or promoters, who can be mentors. But this organizational

knowledge was seen to be very hard to come by. In the report 7.1 with interviewees who were recruitment committee members, they speak about how academic organizational codes were considered as very deeply engrained in interactions, and practices and hard to learn and to come by, except through many years of working in the institute, faculty and the UCL. Arguably, professors and permanent academics/researchers who are supervising or promoting early researchers hold therefore the key to this knowledge about organizational codes and practice and therefore are important gatekeepers.

What was an interesting gender difference in the way supervisor/promotor relationships were spoken about is that female postdocs in ELI speak a lot about former and current promotors as *supervisors*, even during the postdoctoral period, also feeling the “need to be guided” as in the PhD period also during the Postdoc. Male interviewees rather speak about former supervisors/promotors as “colleagues” in a more horizontal relationship, or then as “boss” or “employer”. There is a lot of reference to “confidence-building” necessities on the behalf of female interviewees, the lack which of they live badly. However, none of the postdoc interviewees from ELI felt that there were significant differences or disadvantages of having female or male supervisors or promotors, but rather that different types of persons can have a stronger or weaker relationship, which can impact upon developing collaboration or not.

And as previously mentioned, female interviewees also speak about being engaged teachers, in terms of supervision of junior researchers and masters students, who are principal inter-actors in their work environment, more than supervisors or promotors or senior colleagues. Male ELI postdocs tend to be more lonely in their research work at UCL, rather having more interactive collaborations with colleagues in centres abroad. Mobility then becomes even more essential; as a possibility for developing collaboration that is lacking in the home institution. This ties in with the point made previously that females tend to be more invested in local academic tasks with less “sales” value, whereas males have less local institutional links, rather more abroad and therefore are more lonely institutionally as a consequence. However, some female interviewees also spoke about having a very lively and active and continued interaction in terms of collaboration with international colleagues rather than UCL colleagues, relationships forged during their research stays abroad.

Lots of newly tenured women interviewees (ELI and IACCHOS) speak about themselves as being their own “boss”, or “*left to their own devices*”: *there is much less narrative about collaboration than with male interviewees; there is more hierarchically lower interaction*, such as with their Masters’ students, doctoral researchers, or postdocs employed in their projects. This ties in with the system of increased auto-regulation we address in D 5.2 (see working paper N°8). Not enough peer support or collaboration as for males. However, women newly tenured speak about good PhD support, but not spoken about in terms of mentors.

There is also with newly tenured female academics a narrative about *harassment due to being a woman*: by senior colleagues who are experienced as being jealous of their younger female peers, who don’t propose joint publications, who bid for similar projects without proposing collaboration. Women speak about a *competition based culture experienced by them*. There is also conflictual relationships with other staff members, such as laboratory technicians, who are male and older, not liking to be “told” by

younger female academics. Newly tenured female academics also speak about how in some cases, being mothers would expose them to have been “taken advantage of” by supervisors, who would systematically put their names on papers they wrote by themselves and of FNRS criteria for recruitment not being in par with their real lived situation. Promotor took advantage of their publications and co-signed systematically without actually working on the papers, whereas publishing alone was considered important for career and for gaining access to permanent positions.” There are therefore visible signs of *old boys clubs* (Case, Richley, 2012) or *male bastions*, with a *joint effect of Matilda/Matthew* (Rossiter, 1995; Merton, 1968).

Collaborations are seen as a key feature of scientific career progression as well as scientific work, whereby the former aspect was more present in narratives. *Collaborations are lived as positive, if not exuberant by both female and male postdocs at IACCHOS.*

However, most “winning movers” do not hesitate to sacrifice free time by working evenings and weekends, due to the hard **competition**. There are overt and implicit signs of a *competition culture*. Sometimes this competition is felt in everyday life, because often in team many persons are in the same kind of position, spoken about rivalry. Although relationships were friendly, this underlying competition made itself felt nonetheless. This is considered a vicious circle that makes the atmosphere among the young researchers very complex ridden. However, the ambiance of the centres were described as positive, easy to converse and collaborate with. There is more frustration expressed in both male and female postdocs about the processes of publication; although publication, both single and multiple author was possible, the process itself was seen as long and weary, which was not advantageous for CV building or for your own research dissemination.

Where thesis supervisors “resign or leave” or are simply not available, the result according to many narratives is that could that the researcher will be much less likely to achieve all the right conditions to climb the rungs of the scientific hierarchy. *The absence of a mentor is experienced as a major handicap for a researcher.* For example a problem was experienced that the person of promotor or supervisor did not for example *see the point of developing networks*. Interviewees speak about being “handicapped on the level of networks”, or “of not having been pushed enough in the right directions”.

4.3. Parental ambivalence

Early career researchers experience their rapport to work/life interference (Fusulier, Del Rio Carral, 2012) in very significantly different ways depending upon the period and situations during their careers and personal lives. What emerges as a striking result is the way that **parenthood** will impact upon the rapport; while female and male childless postdocs in ELI are engaged and optimistic about their work level, intensity and future, IACCHOS male and female postdocs with children are more ambivalent about work and family. Moreover, the newly tenured ELI males and females tip the scale of being optimistic toward being ambivalent by having children. However, there is a clear gender difference in the way this ambivalence is experienced: females have more ambivalence in the question about compatibility of children with career and also about health

reasons, overwork and infringement upon or sacrifice of family, mobility and leaving the country due to career choices. Although like the females, the males believe that their professional activity is limited by a family life, because this would decrease the professional engagement needed to advance the career, **men do not feel a professional constraint on family building**. In this manner, the work/family interference impacts upon time but does not result in questioning the academic career in itself.

Moreover, within the IACCHOS group, the male interviewees express less feelings of regret than females of being taken up by parenthood and not being able to carry out their professional project or enjoy their leisure time. In postdoc females from IACCHOS, even **the most optimistic women voiced feelings of guilt**, and speak about how the arrival of children transform profoundly their relationship to work. Jarty (2009) remarked in the case of female teachers that “guilt over “time stolen” from the family or additional constraints imposed on the partner [...] represents a female speciality (Jarty, 2009)”, produced by the gendered nature of the allocation of responsibility for domestic life. In this regard, the case of researchers has a specificity which can further reinforce guilt feelings, which is flexibility and autonomy in the organization of work. In most interviewees case, research was considered double edged or the limits between professional and private spaces and time “blurry” in the sense that there is although there lot of flexibility of work in this profession, this is also its major flaw. The dimensions of the activity allow one to decide places and times of work. However, in a context of employment uncertainty, a weak temporal regulation of work by research laboratories and a social injunction for assumption of responsibility for domestic life by women (retranslated daily in employment relationships), flexibility and autonomy can actually increase women’s risks of being exposed to complaints from the domestic sphere and thus possibly lead to a sort of tug-of-war. In other words, flexibility is at the same time an opportunity for many researchers, but it can also lead to being constantly representing an available carer figure who can, if need be, always there at the right moment. Thus, often an ambivalent relationship to their career is mainly expressed by young mothers who, as Marry and Jonas (2004) describe, are caught up in a double culpability: having the feeling of not being a sufficiently good mother or researcher. Often for women, the carer role is always co-present, even during their times of work. This is also the case during maternity leaves, that are often experienced as not being taken into consideration, despite formal inclusion of maternity leaves in FNRS applications for example; female interviewees speak about how in practical reality, maternity will slow down publication processes and research development that are high demands during especially the postdoctoral period. However, what we can glean from the results is that fathers too (see IACCHOS postdocs and newly tenured ELI and IACCHOS) experience ambivalence, especially when it comes to feeling pressures to perform and a feeling of incapacity to dedicate enough time to work, nor to children.

Linked to this is the important contrast that we can observe that having an **optimistic stance** (leading to the same level of investment in work and family) **presupposes specific material conditions of existence**: parent female researchers in fact present professional and family configurations providing favourable supports: the possibility of shared responsibility for the children between the female researcher, their partners and the family entourage; the use of collective services, a home near the work place, etc. This configuration allows them to ensure an extended presence at the work place, such as

evenings, but also to cope with long absences for scientific stays abroad. Male newly tenured in IACCHOS who also do not have these configurations either find work/family conciliation difficult, fraught with tensions, as they are not capable of involving themselves as much in family chores, and also feel restricted in terms of mobility.

There is however for IACCHOS interviewees a major difference between male and female, in that for males high career and work engagement is taken in “stride” and not “complained about” as a true hindrance to working in this profession or career. This points to the difficulty of addressing the hidden carer aspect in researchers’ lives; it is difficult for both male and female researchers/academics to reconcile academic work and family, however, if the carer role is often considered “regrettable” or “to be excused” in the name of the scientific/academic career in narratives, especially in male narratives. This points to the significance and existence of the *illusio* (Bourdieu, 1987) of the perfectly committed researcher/academic, unhampered by care or other considerations, which makes any existing care events and activities “chores” or “tensions” or “restrictions”; a kind of guilt in the fact of renouncing career or work activities.

One important result is that female newly tenured academics, especially in ELI, tend to avoid speaking about their family life to colleagues, keeping silent about work/life interference. Even in some cases, they refrain from asking for parental leave because implicit/explicit comments are made or even mentioned by male colleagues or superiors as barriers to promotion. These same female interviewees spoke about how having children during doctoral or postdoctoral phase elicited different reactions from colleagues and supervisors. Being in family situations is not always easy to declare or speak about with colleagues, especially to male supervisors/promoters, especially in STEM field environments. STEM environments seems to be experienced as being harsh in terms of a rejection of carer roles; male as well as female interviewees with children are much more ambivalent about their rapport than IACCHOs interviewees, and in some cases children were considered incompatible with scientific careers and either stalled or family life renounced/neglected.

In some cases, having children made work balance easier, as it helped to ease the rapport to the career, of having a certain distance in terms of uncertainty: the arrival of a child was considered more “sane” because after the birth female interviewees could differentiate work and family time in a better way. Some felt more efficient, more productive and more organised in their work, which made “office hours” possible. And spending time with family could make a clearer “cut” with work and of reconnect to things that were more essential to her life, in order to work better later. We are looking at what Del Rio Carral and Fusulier (2013) identified as a spatio-temporal logic of conciliation in work/family interference; the capacity to organize yourself better with work due to family considerations and schedules. However, this feeling was often present in researchers being well endowed with support from material conditions, and care support. Thus female newly tenured in IACCHOS are in some cases optimistic, with a balancing act that can easily tip the scale towards precariousness if personal situations should change, and in some cases quite ambivalent. However, the paradox within this is that interviewees express not “needing to request parental leave, or not needing to ask assistance from their employer. This shows in some respect that *carer roles are suppressed as much as possible* through family support or child care services, which means that we are looking at **defamilialization logics** to make work possible.

Engaged types of rapport were rare, and if appearing then mostly in single postdoctoral or newly tenured researchers from both ELI and IACCHOS. The narratives then pointed to an ideal that conveys a masculine professional habitus (Beaufays, Kraiss, 2005), valuing an over-investment in work accompanied by a familial underinvestment.

4.4. Omnipresence and the paradox of Sticky Floor

4.4.1. Omnipresence

A significant result is that interviewees speak about the importance of having the multiple pillars of academia/research, as it offers a balance between research, teaching and collaboration. Most newly tenured males work more than 8 hours a day, often also evenings and sometimes also weekends. However, in contradiction to this need expressed of multiple and varied tasks, one major topic that emerged not only for male, but also female newly tenured in ELI is the frustration of “omnipresence” in multiple tasks, which does not leave sufficient time for research development or for publication, which is necessary for career advancement and the demands of the institution: being newly tenured means dedicating yourself to multiplies tasks, although FNRS positions still do not imply as much investment for example in teaching or institutional tasks. However, in practice, even FNRS newly tenured researchers are engaged on a high level in institutional service and in some cases also in teaching and supervision; in a way, FNRS permanent researchers have to meet with double demands: first from the FNRS commissions for advancement of their research careers, but also secondly to engage institutionally in the institution they are based in, in order to justify of some sorts their FNRS appointment and institutional (UCL) affiliation.

The different pillars of academic/research newly tenured position are not easy to build up and to maintain once you are nominated, the nature of work changes drastically. Creating a research project requires from the beginning to build a research team, construct the project, responding to calls, getting and organising the finances. All these competences, for which interviewees did not feel formed during their PhDs. Today, interviewees estimate, the administrative procedures represent 60% of their work, which they sincerely regret. There is a nostalgia of the time when research was a primary and simple concern.

As for the male newly tenured, the female interviewees also regret having to *spend a lot of time to bid for funding, which are rarely granted* (by FNRS). There is often a “financial frustration” voiced by both male and female newly tenured of having to get research project financing, which otherwise is not foreseen in FNRS or on university level sufficiently: collaboration seems very important, also in terms of sharing funds within research centres and distributing them according to needs. This “fits” with the professional bureaucratic model (adapted from Mintzberg), proposed for UCL in D 5.2: there is a lot of freedom in terms of units and governance, but also less funding and more need to “fend for yourself, or fend for themselves within the centre”: hence centres and individual researchers and academics also a need to show that you merit or can bid, whereby criteria of “excellence” in terms of publications come into play. We can

ask ourselves if the frustration expressed by newly tenured researchers/academics about lack of time for publication also perhaps partly due to this pressure to “show excellence”.

Within this kind of schema of bureaucratic model, the outcome of this is the increasingly the individuals have to cater for themselves in this complex bureaucratic system, as much operating in an informal and negotiating way, in order to A) manage and administer to their work and B) in order to advance in their careers. An important aspect for both A) and B) for individuals is therefore to cope with additional work apart from the high demands of research production/publication/collaboration, of teaching, and of also managing technically and administratively their own work. They need to know how things are done, but more importantly they need to know persons who are capable of helping them either in terms of career advancement, or of supplying logistics for your work. There is therefore a significance of the creation of networks and of groups of persons in your environment available to you, to which you can apply to. As discussed before, collaboration and mentorship is therefore essential in order to have access to gatekeepers who can help you situate yourself in this complex loosely couple system of academia (Weick, 1976).

As their male peers, female interviewees considered research and academic work as quite flexible in terms of times and allowing to work from home; but this flexibility is *double edged* as it is also considered “*elastic*”, which means you work from home, but you are always working in some sense, and “have the impression of never stopping”. The working hours are estimated at 45h despite a contract of 38h; but not considered as negative, but “part of the type of profession of research”, for which a passion exists with the major part of the interviewees. However, working weekends and at home also mean that the lines between work and leisure are blurry.” The boundary between the two is nebulous and this leads to situations where professional and private life interfere.” This kind of sense that researchers make of their spatio-temporal work interference can be a proof of an *illusio* (Bourdieu, 1987) that adheres to constant and totally committed engagement, but also a feature of intellectual or brain work that is “hard to switch off”, especially while related to non-immediate and non-tangible objectives in sight.

4.4.2. The Paradox of Sticky Floor

Another significant point we would make is that on the whole, female interviewees feel more fragile about overwork and juggling different kinds of tasks, and its infringement upon personal life. In fact, they describe more *multiple and varied tasks* than their male peers, who have multiplicity rather *within the research activity* (seminars, conferences, publication collaborations, dissemination events). Arguably female researchers are being active in “academically” orientated tasks, such as teaching, and male researchers are investing in research-based development, networking and publication: potentially, this could also contribute to a more focussed CV-body-building by male researchers during the postdoctoral period, with more publications and international connections to show for in what can be an initial highly competition-based selection round in research and academic recruitment for permanent posts (see Dubois-Shaik, Fusulier, 2015). Female researchers, who could be building valuable skills and competences for academic work by assuming the less valued teaching tasks, could therefore be losing out on chances of selection by not “boosting” their CVs with quantifiable competition-based criteria,

although they paradoxically could be suited for the multiple-task and –pillar based academic mandates. Therefore, although we are looking at a sticky floor phenomenon, which we identified in the quantitative report for the leaky pipeline, whereby there are more female teaching assistants without permanent positions. We would argue that there is a paradox about the nature of the “sticky floor” itself that is the teaching task. Teaching has become undervalued and devalued in scientific/academic field, whereby competition-based recruitment criteria put all the emphasis on research development and production (publications, mobility, bidding for funds) and early researchers account for trying to meet with these criteria for career progression and obtaining permanent posts. However, arguably, as discussed in D 5.2, teaching is one of the pillars of academic positions and mandates, which is one of the tenets of the university mission. Once again, we are looking at a shift toward research as a means of career progression and the undervaluing of work as an objective in itself. Namely also transmission of research and knowledge through teaching and supervision. Female interviewees from ELI, as well as IACCHOS females and males are engaging in teaching tasks, which however take second place, often regrettably, as they don’t “count” for career progression. On the contrary, they end up becoming a “sticky floor” for females, as interactions of teaching are not also advantageous for the career, as much as collaborations with senior and more powerful colleagues, supervisors and promoters.

4.5. Leaky Pipeline constructed through recruitment criteria

The different results from this interpretative analysis could be outlined in terms of the leaky pipeline in a model adapted from Brink and Benschop (2012) about recruitment processes and from Karl Weick’ sense-making (1976) as follows; the postdoc period is enacted and enacting the competition-based criteria of scientific/academic recruitment, whereby the early researchers account for meeting the demands of these criteria. In this process, research development becomes a means for career progression rather than an objective for work. Indeed narratives give us a variety of different accounts that are career strategies and choices according to the discursive resources (Kuhn, 2006) that are available to them. These discursive resources are often located in competition-based recruitment criteria that promote certain areas of practicing career progression strategies, such as networking, publication, mobility, collaboration, hyper-productivity, funding, mentoring. In his proposal about higher education organizations as loosely coupled systems, Weick (1976) speaks about how “given the ambiguity of loosely coupled structures, this suggests that there may be increased pressure on members to construct or negotiate some kind of social reality they can live with. Therefore, under conditions of loose coupling one should see considerable effort devoted to constructing social reality, a great amount of face work and linguistic work, numerous myths and in general one should find a considerable amount of effort being devoted to punctuating this loosely coupled world and connecting it in some way in which it can be made sensible.” In this way, a loosely coupled system that is the university or scientific/academic world is regulated by adhering to and enacting standards and criteria that are either competition-based or nomination-based (Dubois-Shaik, Fusulier, 2015) for membership purposes, and also by adhering to a myth or *illusio* (Bourdieu, 1987) of the “omnipresent” and “hyper-engaged” scientist that strives in his quest for knowledge. A further myth that is sustained is that of “separate worlds” (Kanter, 1977) in terms of

carer roles and professional roles. Indeed, as we can observe from our results is that the carer, especially being the parent is considered an “obstacle” toward professional practice and progression, even toward permanent and upheld membership. From interviews we glean that women are still the primary carer, whereby their career progression and upholding becomes more of a struggle.

Moreover, in this career progression competition-based criteria enactment through early researchers, academic tasks such as teaching, genuine research development and institutional engagement become lost and down-played, although they are arguably the pillars of scientific/academic work and professions. All the more, because for final nomination as permanent member, these undervalued tasks and secondary collaborations become important, as is shown in D 7.2. There seem to be multiple ambiguities or tensions that can be named with respect to this opposition between the competition-based criteria and logic of recruitment and the nomination-based logic; A) firstly the difference between the focus of requirements of the scientific career in its early stages, as of the PhD, which is clearly connected with demands and requirements of scientific or research orientation; developing ones’ research, consolidating it and validating this in visible publications. The postdoctoral criteria affirm this research profile, by its “passport” frame, the project type work and its particularities (time frame, work load, leadership, coordination, independence, innovation etc.) and the criteria named by that group of interviewees. The final selection criteria are however much more academic, simply because finally the recruitment of C-level posts are “academic” posts and not research posts. Ensuring teaching, ensuring institutional engagement become key criteria for an academic appointment. The scientific factor or excellence shifts therefore into the background, and in fact is sometimes penalized as a too “individualist” or ego-centric “star” logic, which cannot function as a sole criteria. So there is a problem of making and promoting scientists through the scientific excellence criteria gaining ground in institutions, and then requiring academics, who finally have very different qualities and require certain very local ways of being. This becomes visible when committee member interviewees speak about having made “mistakes” in recruiting excellent researchers, who however could not fulfil the academic teaching mandate, because they simply did not like teaching and did not have rapports with the students. And others who wanted to be left in peace for doing research. This becomes visible in these results with three interviewee groups of current postdocs, newly tenured and movers, who show the paradoxes of sticky floors in teaching devalued tasks, lack of institutional rootedness, isolation at work, lack of collaboration possibilities etc. So there is a major de-coupling between these two levels of engagement.

Criteria for recruitment and levels of engagement	Networking practices (and social capital)	Power dynamics in recruitment process	Gender Practices	Sense-making of early researchers
<p>Competition-based: formal/de-local or international Publications</p> <p>International mobility</p>	<p>CV body building: peer reviewed, preference of English journals, H-index and other indicators, via International and national contacts and networks</p> <ul style="list-style-type: none"> -Conferences - Institutional network - International networks and peers - Funding possibilities via mentors and external network - Host institutions invitations' and interest of hosting 	<ul style="list-style-type: none"> - List of formal criteria with emphasis on publications, peer reviewed and « high quality » journals prescribed by rectoral team. - Lack of transparency of appointment reports -Internal codes, knowledge of internal codes of organisational functioning and requirements - Funding options and framework: competition-orientated perspective of universities and of research projects: social networks and lobbying/ Grants according to inter-university politics played out in recruitment committees (FNRS or UCL) 	<ul style="list-style-type: none"> - Few academic or research openings -Pro forma open calls -Reproducing the success model -« Have it all » CVs -Intersectional disadvantages age and gender for publications and international mobility -Linear research and academic career model -Delegation of care and household chores if possible, and lack thereof to rise to the challenge of a “do-it-all” and “have-it-all” success and work model - Flexibility of family members to go abroad or accommodate mobility 	<ul style="list-style-type: none"> - Hyper-productivity - Pressure to publish - Pressure to be mobile - Lack of collaboration - Lack of guidance and confidence-building (females) - Lack of mentoring: strategic advancement, advice, networking, collaboration, research development - Family support, existing or not - High precarity during postdoc and beyond - Parental ambivalence - Double edged Flexibility

Nomination-based: informal/ local or institutional	Inviting and nominating: Knowing “of someone” “someone known” from external networks	Autonomy of recruitment committees Tension of teaching requirements with initial focus on research production.	Few academic posts with many “suitable” candidates “Have it all” success model orientation Omnipresence in 3 or 4 pillars of academic work Overvaluing of research obtained and produced/to be produced	- Competition culture - Harrassement due to parenthood - Bid for funding - Teaching undervalued - Lack of collaboration - Institutional rootenedess, lack of or not
High research profile	Asking recommendations: Former supervisors/mentors/colleagues	Lack of transparency of committee decisions and reports: legitimizing choices by overvaluing some criteria over others.		
Teaching capability	Building reputations: Peers/supervisors and colleagues boosting and supporting	Changing dynamics according to committee and president of committee Negotiating and choosing « Risky » or « trustworthy » candidates that “fit” Internally known candidates as opposed to external candidates Knowledge of internal codes organisational functioning/ requirements		
Institutional engagement				
Social service				
Team work and collaboration				
Leadership				

REFERENCES

- Barbier, P., Fusulier, B. (2015). L'interférence parentalité-travail chez les chercheur-e-s en post-doctorat: le cas des chargé-e-s de recherches du Fonds National de la Recherche Scientifique en Belgique, *Sociologie et sociétés*, Vol. 47, no. 1, p. 225-248.
- Booth, A.L., Francesconi, M., Frank, J. (2003). "A sticky floors model of promotion, pay and gender", *European Economic Review*, 47(2): 295-322. Collectif, 1984, *Le sexe du travail*, Grenoble, PUF.
- Bourdieu, P. (1987). *Choses dites*, Paris, Les Éditions de Minuit, coll. « Le sens commun ».
- Beaufays, S., Kraiss, B. (2005). « Femmes dans les carrières scientifiques en Allemagne: les mécanismes cachés du pouvoir », *Travail, genre et sociétés*, 2005/2 No 14, p. 49-68.
- Brink, van den M., Benschop, Y. (2012). Gender practices in the construction of academic excellence: Sheep with five legs. *Organization*, 19(4), 507-524.
- Brink, van den M., Benschop, Y. (2014). Practicing gender in academic networking: The role of gatekeepers in professorial recruitment. *Journal of Management Studies*, 51(3), 460-492.
- Case, S.S., Richley, B. A. (2012). Barriers to Women in Science: Examining the Interplay Between Individuals and Gendered Institutional Research Cultures on Women Scientists Desired Futures, *Work and Family Researchers Network Conference*, New York, June 14.
- Coser, L. A. (1974). *Greedy Institutions: Patterns of Undivided Commitment*. New York: Free Press.
- Del Rio Carral, M., Fusulier, B. (2013). Jeunes chercheurs face aux exigences de disponibilité temporelle, *Temporalités*, n° 18 [Online: <http://temporalites.revues.org/2614>].
- Dubois-Shaik, F. (2014). Analysing 'Migrant' Membership Frames through Education Policy Discourse: An Example of Restrictive 'Integration' Policy within Europe, *European Education Research Journal*, Vol. 13, no.6, p. 715-730.
- Dubois-Shaik, F., Fusulier, B. (eds.) (2015). *Academic Careers and Gender Inequality: Leaky Pipeline and Interrelated Phenomena in Seven European Countries*, *GARCIA working papers* n. 5, University of Trento (ISBN 978-88-8443-641-2).
- Fassa, F., Kradolfer, S. and Paroz, S. (2012). Enquête au royaume de Matilda. La relève de l'Université de Lausanne, *Pavie Working Paper* LIVES.
- Fusulier, B., Del Rio Carral, M. (2012). *Chercheur-e-s sous haute tension!*. Presses de l'université de Louvain, Louvain-la-Neuve.
- Fusulier, B., Nicole-Drancourt, C. (2015). Pursuing Gender Equality in a "Multi-Active" Society, *Global Dialogue*, International Sociological Association, 5(1). <http://isa-global-dialogue.net/pursuing-gender-equality-in-a-multi-active-society/>
- Jarty, J. (2009). Les usages de la flexibilité temporelle chez les enseignantes du secondaire, *Temporalités*, n°9. [Online: <http://temporalites.revues.org/1057>].
- Kanter, R.M. (1977). *Work and Family in the United States : a Critical Review and Agenda for Research and Policy*, New York, Russel Sage Foundation.

- Kuhn, T. (2006). A “demented work ethic” and a “lifestyle firm”: Discourse, identity, and workplace time commitments. *Organization Studies* 27, p. 1339–1358.
- Marry, C., Jonas, I. (2005). Chercheuses entre deux passions, *Travail, genre et sociétés*, vol. 14, n°2, p.69-88.
- Merton, R. K. (1968). “The Matthew Effect in Science”, *Science*, 159(3810), p. 56-63.
- Rossiter, M. W. (1995). “The Matthew Matilda Effect in Science”, in *Social Studies of Science*, 23.
- Weick, K. (1976). Educational Organizations as Loosely Coupled Systems, *Administrative Science Quarterly*, Vol. 21, No. 1 (Mar., 1976), pp. 1-19.

NETHERLANDS

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1. INTRODUCTION

In this report we analyse the lived experiences of current and prior early careers scholars – postdoctoral researchers and assistant professors – of two GARCIA institutes within the Radboud University in the Netherlands, to better understand how macro, meso and micro level contexts influence academic individual trajectories and in particular the Leaky Pipeline.

University and institutes under study

Radboud University is a broad, internationally oriented university that aspires to be one of the best in Europe. It works closely together with the academic hospital RadboudUmc. The university contains seven faculties: Philosophy, Theology & Religious Studies; Law; Arts; Medical Sciences; Science; Social Sciences; and the Nijmegen School of Management. In 2014 there were 19.685 students and about 5000 staff members. We focus on early career scholars from two particular institutes within the Radboud University: the Institute for Mathematics, Astrophysics, and Particle Physics (IMAPP) and the Institute for Management Research (IMR).

The IMAPP is one of the six research institutes at the Science faculty, and is divided into four departments: Mathematics, Astrophysics, Theoretical High Energy Physics, and Experimental High Energy Physics.

The IMR is the research institute for the Nijmegen School of Management and conducts research on the governance of complex societal systems. The IMR is divided into five departments: Business Administration, Economics and Business Economics, Political Science, Public Administration, and Geography, Planning and Environment. Each section is divided into different sub-departments.

National and local context concerning the leaky pipeline²

The various academic positions in the Netherlands are full professor, associate professor, assistant professor, other academic staff (teachers and researchers, among which postdoctoral researchers), and PhD candidates (De Goede, Belder, & De Jonge, 2013). Regarding the leaky pipeline, data show that although women form a majority at the levels of bachelors and masters, from the level of PhD candidates onwards they gradually become a bigger minority, with the lowest number of women at the rank of full professor. The percentages of women and men bachelor and master students, PhD candidates, and postdocs and other non-permanent researchers remain stable over time, whereas we do see an increase in the percentages of women in all levels from assistant professors onwards: women assistant professors from 33% (2010) to 38% (2014); women associate professors from 20% (2010) to 26% (2014); women full professors from 13% (2010) to 17% (2014).

² For more extensive information and sources, see D6.1 Quantitative Analysis on Leaky Pipeline – the Netherlands.

Within IMAPP in 2014, the proportion of women PhD candidates and postdocs were 25% and 24% respectively. The percentage of women assistant, associate, and full professors in that same year was respectively 8% (N=1), 0%, and 7% (N=1) (see Table 4). This shows a (very) leaky pipeline, starting between the postdoc and assistant professor level. Over the time period 2010 -2013 all assistant professor hires have been men, except for one.

Within IMR the percentage of women PhD candidates from 2010 to 2014 fluctuated between 44% and 68% over the years, with the highest percentage in 2014. In 2014, the number of women PhD candidates was more than double the number of men PhD candidates. A leaky pipeline still exists in 2014, as the graph below shows:

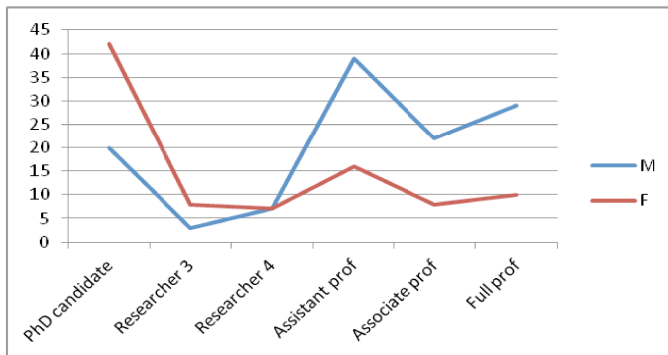


Figure 1: Number of total women and men IMR staff in 2014 (taken from report 6.1)

The report

In this report we take an inductive approach, following grounded theory (Corbin & Strauss, 1990) by starting from the acknowledgement that actors have agency in responding in a certain way to their (perception of) social conditions. Through exploring the development of individual early career scholars' conditions and their reactions to those conditions, we build an understanding of the leaky pipeline in academia in this particular context. We analyse separately the stories of what we have called 'movers' – people who left the IMAPP/IMR for other research institutes, 'leavers' – people who worked at IMAPP/IMR but left academia altogether, current postdocs of the IMAPP/IMR, and current assistant professors at the IMAPP/IMR.

The report is structured as follows. First, we elaborate the methodology on which the report is based. Next we analyse the accounts of the movers and leavers, postdocs, and assistant professors. We then make a transversal analysis in which we identify and discuss mechanisms operating in the leaky pipeline in the context under study. In the concluding section we draw together this qualitative analysis and the quantitative analysis of the leaky pipeline as reported in D6.1 to gain insights in the manifestation and mechanisms of the leaky pipeline. We also give recommendations to tackle the leaky pipeline phenomenon in the specific context of the Netherlands.

2. METHODOLOGY AND RESPONDENTS

The analysis in this report is based on interviews with 13 ‘movers’ (left the Radboud University to other universities or research institutes), 5 ‘leavers’ (who left academia), and 19 current employees – 9 postdocs and 10 tenured and non-tenured assistant professors – from the GARCIA research institutes IMR and IMAPP. See table 1 for an overview of the interviewees.

Including both prior and current employees of the institutes in the sample brings the advantage of gaining both retrospective and in-the-moment perceptions of the institutes. The strength of speaking to both current and previous early career employees is that we were able to build an understanding of the role of the IMAPP and IMR in career trajectories of people who have already moved on from these institutes, as well as understand how these institutes influence current employees to build or further develop their careers in science. This exploration leads us to identify the mechanisms that inform the leaky pipeline in these contexts, which may be at play in other research institutes of the university or in STEM and SSH faculties in other Dutch universities.

Table 1: Overview interviewees

		Men	Women	Total
IMR	Movers: postdocs	-	2	2
	Movers: assistant professors	2	1	3
	Leavers: postdocs	1	1	2
	Leavers: assistant professors	1	-	1
	Current: postdocs	1	2	3
	Current: assistant professors	4	3	7
	Subtotal			18
IMAPP	Movers: postdocs	4	2	6
	Movers: assistant professors	1	1	2
	Leavers: postdocs	-	-	-
	Leavers: other	-	1	1
	Leavers: assistant professors	1	-	1
	Current: postdocs	2	4	6
	Current: assistant profs	2	1	3
	Subtotal			19
	Total	19	18	37

2.1. Sample

The interview sample we gathered is balanced regarding current and previous early career employees and evenly divided across the two institutes.

Within the group of IMAPP movers/leavers, more men than women were interviewed, as the number of potential women interviewees was small. For the IMR, four men and four women movers/leavers were interviewed. All but one of the category movers/leavers were between 31 and 40, so 'age' was not a particular factor we could use to distinguish between interviewees. One woman was an exception, as we will discuss in 6.2.3. All but one man interviewee were in a relationship. Ten out of 18 mover/leaver interviewees had at least one child. These children were all under 10 years of age.

Regarding the current postdocs, three were interviewed within the IMR, of whom two women and one man, and six within IMAPP, of whom four women and two men. We interviewed ten current assistant professors in total, of whom three within IMAPP and seven within IMR. Within IMR, four were men and three were women. Within IMAPP, two were men and one was a woman. The current employees, postdocs and assistant professors, were between 29 and 40 years old. The majority was in a relationship: of the women, all had a partner; of the men, five were single, the rest had a partner. Eight of the current employees had at least one child: three in IMAPP, five in IMR; four men and four women.

The sample of interviewees provides a good range of perspectives, going from people who became tenured to people who left academia. A difficulty with the relatively small numbers of interviewees within a fixed setting is that they might be easily identifiable through the information provided. We have been careful in the provision of information so as to make sure that none of the interviewees would be easily traceable.

The interviews were conducted from January to April 2015. We acquired two lists from the HR departments: the first consisted of names of persons who worked at both institutes as postdocs or assistant professors between 2009 and 2014, the second of persons who were working at the institutes at the moment of interviewing. The email addresses of the previously appointed scholars were obtained by the interviewers via LinkedIn, personal websites, people-searching websites, Facebook, academia.edu, or online CVs. We approached the potential interviewees by email to ask for their participation. In the email (in English or Dutch), we mentioned the goal of the interview; how much time it would take (around 90 minutes); that they could choose the location; and that their answers would be treated anonymously and confidentially. The majority of interviews with movers/leavers were conducted through Skype, as most of them lived abroad. The interviews were recorded and then transcribed verbally for one part by the interviewers and for another part by an external transcription service. No difficulties were encountered when contacting interviewees and during the data collection.

2.2. Interview

The interview guide contained questions on six dimensions: Socio-demographics, e.g. age, current position, home situation and marital status; Individual trajectory, e.g. salient moments of work story from the end of your PhD until now; Organisational culture and everyday working life, e.g. description of the climate within the department; Well-being and work-life balance, e.g. appropriately balanced work spare time; Career development, e.g. support from current workplace to pursue professional ambitions; and Perspectives on the future, e.g. how do you imagine your professional and personal future? For this

report we drew largely from the second dimension on 'individual trajectory' and 'perspective on the future', but as the interviews were semi-structured we also used answers from other parts of the interviews to complement this information and better understand the individual trajectories. For instance, some interviewees mentioned the climate of the institute as one reason to move from the institute, others mentioned reasons to leave when talking about the future of science for young scholars. The interviews lasted between 60 to 120 minutes.

2.3. Analysis

After transcribing the interviews we conducted the analysis, to understand the leaky pipeline phenomenon from a qualitative perspective.

Within the mover/leaver group of interviewees, two subgroups exist: the ones having left the GARCIA institute for another research institute (in the Netherlands or abroad), and the ones having left their academic careers. We therefore divided the analysis to understand why some continued in science after working at the GARCIA institute, and why others did not. For the movers (N=13), we noted three categories: the ones being 'successful' in building an academic career, the ones being doubtful about whether to continue in academia, and the ones being relatively unsuccessful (i.e. not getting a paid research contract) but staying in academia nonetheless. We analysed the trajectories within these categories. For the leavers (n=5) we noted a distinction between intentionally and involuntarily leaving academia. In the analysis we built an understanding of the different trajectories belonging to these two categories. Specifically, we analysed the interviews with four aspects in mind: current position; trajectory; reasons to move from the institute; and future prospects and plans.

To analyse the accounts of postdocs currently appointed in the IMR and IMAPP, we also identified current positions, trajectories, and future prospects and plans. To understand their current positions we looked specifically at private life, research, teaching, and other tasks. Additionally, we looked at the reasons for staying in academia so far. We built up this analysis along the lines of the distinction between IMR and IMAPP, as the analysis quickly showed how postdocs are an established position (and even part of a 'standard' career trajectory) in the STEM department and larger field, but are not so embedded in the system of the SSH department and field. This makes for very different experiences within the institutes.

Within the last group of interviewees, the current assistant professors, we discuss both assistant professors on a tenure track and ones who had already received tenure and hence a permanent contract. Like for the other interviewee groups, we identified these interviewees' current position, career trajectory, and future prospects. Again, to understand their current positions we looked specifically at private life, research, teaching, and other tasks. Difficulties encountered were part of these aspects. Moreover, for this specific group we analysed what made this group of interviewees 'win', i.e. succeed in the competition for an academic career. We arranged this analysis along the lines of these four main topics.

For each group of interviewees we compared the accounts of people from IMAPP and IMR, and looked for differences and similarities related to gender. Where relevant, we took into account the personal lives of the interviewees, among which their marital and family status.

All in all, the accounts of early career scholars from leavers to tenured assistant professors gave us an appropriate range of people to build a better understanding of the leaky pipeline: from the successful academics continuing and climbing the academic ladder, to the ones having left academia entirely, and the people in between. After the separate analyses of these different interviewee groups we performed a transversal analysis to understand the interrelated mechanisms operating in the leaky pipeline, and their gendered implications. Finally, we related these findings to several quantitative results of prior GARCIA reports, to gain a more holistic picture of the leaky pipeline in the GARCIA institutes.

3. THE MOVERS AND LEAVERS

We interviewed 18 men and women who had been appointed by the IMAPP or IMR between 2009 and 2014 and left these institutes in that period. We noted how roughly two categories of trajectories exist: the category in which people move from the GARCIA institute to academic positions in other research institutes, i.e. 'movers' (n=13), and the category in which people leave academia altogether, i.e. 'leavers' (n=5). Within these categories similarities and differences exist between trajectories, current situations, reasons for leaving the institute, and future prospects, which we will discuss in detail below. We start with the movers and then proceed with the leavers.

3.1. Movers

Thirteen out of the 18 interviewees belonged to the 'moving' type trajectories. We divided these movers over three categories which we gave labels following the metaphor of the leaky pipeline: "Flowing", "Doubting", and "Hanging" movers. The movers flowing through are the people who do not encounter cracks in the pipeline: they are following a (more or less) successful track, e.g. finding tenure track positions, and are still determined to keep following this course. Doubting movers are the people approaching a crack but not certain whether to fall through it or to evade it: they have been successful in staying in academia so far but are considering whether to proceed in academia or to quit and seek a non-academic career. Hanging movers are the people who have almost fallen through the cracks of the pipeline: they hold on to proceeding in academia but are unsuccessful in obtaining paid, longer-term – let alone permanent – academic appointments and have no secure prospects in academia. The latter two categories are more likely to become 'leavers' (or: leakers?) than the first. Table 2 shows the division of the mover interviewees over these categories. For each category we will discuss in more detail what are the related trajectories, reasons for leaving the GARCIA institutes, current situations, and future prospects.

Table 2 Division of mover interviewees over categories

	IMAPP		IMR		Total
	Men	Women	Men	Women	
Flowing	3	1	2	2	8
Doubting	2	1	-	-	3
Hanging	-	1	-	1	2

Notably, of the three IMAPP women only one was a flowing mover, whereas the other two were less certain of a career in science. Of the five IMAPP men, none were 'hanging'. Of the IMR, only one (woman) was hanging, all four others were quite successful in their careers and 'flowing through'. The two 'hanging' movers were both women.

3.1.1. Flowing movers

The movers flowing through are the people who do not encounter cracks in the pipeline: they are following a (more or less) successful track, e.g. finding tenure track positions, and are still determined and able to keep following this course. Of the eight flowing movers, four had been employed at IMAPP and four at IMR. The group consisted of three women and five men. Two of them (men) were Dutch, the others were all foreign.

Current situation All four **IMR** flowing movers (2 men, 2 women) were foreign and now employed in universities outside the Netherlands, as (senior) lecturers and assistant professors. Three of them had permanent contracts, one (m) had a 3-year contract. One of the men had a child, the rest had a partner but no children (2) or were single (1). All worked full-time. One of the women noticed how being part of the permanent staff made colleagues invest more in her, in contrast to her experience within the IMR which was characterized by isolation and lack of institutional embeddedness (which we discuss in more detail below). For the other woman, teaching was her main task whereas research was now an 'extra' task for which she was not officially appointed. In the interview she mentioned how in her home country (where she now worked) academia was predominantly revolved around teaching, not so much around research, which gave her a disadvantage in relation to researchers from other parts of Europe. Yet, she was determined to keep publishing and working on research projects to not be "irrelevant" concerning research. One of the men came back yearly to the IMR to give lectures during one semester.

Of the four flowing **IMAPP** movers, one man had a permanent position as full professor, two were on tenure tracks (m + f), and the fourth was a temporarily employed postdoc on a fellowship (m). One of them (f) worked in a university in the Netherlands, the rest had gone abroad. Two movers (m + f) were foreign, the other two men were Dutch. All of the flowing movers had children. The only woman in this group was appointed through a special tenure-track position track in another Dutch university. She criticised the tenure-track (TT) for not being flexible for women with children: there was no extension of the TT after child birth, part time work was not possible because that would complicate research evaluation, and exams were scheduled in the evenings. She sought contact with women through the women's network of the university. Moreover, she missed having done a postdoc to enhance her research record:

"If I would now think back I would maybe not take this position and just do a postdoc somewhere, for two years, three years and then just to get a secure ground of knowledge which I can build on. Because now to get this more secure ground next to teaching and everything is very difficult, so yeah. So I am paying this price, I feel that I am paying this price."

Two of the men were working on getting prestigious Dutch and European research grants, one of them with the purpose of getting back to IMAPP, the other to appoint researchers and set up his own research group (which was a requirement of the TT).

Career trajectories Examining the career trajectories of the flowing movers, we were led by the question what it was in these movers' careers that made them succeed in science

(up to now). Keywords that came up from these men's and women's accounts were: networking/being sponsored, acting pro-actively/strategic, (extensive) applying for grants and jobs, being flexible, constantly seeking to balance research and education, and going abroad.

Networking and/or being sponsored was an element in most of the movers' stories. From multiple interviews, conferences appeared as an important platform for job hunting. One IMAPP mover (m), for instance, knew he had to leave his position as his institute was closing. After a conference he spoke with people from the IMAPP, who then gave him the opportunity to gain a teaching position. An IMR mover (m) had established good relations with US-based researchers, who became his PhD supervisors and then eventually hired him as a lecturer after his short employment at the IMR. An IMAPP mover (w) received her first employment after her PhD through academics she had already known.

The mover careers also often included an (extended) period of (extensive) applying for grants and jobs. The story of one man mover from IMAPP showed how he was always working on 'what's next', applying for grants and fellowships to ensure a subsequent research position. In the process he was often rejected. An IMR woman mover had changed positions and countries three times after her PhD. She started applying for jobs in early on in appointments, even though she had three- or four-year contracts, and then moved again. Another man said he had applied for dozens of jobs before he was hired at the IMR.

Acting pro-actively or strategically was another recurring element in the mover stories. The continuous applying for funding and the networking for jobs and sponsoring are part of this pro-active attitude. For instance, an IMAPP mover (m) gained a contract in which he would be appointed within IMAPP and another university in the Netherlands. He chose to take that other university as his main employer because he had already been at IMAPP, so this would be "*good for my CV*". An IMR mover (w) said to strategically seek a variety of experiences through different positions so as to build complementary competencies.

Being flexible was an aspect that was often implicitly present in the stories, but sometimes also made explicit by the interviewee. As one flowing mover from IMR described himself: "*the common theme about my performance is flexibility*". Moving institutes, changing countries, and dealing flexibly with partners and family are indicative of this element. For instance, these movers were willing to have a long distance relationship with an (academic) partner or move their family abroad.

The movers were constantly seeking to balance research and education: in case they had a lecturer position, they tried to work on their research portfolio; if they had a research position (e.g. postdoc) then they were looking for opportunities to work on their educational experience. One IMAPP woman, now an assistant professor on a tenure track would in hindsight have liked to do a postdoc, as that would have helped her publication record and her "*ground of knowledge*". An IMAPP mover (m) left his teaching position at IMAPP because such a position gave him little opportunity to develop his research, with the risk that "*at a certain moment you're out*".

All flowing movers were either Dutch and had gone abroad during their careers up to now, or were foreign and moved to the Netherlands/Nijmegen for a job opportunity at the IMR or IMAPP (and moved away again). Experience with travelling and living abroad

was thus a common theme within the movers' careers. This seemed natural to these movers, as none of them criticized or questioned the requirement of moving abroad.

The elements identified above counted for flowing movers from both the IMAPP and the IMR. A small difference we found is that two IMR movers mentioned online mailing lists as instruments through which they had found jobs, whereas none of the flowing IMAPP movers did. Though this is only a small difference, this might indicate that personal networks are relevant to a lesser extent in the SSH field than in the STEM field.

A difference we noted between the men and women flowing movers regarding the trajectories was in the self-positioning during the interviews. Several of the men were explicitly positioning themselves as confident, flexible and autonomous academics. The remark mentioned earlier on flexibility is an example. Another man said that the fact that he was offered a permanent contract must have been a "*no-brainer*", because "*I am good at what I do*". Another responded to the interviewer's remark about how his success seemed to be entirely his own responsibility, that being an academic is like having your own business and "*you learn to frame it as if you've done everything yourself*" - despite help he received with for instance writing grant proposals. The men positioned themselves as if they were the ones in control of their own scientific destiny. The women positioned themselves much less so. Their self-positioning seemed less explicit. One of them, when talking about getting her position in IMR, spoke of "*being lucky*" or "*grateful*", and of being given a chance. This implied that she positioned herself as dependent on others and as not responsible for this opportunity herself.

Reasons to move We found different reasons for moving from the GARCIA institutes. Two men (IMAPP and IMR) left their respective institutes because their partners were either abroad or had difficulties with finding a job in Nijmegen. For the IMR man, language issues and his partner's job opportunities, and expensive housing in Nijmegen added reasons for him to take a position elsewhere. He would have liked to stay in Nijmegen because of its welcoming atmosphere, although he felt the general expectations for publishing ("*one per year*") were not ambitious enough for a successful international career.

Two men from IMAPP left because they were looking for a permanent contract which they couldn't get in IMAPP. One of them gained a permanent position as full professor, the other a tenure track position at another institution. The same goes for the three women in the sample (one from IMAPP and two from IMR). The first IMR woman mentioned how language makes it hard for foreigners to get a permanent position, related to not being able to provide education. The second IMR woman wanted to continue at IMR but there were no vacant positions and she did not feel she had enough research profile to have a chance for a contract, let alone a permanent contract. The IMAPP woman was supposed to get a position but when her supervisor left, she did not get the offer she wanted and her attempt to negotiate failed: "*With no one protecting you, you're like free, free animal in the wild*". She mentioned gendered experiences within IMAPP and was quite isolated from the permanent staff, with her family and friends also being far away. This isolation was mentioned by the first IMR woman as well, which was caused by multiple factors: being a postdoc, coming from outside, having language issues (no Dutch so it was hard to get teaching tasks - which is "*fundamental for your career*"), weak internal network, working on a marginalized topic, and encountering cultural differences. She did not apply for internal job openings because she believed internal candidates would be preferred.

Future prospects Concerning their future prospects, the flowing movers showed two main tendencies, for men and women alike: the first was the tendency to develop in their current position and establish further growth. Most indicated to wish to continue on the career track they were currently following, and developing their research output and production as well as their educational experience further. One IMR mover (m) said that he wanted to position himself well in his field and if he did not succeed, he would work even harder. His goal was to “*feel accomplished and satisfied*”. He seemed very strategic throughout the interview, yet at the same time also said “*I take things as they come*”. Better embeddedness in the field and building their own research group were goals mentioned by multiple flowing movers. A woman mover (IMAPP) explicitly said she wanted to become associate professor. A man mover from IMR stated he wanted to be as independent as possible from the institutes where he worked, he wanted to work in an institute which “*doesn't get in my way*”. This call for room and flexibility was also found in the other IMR man, who emphasised the room to manoeuvre he received in the IMR. The former IMAPP postdoc (m) said explicitly he wanted to stay in academia and find a permanent position. To do so he would apply for fellowships and positions. Being in a dual academic career situation, he and his partner would move to where either of them would get a permanent position.

This brings us to the second tendency: the tendency to build stability and better alignment with their personal lives. Two men (IMAPP and IMR) were considering buying a house. Several men and women were thinking about getting a first or another child. A woman mover (IMAPP) on tenure track said to plan her next child after the tenure track ended, because she would not get prolongation of her contract if she had one now. Another woman (IMR) said she wanted to stop moving around Europe and settle down with her husband in the same country – they were living apart at the moment of the interview.

In short, we see in the analysis of the flowing movers that most of them are non-Dutch, have moved abroad after their IMAPP/IMR employment, and have found (semi-)permanent jobs. Implicitly and explicitly, the interviewees showed that moving abroad was part of the job. Leaving academia was not an option for any of the flowing movers. What is noticeable is how all flowing IMAPP movers had children, whereas only one IMR flowing mover did so. Of the three flowing women, the one from IMAPP had children, the two from IMR did not; of the five flowing men, four had children (3 IMAPP, 1 IMR) and only the single man (IMR) did not. The only IMAPP woman flowing mover had a tenure track position due to a position particularly for women academics. We defined six ‘success factors’ and two main future plans, namely development in the current job and stability in their personal life. All of these success factors imply personal responsibility. This was the same for men and women. We did note a difference in self-positioning of men and women, where men seemed to position themselves more as responsible for their own success than women. Finally, we noted how being foreign gave certain particular disadvantages in the institutes, such as language barriers (especially in relation to lecturing), isolation (mostly mentioned by women) and lack of a supporting network outside of the university.

We now continue with the second category of movers, which are the doubting movers.

3.1.2. *Doubting movers*

Doubting movers are the people approaching a crack in the pipeline but who are not certain whether to fall through it or to evade it: they have been successful in staying in academia so far but are considering whether to proceed in academia or to quit and seek a non-academic career. The doubting movers in the sample were two (foreign) men and one (Dutch) woman, all former employees of IMAPP.

Current situation All three doubting movers were currently postdocs on temporary, full-time contracts, ranging from two to three years. Both men worked in the same European country outside of the Netherlands, and both experienced more work pressure than during their time in IMAPP. One man was married with a child coming. He was working on a big collaboration, which did not give him the visibility he needed to get ahead. The other man was in a relationship but not living together, and working on a stipend. He had six months to go on his contract, but still did not know whether it would be prolonged. At the moment of the interview, he was having a, what he called, “*crisis of faith*”, as he was sceptical about academia and considering whether to leave and find a non-academic job. The woman was in a relationship with an academic. She was currently experiencing a lot of stress, not only because of work pressure, but also

“because with everything I do I think, ‘you have to [be] the best, and publish or else you won’t make a chance for a next job’...and also thinking about what should I do? What do I choose?”

This indicates a big uncertainty about her future. Despite the work pressure she had decided for herself she wouldn’t abandon her social life because of her career and made sure to meet with friends regularly. She was working on applications for grants and fellowships at the moment of the interview, but found it difficult to find focus in her research, as she had difficulty getting articles published.

Career trajectories The career trajectory of the first man is characterized by informal networking. Being a foreigner he did his PhD abroad and received his first postdoc through informal conference contacts with an IMAPP professor. Before he started that job, he was unemployed for a while, during which he worked on writing research articles. While at IMAPP he made an open application to his current university so he was able to be with his partner, who couldn’t come to Nijmegen. According to him, his IMAPP boss wanted him to stay. About his own chances, he says “*I have been fairly lucky, always been a good student...So I have better prospects than most people*”. The second man did his PhD in IMAPP and then received “bridge money” as a postdoc for a few months. The man gained his current position through a professor and colleague whom he had met at a conference. During the end of his PhD he had made many job applications, even though already during his PhD he had doubts about academia. He spent some months unemployed, living on savings and benefits. The woman’s trajectory is also characterized by informal networks. She had also done her PhD at IMAPP and received a university travel grant, which enabled her to go abroad for a few months – this is a requirement within her field in her eyes. She then also received postdoc money to stay on for three extra months to round up research. She also experienced a few months of unemployment before going to the next position. She found her current position through her old supervisor, though she did go through a formal procedure.

Reasons to leave The doubters had different reasons for leaving the IMAPP. The woman moved from IMAPP because her postdoc contract was as a ‘bridging’ contract and lasted only a few months. After that, she got a postdoc position at another Dutch institute knowing that it is better to have different (preferably, foreign) institutes on your CV. If she had had the opportunity, she would have liked to stay at IMAPP, but the requirements of academic careers prevented her from doing so:

“It takes a while before you [...] found your place, and in the end I was super happy there. So if I could have stayed I would have liked to. [...] It’s just not possible in [my field] to stay in the same institute after your PhD. The gap of those three months is sometimes done before a next job, but it is actually impossible and altogether not good for your career to stay in the Netherlands after your PhD [...] You need to build your network and to do so you need to go to a different institute, and there you learn from the different ways in which people look at problems”

One of the men moved from the IMAPP abroad to follow his partner, though he would have preferred to stay at the IMAPP because of the project he was working on:

“The decision to move here was a hundred percent based around, basically getting married. [...] And in fact, at first we explored options of [wife] studying in The Netherlands or in a place in [other country] very close. The first choice of me was to stay and have her moved to me, but when that did not prove [possible], I moved here. [...] So after my contract in the Netherlands was ended [...] I then got my job here, and I essentially asked for a job here, I didn’t care so much what I was doing, because I just wanted to live with my wife.”

He also encountered within the IMAPP a language issue which made it harder to give lectures.

The third doubter left IMAPP because his contract ended, and it was better for his CV and career to work in a variety of institutes so he could build a wider network and learn other ways of doing.

“I think also from a career point of view, [...] you are sort of expected to go out and create some more networks and get some more input from other ways of doing [...] I think I also [laughs] just needed some fresh air in a way. It’s, I like Nijmegen, I like the Netherlands, but I think it was just time for me to move on”

He felt Nijmegen was too small and considered himself more as a big-city person. When asked, he said he would have probably taken a job at IMAPP if they had offered him:

“[thinks] hm. Oh assistant professorship probably. Because that’s extremely difficult to get. But postdoc, possibly. It’s hard to be picky in academia, right”

Interestingly, here he contradicts his earlier statements that he wanted to leave Nijmegen. This displays a sense of ‘taking whatever you can’.

Future prospects All three expressed their doubt about staying in academia. The woman resented the thought of “*having to give up your life*” for science, which she had learnt to be a requirement for success in academia. She was considering whether to stay in academia or not. Her future destination and position also depended on where her

partner (a PhD student) would go. She was thinking of having a child, but this was not a very concrete plan. One of the men said his decision to leave academia depended on where his partner would be able to find a job and on his ability to find a permanent job, for his family:

“What I do worry about is that there is this postdoctoral track in academia where if you don’t manage to find a sort of permanent position you tend to be stuck on having lots of three year positions and moving around. So I am definitely worried about being stuck in that, in other words not being able to find a permanent position, that is something I am very concerned about. And that concern is to such a level that that’s why I would consider moving to teaching. So if after my next position I can’t move that to a permanent position, so once we’ve got a family. [...] So maybe in five years time or so, then I would not want to be doing this three year, you know moving once every three year. So I guess I expect this to have an impact when I work out what to do after my next position. So currently it doesn’t affect my planning, but I expect it will affect my planning in the future. And it could lead to me changing fields too, teaching for instance”

This quote revolves around the risk of staying in precarity. The interviewee’s prospect was ambivalent: he said to on the one hand be willing to take a lower academic position even though he aspired to climb the academic ladder, whereas at the same time, if he didn’t find a permanent position after five years, he would move to a non-academic position, such as high school teacher. He was thinking of moving to his home country with his partner, where he had an academic network.

The third doubter stated he was considering doing something else, even though *“I love doing science. And I think if other conditions were better, then I would never consider leaving science”*. From his story we learn that he had several reasons for this doubt. These reasons overlap with the ones mentioned by the other two doubters. First, he was frustrated by the long working weeks in combination with the bad pay, characterizing his situation as *“shitty hours, shitty pay”*. Second, he felt he had become *“rootless”* as he had had to move every two or three years for a job *“potentially all over the planet”* which made it *“extremely difficult to retain relationships, both with friends and also romantic relationships”*. Third, he disliked the little job security an academic career could offer, and said about the system that it’s *“educating people into unemployment and a feeling of failure”*. Fourth, he resented the politics and nepotism present in academia:

“But what I see is, people successful in science are not necessarily the ones who are good in science...It can be anyone who reaches a certain minimum of skill but is then able [and willing] to play this sort of political game. And it’s a little bit demotivating to see that people who are quite good and do sort of okay but then you have people who are really not as good as these other guys, but then because they have the right connections and because they are willing to sort of prostitute themselves in certain ways, sort of professionally, then they get somewhere”.

He was leaning towards going back to his home country and finding a non-academic job over there.

In short, we see in the analysis of the doubting movers that all had built their careers up to now with the help of informal networks. They all had experience in going abroad,

were working on temporary contracts, and all had applied or were applying for research grants. All would have liked to have stayed at IMAPP, but did not do so because of their partner, because their contract ended, or because they thought it better for their CV to move institutes. For the one moving for his partner, he even missed the opportunity to gain the benefits from his project at IMAPP, so his CV was actually worsened for the moment. Like the flowing movers, they also all sought stability and (job) security, but for them this meant possibly going outside academia to achieve so. Another difference we see with the flowing movers is that the doubters seemed more explicitly critical of the academic system, among which the work pressure and job insecurity.

We now turn to the last category of movers: the hanging movers.

3.1.3. Hanging movers

Hanging movers are the people who have almost fallen through the cracks of the pipeline: they hold on to proceeding in academia but are unsuccessful in obtaining paid, longer-term – let alone permanent – academic appointments and have no firm prospects in academia. The two hanging movers we identified were both women. One woman had been employed at the IMAPP and the other, a Dutch woman, at the IMR.

Current situation Both women worked part-time at the moment of the interview, as the only ones among the movers. Both were also working on unpaid, temporary research appointments, in contrast to the others in the sample. To gain money (and security), both had a second job: the former IMR woman had a permanent part-time non-academic job, the former IMAPP woman gave online lectures. Both women were mothers. The combination of work and family life provided the women with difficulties. They criticised the Dutch culture and structure on pregnancy and parental leave and costs of childcare. Both stated in the interview that having a family and care tasks are a bottle neck when it comes to building an academic career as a woman. For the IMAPP woman, finding balance was extra hard as she said, “in [my field], part-time doesn’t exist, for the simple reason that our job is our hobby”. Their partners worked in and outside of academia.

Career trajectories The IMR woman’s trajectory was characterized by a seeming lack of long-term vision or strategy, and by prevalently taking opportunities as they came via other people. As she put it herself, she “rolled into everything”. She presented her story as that the opportunities she had gotten so far had been external, whereas the failures throughout her trajectory were her own responsibility. After a disappointing experience in a research project at the IMR and being disillusioned with research and writing, she decided to take a non-academic job that she was offered. She left the IMR because that new position “offered tranquillity, a good salary, and a permanent contract”. She got a non-paid research position at another university to keep up her publishing record. The IMR woman blamed herself for not succeeding in academia as she wanted to: “you just have to take care of yourself...I point a finger at myself...I sail too much on the waves that are there at the moment”. On the other hand, she did criticise the skewed parental leave facilities in the Netherlands, and believed that women with children are disadvantaged because having children gave them less energy than men and women who had all the time in their hands, especially single men but also single women.

The IMAPP woman’s trajectory started off promising when an important professor in her field asked her to do a PhD, and she had multiple offers for a PhD to choose from, as well

as multiple options for doing a postdoc after she had finished her PhD. She however chose to follow her (academic) husband's trail and then became "linked to my husband's contract". This determined the rest of her career. She believed the first postdoc makes or breaks an early career scholar's future career, and for her this was a missed opportunity. Having been in the IMAPP, she left because there was no more money for prolonging her contract. She had felt isolated in the department, which in her eyes was unsupportive toward the 'two body problem'. She moreover talked of the masculine culture of her field in general and how resistance was happening from women within that community.

Future prospects Both women were working on writing papers at the time of the interview to keep a door to academia open and build more solid status of articles. For the IMR woman, her research appointment was unsure as a new professor was coming, and due to her private situation. She was clearly hesitant about her near future, wondering whether to remain in academia or to "let go" and change direction to let (job) security be guiding, e.g. lecturing in non-academic higher education. She mentioned how her husband's career should become priority, as he had a stable and good position. She saw her own career going into a 'side road'. The IMAPP woman stated how for her, "most of the games are done". She meant that she was too old and had a publication score too light to be able to compete with younger (women) scholars on the job market. Her wish for the future was to leave the Netherlands, which had disappointed her, and go to the US, where the two body problem was taken more seriously in her eyes – although she had also told about her difficulties with her finding a job there.

In short, in the analysis of the trajectories of the hanging movers we see that both are hindered by their caring responsibilities and both criticize the Dutch system of parental arrangements (with consequences for mothers particularly). They have a discourse of own responsibility, in which the choices they made themselves are leading in their failure to launch a full academic career. Comparing the hanging movers with the flowing and doubting movers, we see that they lack most of the elements that those other two groups do have: their accounts do not display much pro-active behaviour, no strong networks or sponsors, they do not say to apply for grants, they had difficulties balancing research and education, were little flexible because of family obligations, and whereas the IMAPP woman had moved abroad quite often when following her husband, the IMR woman had only lived and worked in the Netherlands. The academic system seems to demand these aspects of individuals for them to succeed, which apparently is harder for women when combining these with caring responsibilities. The system has driven these women to leave the 'mainstream' academic track and find jobs on side tracks to find job security (IMR) and have a paid academic job (IMAPP).

We will now move on to the respondents who did not only leave the GARCIA institutes, but also academia entirely.

3.2. Leavers

Five out of 18 respondents in the mover/leaver group were people who left academia. Of the ten respondents from IMAPP, one man and one woman stopped their academic career; of the eight IMR respondents, two men left academia and one woman was unemployed and remains undecided. We decided to put the latter in the 'leaver' group as at the time of the interview she was not working in academia, her prospect of doing so in the future was doubtful, and she was looking for jobs outside academia.

Current situation The leavers took up a variety of functions in education, governmental organizations and business. Their ages range from 32 to 40. All leavers had a partner; four out of five lived together with their partner; two out of five had multiple young children.

Three of the five leavers left the institutes intentionally: two men (IMR) and one woman (IMAPP). They had been an assistant professor, (shortly appointed) postdoc, and PhD candidate respectively. These leavers seemed happy in their choice and current lifestyle. One man (IMR), for instance, said to feel more balanced even though now he sometimes worked at nights or in the weekend, in contrast to when he worked as an academic. The two (man and woman) who left involuntarily seemed more ambivalent regarding their current situation. The man expressed resentment concerning the reason he left academia (see below) and found a job elsewhere.

Even though they left, leavers still kept ties with academia. Two of the leavers were still involved in supervising PhDs or postdocs. One of the leavers was hired each year to give lectures as an external at the institute. The job seeker was working on writing academic papers, to enhance her chances on the academic labour market.

The job seeker lived for almost a year on public benefits, and now got on with savings and the salary of her non-academic partner. She had been looking for jobs inside and out of academia from even before her contract ended two years earlier. In the beginning she only focused on assistant professorships, which, she noted, was a “*natural*” choice. After her contract ended she got her University Teaching Qualification, and she was working on a research proposal with researchers in her home country, for the same reason she was still working on papers, which was to be able to keep a door open to re-enter academia. Having had to make the decision to look for jobs inside and outside academia made her feel like a “*ball between two walls*”.

Trajectories All leavers had done their PhD at one of the two institutes and so were already familiar with the institute when they entered a postdoc or assistant professor position. Two of them immediately went on to do a subsequent postdoc project after their PhD in the same institute (both IMR). One left the academic career right after her PhD. Two leavers (men) moved to other institutes for a period of two to four years to do research but then returned to the GARCIA institute. Both women leavers had gotten their PhD with distinction (*cum laude*), and one of them was awarded a prize for promising young scholars. Whereas one of them left intentionally as she wanted to pursue other goals than a research career (seeing research as too abstract, see below), the other left involuntarily because she could not manage to get an academic position. Academic excellence is thus no guarantee for a ‘flowing’ academic career.

Three of the five leavers started their academic careers with hesitance about pursuing such a career. One man leaver thought of his PhD as “*being off the streets for four years*” and had an ad-hoc strategy to his working life (not a ‘career’). A woman leaver was slightly pushed by her supervisor to pursue a PhD but decided during the PhD that she wanted to do other things than academic research or education.

Why leave academia? As said, three of the five leavers left the institutes intentionally: two men (IMR) and one woman (IMAPP). They gave several reasons:

The requirement of going abroad for longer periods and/or often was one of the reasons why the interviewees said to have left. The IMAPP woman stated she wasn’t willing to

“give up her life” for academia, which she saw as necessary to be successful in academia (similar to the doubting woman mover from IMAPP):

“First, in physics if you want to continue in science you need to go abroad. In any case. For an indefinite amount of time. If you’re lucky, that’s three years. I was thirty when I got my PhD. That’s not a good moment to go abroad, especially if your boyfriend doesn’t want to come with you. So that’s a practical [reason]. If I really would have wanted that, we would have found a way”.

Family and partner played an important role for the leavers regarding this reason. Going abroad is seen by these leavers as a requirement, a standard and a norm in academia, making it difficult to align work and life. This put these former academics off to the extent that it was one of the reasons to leave such environment.

Both IMR men said not to be interested in furthering their academic careers, as they had no ambition and drive to publish. As this is a central aspect of an academic career, continuing in this field was not a realistic option.

The two IMR men wanted to build their career according to their own conditions, not laid upon them by the academic system. One man chose for his current occupation to have the autonomy to plan his own time and tasks, and to not have to be “held accountable” to anyone for his performance but to himself. Working in academia meant “being governed by the issues of the day and the lecture timetable”. Moreover, they denounced the competitive and individual culture of science, in which they perceived the ‘average’ to be undervalued. We quote one of them at length about the academic system:

“It’s just a very parasitical system that breaks you down completely. The way it is shaped and people deal with it and the atmosphere that has been created around it and the work pressure that comes with it. I think it has become inhumane – so definitely no balance. [...] And the story I told myself constantly was, I do not participate in the race and I need to stay close to myself and then we’ll see how far I can get. But I had to repeat that story really often to make it sound pseudo-convincing [...] ‘I try really hard and I am a seriously good lecturer and a seriously good researcher, I do not doubt that’ [...] If you put me between those types, like at conferences, types who are bragging against one another, and here in the institute it wasn’t that bad, right, but it was behind that screen, they were all there and so they were in your head as well [...] it’s something very intangible. Because it’s in your head, you grow up [in academia] with competition, anxiety and fear, and yeah, that was always something very deep”

This quote shows a strong negative reaction to his experiences in academia. He denounced the focus on individual performance and impression management, and the ‘types’ that work in academia. His quote also points to the internalization of norms and values and how this instigates a feeling of fear and unrest. From his account a feeling of lack of safety appears. Notably, not (wanting to) participating in the ‘race’ made him leave academia in the end, which suggests that participation indeed is necessary to remain in academia.

After having been rejected for internal assistant professor positions, one leaver saw no future for him in his sub-department (IMR):

“That played a role in the image, that if it can’t happen on my terms then I don’t have to [continue in science] per se, so that’s when I started looking for other things [...] It was a mismatch with one of the professors in the committee. That was a conflict of styles [...] it was personality, it was really on a personal [level], as a person there was a sort of non-click and that happened both times with different members of the recruitment committee [...] On the other side I didn’t have a CV that blows you away [...] And I also did not have the ambitious researcher story of wanting to publish a lot, gaining a lot of project funding. I had a more relativistic story in that respect [...] I wasn’t mainstream [in both fields to which he related]”

The interviewee gives several reasons for not being hired: mismatch of personalities between him and the committee members; not being granted the opportunity by professors; a CV that is not perceived as excellent; a lack of ambition; and working in a non-mainstream field. He thus blamed both others and himself for his failure to gain one of those positions.

Several respondents found academic work too abstract and of little practical use or value for society:

“It’s very far away, very abstract, very decoupled from daily reality. And the, it’s really the question, what is impact? Is it impact if you have a much read article? Yes lovely, honestly, no problem. But at the same time, what does that mean. So I wanted a job in which I had the feeling that I could do something useful” (IMAPP, woman, leaver)

This leaver questioned the impact of her academic work (“decoupled from daily reality”) and wanted to do something more immediately useful. One leaver (m) said to get more energy from administrative-like tasks than from doing research. Although translating science to society is becoming increasingly valued and important for academic careers, these leavers did not see or make space for their research to become valuable enough in their eyes to continue on the academic track. They sought a more direct impact of their work on their environment. One of them said:

“It is my opinion that universities are really making a big mistake right now. They are alienating themselves from society in this way [...] We see that universities shape their policy on the basis of one parameter, which is publishing. And it’s those publications that actually do not end up in society in the end”

He criticized the academic system for being too focused on publications, which do not have an impact on society. This explains why he was not keen on getting papers published.

Besides the abstractness of her prior research, the IMAPP woman also left to develop other competencies and skills. She believed she had learnt all she wanted of academic life and wanted to go in another direction.

The two leavers (IMAPP man and IMR woman) who left their institutes less willingly and because of circumstances did so for diverse reasons. Interestingly, the man from IMAPP predominantly used a discourse of contextual and political factors, whereas the IMR woman used a discourse of own responsibility. The man gave mostly external motives which led him to leave the IMAPP:

As a result of ‘bad contract negotiations’ he had devoted too much time on academic housework – which is a requirement of the institute – which gave him too little space for research:

“I really liked that [extra tasks], so that’s why I didn’t mind. In hindsight it cost me much more work that it should have cost and I didn’t blow the whistle [...] I also got a lot of recognition for what I was doing [...] That was very naive [...] and I actually needed to do research”

Here he said he was responsible for not getting a subsequent position. Yet, the appointment of a new professor in the institute who was not in his field (topic A), then hindered his possibility for an assistant professorship:

“When I came to work there, there was a job opening for a new professor [topic A] and things looked good, because they were looking for an assistant professor to go with that position. Then that professor became a professor [topic B]. [...] And there really was resentment within the institute, because [that professor] didn’t really do [topic A] in the minds of some people. And well, but okay, that’s why an assistant professor in [topic B] came and not me”

We see here how politics impacted the interviewee’s position in his department. His subfield of research within the broader research field was considered to be less important and so his chances for a permanent position decreased. The managers of the institute were in his eyes unwilling to make space (i.e. a permanent contract) for him despite him being successful with gaining grants. This process was non-transparent in his eyes, and he came across as frustrated with the lack of appreciation for his accomplishments.

“I actually didn’t have a chance to stay there, because there was more of a tendency to decrease the topic area I was in, and throw in more [of another discipline]. So that’s when it was already determined actually. [...] But also the people who make decisions are not transparent of course, but maybe they also do not see how those things go [in the moment]. But in hindsight that is clear”.

Moreover, he noted how his supervisor did not help him in playing political games.

The IMR woman, on the other hand, used a predominant discourse of own responsibility. She gave several reasons for her long-term unemployment and inability to find an (academic) job. According to her the “key to success” in academia was being internationally mobile, but she did preferred to stay with her (non-academic) partner. She also applied for assistant professorships in another country, but wasn’t hired and was okay with that. Like one of the other IMR leavers, she applied for two assistant professorships internally, but wasn’t selected.

She said she didn’t profile herself strategically, didn’t “show initiative”, wasn’t “pro-active” and behaved “Cinderella-like” (i.e., she was passive), “I miss the drive and ambition”. This reproduces the idea of the successful academic as a passionate, driven entrepreneur personality. Despite her gaining an award for promising young researcher, she didn’t build such a profile, in her eyes, that she was able to gain a job:

“I also got that [award], yeah promising, but you have to start performing at some point. I said okay, but I didn’t have very, ehm brilliant, well I wasn’t so

focused on that's what I'm going to do, my postdoc was also something slightly different, it was overlapping, but it's not like I built something with focus, and that after my PhD research I knew how to present myself. So that was never my strong side as researcher and still it's not, and I think that's the reason why I still do not have a job. Because you have to present yourself more and more, besides other tasks, brand yourself as someone. You are this and then being recognizable in publications and having very strong ideas in that area, like I want to study this and this. To build yourself like that, and I'm not so strong in doing so"

The terms around which this quote revolves, e.g. "brilliance" "goal-orientation", and "recognisability", give an indication of what in this interviewee's eyes makes a successful academic. Saying multiple times that she is "not so strong" in building a good profile implies that she believes one either has this ability or not, and that it is a norm to which one needs to adhere to succeed.

She didn't publish enough and too late, which was important for her not succeeding in application procedures. This points to the central element of publications in academia. Having a solid track record is key to finding academic positions, and lack thereof hinders an academic career.

"Because I did write a book, for my PhD, and beside that already started publishing, but of course that was delayed a bit as well. Because I was just, that must not have been sufficient, or, so those were good publications. Later more [publications] came, one publications based on my PhD dissertation, or for the large part. That got published only last year. Really the best [...] journal [in my field], but well I should have done that a few years earlier probably. I don't know if I could have"

This also had consequences for her ability to gain research funding. The application for a prestigious grant failed:

"I knew it wasn't a strong proposal, but [submitted it] for myself to have the feeling I tried once. So yeah, I didn't even pass the first round. The reason was the quality of the researcher, [...] because I called someone I think of HRM for feedback and they said I didn't have enough publications or something"

This resonates that in academia, gaining research funding is a signal of academic quality and independence. The centrality she puts on publications for the shaping of her academic career is evident.

Future prospects The leavers had future plans which included among others further developing themselves in their current non-academic jobs (men leavers IMAPP and IMR), stabilizing or (perhaps) building a family (men leavers IMAPP and IMR, woman leaver IMR), and buying a house (man leaver IMAPP). The IMAPP man said explicitly that research was on hold for now. Except for the job seeker, none of them was planning on returning to academia.

From the accounts of the five leavers, we see how leaving trajectories are characterized by hesitance for establishing an academic career, ad-hoc decision making, and/or passiveness in the sense that most of the leavers did, would or could not build the conditions for advancing in their field, e.g. not having a solid publishing record, and not having a supporting senior as a political back-up. Both individual and environmental

factors impact their move out of academia. One man leaver said his career was steered by the people around him giving him opportunities he then took. This is quite similar to the stories of the hanging movers. Some of the leavers were critical of the academic system, or critical of the institute in which they had worked.

In the next two chapters we move to postdocs (4) and assistant professors (5) who are currently working at the GARCIA institutes of IMR and IMAPP.

4. CURRENT POSTDOCS

The first group of current employees consisted of postdoctoral researchers. Table 3 shows an overview of the interviewed postdocs. IMAPP has a history of being research-oriented. IMR was a teaching-focused institute and has relatively recently started to work towards becoming a more research-focused institute. The recent set-up of a doctoral school, increase in number of postdocs, and sharpened publication demands are testimony to this change. Postdocs are hence relatively rare and isolated, as collaboration lines are for a large part driven by education.

Table 3 Overview postdocs interviewed (current employees)

	IMAPP	IMR	Total
Men	2	1	3
Women	4	2	6
Total	6	3	9

Within the IMR we interviewed two women and one man postdocs. Within IMAPP we interviewed four women and two men postdocs. Five of them were foreign, one was Dutch.

We organize this chapter according to topics: current position, trajectory, future plans and projects, and reasons for staying and difficulties met. Within each section we first discuss IMR, then IMAPP, and then make a short comparison/conclusion.

4.1. Current position

4.1.1. IMR

Private life All three interviewees had a partner. One woman and man also had children. The woman with children worked part-time. The man was planning to take up parental leave for his child, and felt that it was common for men to do so within the institute. The second woman was still recovering from an illness at the time of the interview, which had impacted her work and private life.

Research All three postdocs had research as their main focus. The two women were appointed on a research project and had a research contract. Both felt isolated, be it for different reasons. One felt as an 'island' as a result of the project coming to an end, the

fact that she did not teach, and the freedom and flexibility of academic work. She was more interested in the practical value of her research than in publishing academically. The second woman felt isolated mostly due to cultural issues. The man was working on a research project, and was trying to gain research funding for future projects. He said not to feel external pressure to publish, but mostly internal as that is required to build or maintain an academic career.

Teaching Two of the postdocs had no teaching duties. One postdoc also had a teaching contract.

Other tasks The three interviewees did not make note of any other tasks beside research (and teaching).

4.1.2. IMAPP

Four out of six postdocs (three women, one man) were appointed on a personal research grant. One woman said:

“For me [this grant] was life-saving actually, so it’s, without this I would have probably quit science and I would have been frustrated for the rest of my life because I could not do the stuff that I wanted to do”.

Private life All women in the sample (n=4) had a partner, of which three were academic and one non-academic. Three of them lived with their partner. One of these women had children with her partner. The two men in the sample were single. The woman with children spoke of academic research as “something that we do with passion”, requiring making sacrifices, but preferably not concerning her family. She saw parenting and an academic career as “both full-time jobs in fact”.

Two women mentioned the ‘two body problem’ (i.e. dual career issue) in relation to private life and academia. The first had an (academic) partner in another country. She distinguished between two types of academics: the ones who chose for a fixed location and compromise their research, or the ones doing the research they wanted and compromising family and private life. She considered herself as belonging to the latter group and noted how having a family would complicate her life as an academic and with her partner. Another woman, also with an academic partner, said:

“it can be a serious drawback for starting a family. But I love my work and he also loves his work. So there are some kind of compromises. It is not a pleasant thing”.

Research Depending on the specific field, people either worked in large collaborations or on their own. It was mentioned by one woman how collaborations may slow down publishing efforts. Another woman who was used to solitary projects on the other hand was seeking more collaborations. Publishing was seen as one’s own responsibility and as a predominantly indirect pressure: the general idea among the postdocs was that publishing is required for a career but you are in charge to decide how hard you want to work for it. Multiple interviewees said that whether you want to publish is only important for your own career, without pressure coming from for instance the national research funder. Publishing was self-imposed: the deadlines, the targeted number of publications, and the discipline to work on articles. Interviewees thus internalized this pressure. The general sense was also that having the freedom to do what one wants

research-wise is important for one's career. Yet, the other side of the coin here was no real embeddedness in the faculty, as illustrated by the following quote:

“You just get the impression like you are a temporary employee and that you are here to do your time and then you are gone”. (Man, foreign)

Also, gaining grants was central for the postdocs. One woman had gained a fellowship allowing her to do independent research. She used this grant also to support students and other young researchers. Additionally, gaining a good network was central in the research accounts of the IMAPP postdocs. One woman for instance worked on her network abroad by having the clear strategy to be invited by others to give talks.

Teaching Most interviewed postdocs of the IMAPP had no teaching tasks. If they did, it was on their own initiative. Some had done a bit of teaching, a course or organization of a practical seminar. The postdocs preferred teaching duties that were somehow related to their own research. One interviewee (woman) mentioned how teaching was fine but that it took much time away from research: *“you do it at your own risk, basically and at the expense of your own research if you wanna do it”.*

Other tasks Like teaching, other tasks or academic housework were rare among the postdocs. Some said they were not obliged to do other tasks as postdoc. Doing such tasks was again on own initiative. For one foreign postdoc, her limited language skills in Dutch were an obstacle to performing outreach, which she would like to do. According to her, most of those tasks went to Dutch speaking employees. Another woman saw participating in the *“life of the department”*, i.e. attending meetings, as an extra task besides research. Yet another woman's career was characterised by extra initiatives.

4.2. Trajectory

4.2.1. IMR

The IMR postdocs can be characterized as two doubting and one flowing academics, as all three had encountered (be it different) career obstacles. The two women had started their careers outside of academia. Whereas the career of the first was characterised by applying to existing projects and several contract extensions because of private reasons, the career of the second woman was characterised by writing and being granted her own research, international mobility and an illness. The man went straight from his master's degree in the Netherlands into an academic career. After having done his PhD, he was asked to join as a postdoc in the IMR. After his contract ended he got another temporary contract.

4.2.2. IMAPP

The trajectories of most of the IMAPP postdocs are characterized by mobility, short term contracts, grant writing, networking, and juggling with family-work balance.

From the interviews with the IMAPP postdocs it becomes clear that doing (multiple) postdocs is seen as very much part of a 'regular' route for academics in STEM. This is illustrated by one woman indicating her current postdoc position as *“according to schedule”*. (All assistant professors interviewed of IMAPP (next section) had done a minimum of one postdoc as well).

Five of six postdocs in the IMAPP sample were foreign and three of them started their academic careers outside of the Netherlands. All IMAPP postdocs had started working in academia directly after their studies. Three of the postdocs (two women and a man) came to the IMAPP after having won a (Dutch) grant. The others were appointed on projects.

Two women came to IMAPP for private reasons. One made an open application as she already knew people in the IMAPP. Another had, after periods of unemployment and unfulfilling research appointments, won a grant in the Netherlands and came to the IMAPP.

Based on ambitions, self-confidence displayed and previous trajectory, we identify three postdocs as flowing. They had been able so far to gain grants and do research they had wanted, felt for the large part optimistic about their prospects, and wanted to pursue an academic career. We identify the other three IMAPP postdocs as doubting, either because there was no real ambition or because they had met with and also perceived many obstacles in academic careers.

4.3. Expectations and projects

4.3.1. IMR

The three interviewees at IMR have three different career strategies. One interviewee considered to leave academia, the second wanted to stay in and the third was keeping all options open. At the time of the interview the first woman was considering to leave academia, partly because of her interest in practical value, but also because she missed the 'human' side of work, i.e. more constructive interactions and shorter term thinking. She was thinking to leave academia as she was more drawn and oriented towards the practical value of research. She was thinking about working in a research institute where she should would feel more at ease, not a 'tough commercial' company, but a "*small club with attention for each other*". She states about science that "*it's after all a certain culture, that fits some and not others*". She saw herself as one of the latter category.

The second woman was applying for grants. She wanted to stay in academia. She said she did not have the network to get a position, so she would have to take the route of gaining grants and as such increase her chances for being promoted to an assistant professorship.

For the man, though his aim was to stay in science, he also kept "*his options open*" for a career outside academia. The insecurity of science was not something that bothered him, as his partner had a permanent contract. Going out of academia was also not informed by the relatively low salary, as he felt the freedom provided by academia compensates for that. He said not to be "*so super-ambitious*" that he would work nights and weekends.

4.3.2. IMAPP

Within the IMAPP, applying for grants was one of the most relevant future activities, as it was seen by the postdocs as central to their careers. Moreover, plans were to apply for (tenure track or junior faculty) positions. One (flowing) postdoc had concrete plans to go abroad to a foreign institute. Another (flowing) postdoc was considering applying for permanent positions in the same country as where her partner was living, or for more

grants. To do so, she was now working on making the best of her current grant and appointment. A man postdoc talked about academic careers being increasingly influenced by politics and nepotism. Much depends on one's research topic and how it aligns with people or groups hiring new staff.

Besides these ambitious plans, some showed doubts about pursuing an academic career. One man did not want an academic career as the required mobility put him off, as well as the stress throughout his PhD and the pressure he felt within the academic system. One of the flowing woman postdocs said she would try to be successful in academia, but if she failed there would be enough other options. Another woman was quite pessimistic about getting a next job. Multiple (women) postdocs said building a successful academic career is a matter of luck, or described it as a risk:

“you have to be a very big risk taker if you want to stay in science...you have to be passionate about and stubborn enough and very lucky in the end... “

And:

“being very good in your field does not guarantee that you're gonna get a permanent position at the end...you just have to be exactly the right person at the right time in the right place...”.

This woman was going to try to stay in academia for the next years by applying for grants. Interestingly, she noted how the intersection of two of her identities gave her an extra disadvantage in academia:

“I have a double handicap. I mean, I'm a woman and I'm also foreigner. So you know, I'm a minority and then another minority”

Though she said in IMAPP not to feel disrespected for being a woman, she had experienced and heard of others' experiences of difficulties in academic due to being a woman and/or foreigner. She had herself experienced moments of exclusion earlier in her career and talked of the competitive world and politics.

A woman stated how image and publications were the two important aspects of gaining grants and building an academic career:

“no one really um records like what, since I don't have fixed some kind of obligations, no one really records what I'm doing in any time. The only thing that matters is how much I publish and how much of image I'm creating”.

This quote shows how postdocs have the space and freedom to do either their own or a project's research, while this at the same time lacks social support or control – the annual evaluation of publications aside. From the large part of the IMAPP interviews, the image arises of postdocs as academic entrepreneurs, who need an institute to be appointed to and a network to draw resources and positions from.

4.4. Conclusion postdocs

We identified several characteristics of the flowing movers' careers. Following, we compare the accounts of the postdocs to these characteristics to better understand where on the continuum between flowing, doubting or hanging they fall.

Networking/being sponsored Within the IMR, the flowing postdoc and doubting postdoc had been sponsored by senior academics to come to the IMR and do research there. The first had also been stimulated and encouraged by former supervisors to enter and stay in academia. Within the STEM department, postdocs were quite aware of the relevance of networking and people were more strategic in building networks. What also seemed important there were reference letters when applying for jobs, as these were mentioned by several IMAPP postdocs in contrast to postdocs from the IMR. One woman professor was mentioned by multiple interviewees as being supportive towards their access to the institute and getting chances within the faculty.

Applying for grants In the IMAPP more than in the IMR, postdocs were geared towards writing research proposals and gaining (prestigious) research grants. The first reason was to be able to conduct (their own) research, and the second reason was that acquiring grants would increase their chances to gaining a higher or permanent position at a later stage in their career. Writing grants did eat up their time, which they could not use for paper writing. Two of the IMR postdocs had been appointed on existing projects and were either doubting or hanging, as the former was doubting whether to stay in academia and the latter was on the edge of leaving academia and having trouble finding funding and a long term project. We thus see two types of postdocs: the ones on grants and 'own money' (e.g. fellowships) and the ones on existing projects. Within both IMAPP and IMR postdocs were aware of how fellowships could help their career further, and especially in STEM were essential for their career.

Acting pro-actively/strategically In the sample of postdocs we see a gradation of postdocs going from talking about a chance to do research but being not really ambitious to talking about making sacrifices for their passion for science. These sacrifices go from health (multiple illnesses reported) to relationships, to building a family. What is remarkable is that some postdocs mentioned not to invest much in their present institute as they would leave after a while, but focus on their own publications and grants. This is directly impacted by the academic norm of mobility and short term contracts. The other side of that coin is that several postdocs, especially the women within IMR, mentioned feeling isolated. IMAPP seemed to have a more social climate than IMR. Possibly, the lack of experience with postdocs within IMR limited the available (formal or informal) supporting infrastructure for postdocs. This could make postdocs in the IMR even more responsible for their own well-being than within IMAPP, where postdocs are well embedded in academic careers and a social and supportive infrastructure.

Being flexible Like for the flowing movers, flexibility was key in the group of postdocs. Flexibility in terms of moving abroad, but also in terms of combining a career with other responsibilities. We noted this especially in the IMAPP. The majority of postdocs had a partner, and different arrangements were made regarding living together or apart and moving abroad together (or not). The two body problem with regard to academic partners was mentioned by several women postdocs from the IMAPP. Postdocs were seen as part of the standard route of an academic career by IMAPP postdocs. This was not the case within IMR.

Balance research and education The focus of the postdocs, both in the IMAPP and IMR, was predominantly on doing research. This was preferably independent research based on a personal grant. Especially in the IMAPP, postdocs were more aimed at publishing than the assistant professors (see next section). Teaching was seen by some as an

obligation, by others as a necessity, and if done, it was on their own initiative and preferably related to their own research.

Living abroad Most of the postdocs within IMAPP had had experience of living abroad and being internationally mobile. All except one postdoc interviewee of the IMAPP came from abroad. This international mobility was mostly seen as a requirement that was taken for granted: doing a PhD in the Netherlands was perceived as almost automatically meaning you cannot do (or get) a postdoc nor a permanent contract in this same country. The sample shows that there were some postdocs and assistant professors that actually broke this rule. Within IMR, only the foreign postdoc had been internationally mobile. Going abroad was not a very predominant criterion for the other two, nor was it their ambition to go abroad. It is notable how the Dutch postdocs in the sample seemed less interested in going abroad and less ambitious to build a career in science. This was the case in both IMR and IMAPP. In the IMR, the Dutch postdocs stayed in the Netherlands, whereas the only foreign postdoc had been internationally mobile. Within IMAPP, of the six postdocs interviewed, the only Dutch person (man) was not very career focused and had no experience abroad. One could wonder whether the more ambitious Dutch early career scientists are actually abroad, or not at IMAPP or IMR.

5. CURRENT ASSISTANT PROFESSORS

The second group of current employees consists of assistant professors, of whom the majority was on a tenure track but not tenured (yet). See table 4 for an overview of the interviewed assistant professors. In IMAPP a tenure track system was in place. In the IMR no official tenure track system was implemented, but most interviewees worked under a 2x2 system, meaning they were employed on two two-year contracts after which it was or would be decided if they got tenure. Below we discuss the current position of the assistant professors, their trajectories, their future plans, and what made them 'succeed'. As for the other sections, we sometimes do not provide much detail because of privacy and anonymity issues.

Table 4 Overview assistant professors (current employees)

	IMAPP	IMR	Total
Men	2	4	6
Women	1	3	4
Total	3	7	10

5.1 Current position

5.1.1. IMR

Of the seven assistant professors interviewed in IMR, two were tenured (a man and a woman). The others were employed on temporary contracts of two years, or had just had evaluations and received contract extension of two more years. Three assistant professors interviewed were foreign, four were Dutch.

Private life Concerning private life, most interviewees had a non-academic partner or were single. One woman had a partner also working in science. The woman spoke for some length about the two body problem, the difficulties of finding a job at the same institute. One of the men stated about combining a partner with a career in science:

“if [young scientists] want a position in science, if they want to stay, then they encounter the risk that their private life will break down...you have to accept that if you want a job, you cannot live together with your partner”.

The man points to a common practice among the assistant professors, which was juggling between work and private life. One woman had a partner who did not have much flexibility in his job, as he had to be present in his office unlike her. She would work part-time when they would get children. The other three IMR assistant professors all had children. The two men with children had a partner working part-time - “*how very cliché*”, one of them noted. The majority lived outside of Nijmegen, and thus had to travel, and worked one or two days at home, whenever possible.

Concerning work, we identified several things all assistant professors were engaged in:

Teaching Concerning teaching, all coordinated at least one course, and/or had set up a (BSc or MSc) course. This was both part of the job and a requirement to get the University Teaching Qualification (BKO), a necessity for assistant professors. They were all working on getting either this certificate or the Advanced Qualification. Only one man was compensated for this by getting a teaching hours reduction, the others had to go through the qualification procedures without compensation. Many interviewees were critical of the procedures to gain these certificates. They require a lot of effort, but were perceived as being of little use. The interviewees leave the impression that it is seen as an obligatory step to take to get a permanent contract, get promoted, or get a salary increase. All were supervising multiple BSc and MSc students in writing their theses. All stated how teaching had taken much more of their time than officially appointed in number of hours, as they still had to learn the ropes and set up their lectures. After two or three times teaching the same courses, this teaching load decreased. Especially in the first years, teaching ate away from their research time due to the relatively non-flexible nature of that part of the job. Research can be planned more personally. Except for one woman, all IMR assistant professors had been able to divide their year into ‘teaching blocks’ and ‘research blocks’ which provided space to focus on research instead of teaching. One man felt he was doing more than required for his position and scale; another had been denied going a salary scale higher despite him getting his teaching qualification.

Research Concerning research, all were (trying to) work on papers and publishing. A man and a woman mentioned their A-rated publications, which helped their careers but also took quite some time to achieve. A new publication rating system was being implemented in the IMR at the time of the interviews. Interviewees were aware of this but not completely clear on what this would mean for them. Some had already received one or more grants, others were working on grants or were thinking about doing so. One woman was not working on grants yet because of time issues, and said “*that sometimes feels as failure*”. No interviewee mentioned pressure to gain grants, but did refer to the norm of being able to gain funding if one wants to proceed in science. Several were (co)supervising a PhD student.

Extra tasks All were aware of the need to participate in some sort of academic citizenship through committee work and therefore did so. An important reason why they participated in this committee work seemed not so much intrinsic motivation, but because it was necessary to get their Teaching Qualification and get promoted to either a higher position or a higher salary scale.

5.1.2. IMAPP

Within the small sample of IMAPP assistant professors, one interviewee was tenured, whereas the two other were on tenure tracks.

Private life Concerning private life, two of the IMAPP assistant professors had multiple children and were married; one was single. About work-life balance at the moment, one of them said:

“on the one hand it’s easy in academia to have a child, I think, because a lot is flexible. On the other hand it’s not easy at all, because you are expected to make long hours, long weeks”.

Freedom in academia seems thus paradoxical: academia provides space to arrange one’s own career in combination with private life, whereas at the same time to succeed in academia it is needed (“expected”) that academics work very hard. A man with children said not to take his parental leave because of his tenure track position:

“I have one of those tenure track contracts, so you think: okay, first I’ll try to comply with all demands, before you start talking about parental leave. So I haven’t looked into that”.

As a man, he has the choice to leave work for a while after the birth of his child, or not; a women expecting a baby cannot. His quote implies women getting children while in tenure track will encounter difficulties to try and meet all demands for tenure positions. He also noted how getting permission for parental leave would be harder for men than for women:

“[as a man] you always need more reason [to take parental leave] – as a woman you have the reason that everybody’s seen it, you are getting a baby. As man it’s just, you just go back to work and then you have a baby and you give treats to everyone and we continue.”

Teaching Concerning teaching, all interviewees had teaching duties and also coordinated courses. Moreover, they were all working on gaining their Teaching Qualification, which they needed to get evaluated favourably for promotion.

Research The assistant professors were working on gaining grants and supervising PhDs. One of the men noted he saw academia as a “hobby”. He only went to conferences when he was invited, so the hosting institute would pay for the trip – which was a common practice in his field, despite the disadvantages it brings to junior scholars who have no advanced research yet and are therefore not invited much. The woman stated research was the first thing to suffer if working part-time in academia:

“the only thing you can push off without punishment is your own research. No, I shouldn’t say without punishment. But without direct punishment, let’s put it that way”.

The IMAPP assistant professors seemed more than the postdocs focused on teaching (due to their different job requirements) and publishing was seen as something needed for gaining grants.

Extra tasks All IMAPP assistant professors engaged in extra tasks such as national and international committees, co-organizing consortia, and the coordinating institutional projects. One man said he did not do as much as people who had been in the institute longer.

5.2. Trajectory

5.2.1. IMR

From the trajectories we characterize the IMR assistant professors as for the large part 'flowing' academics, as they went into their current positions relatively smoothly. Two interviewees had started their career outside academia. The trajectories of the IMR assistant professors are characterised by relatively swiftly sliding into their current position. Most either came from abroad (n = 3) or had experience abroad, though not all did. Two women and one man got the position immediately after their PhD, or even when they had yet not finished their PhD project. They can be considered as 'flowing'. Others had done a postdoc or small research projects in between before they arrived at the IMR, but never more than one postdoc. Doing a postdoc and going abroad thus were not strict requirements at the IMR to become assistant professor.

Except for two foreign men, all IMR assistant professors had gotten into the institute and their position as assistant professor via their network. Whether via former colleagues, or directly via one of the sub-department chairs, these interviewees had the advantage of access to the institute via contacts.

One man said to not have taken the job at IMR if it had not been a tenure track with the prospect of a permanent contract. Another man had been disappointed after starting working at the IMR: other than promised beforehand, there was little money for conference visits, for experiments, and he got more teaching hours in the first year than he expected.

5.2.2. IMAPP

The trajectories of the IMAPP assistant professors are characterized by more time between PhD and the assistant professor position than in the IMR. The three interviewees had all done at least one postdoc, and they had all gone abroad to do so. They did not get their job in the IMAPP via their network but through applying for positions.

The interviewees applied for and received different grants. One of the men said he had always been working on different projects, often "Bread and Butter" projects as he called them.

One man just got a positive evaluation, however he had to fulfil one additional criterion. This shows how demands on early career scholars are increasing over time. Again, though they encountered some obstacles, these assistant professors are still 'flowing' as they are either tenured or they have a good chance to become so in the near future.

5.3. Expectations and plans for the future

5.3.1. IMR

All IMR assistant professor interviewees wanted to stay in academia and several wanted to stay and grow within the IMR. For most of them this intention was implicit, as they had as future goals becoming associate professor, getting tenure or getting on a higher salary scale. Only one man said to keep the option open to change his career.

Criteria mentioned to get tenure remained “*ambiguous*” and “*vague*” for the assistant professors. Publications, good teaching evaluations, Teaching Qualifications, and gaining funding were criteria recurrently mentioned by interviewees as most important criteria. Teaching evaluations were criticized by multiple interviewees: they argued how these evaluations do not revolve around the quality of teaching but around student perceptions of teachers; these evaluations are too much emphasized. Additionally, management or administrative tasks are mostly seen as needed to get ahead towards either tenure or an associate professor position. Finally, grant proposal writing was an important theme concerning future plans, as the interviewees knew that in order to be able to do research besides their teaching tasks they would have to bring in their own research money.

Interviewees were ambitious because they wanted to be “*marketable*” (man) and to have a good CV for future possibilities and positions. They looked beyond the institute when it comes to plans for publishing, because a few interviewees saw the institute as not being very ambitious. IMR was not seen by some as a particularly demanding institute, but interviewees put pressure on themselves to be able to succeed outside the IMR. They need publications to be able to either get promotion or a better position in a different institute. One woman was explicit in wanting to become associate professor.

One woman said she was “*continually looking forward*” with respect to her career. For instance, she planned to finish writing a book, although in the IMR these are not greatly rewarded with points. It would be important should she want to continue her career in for instance the US. Another woman said that staying in academia would mean she would have to “*juggle a lot of things at the same time*” and that this is a hard thing to do.

Interestingly, whereas one man said not to go and work fewer hours being a father – because teaching would not decrease but as a consequence time for research would. This confirms the teaching focus of the IMR, and how people with children are disadvantaged as their research time is diminished when having children. This is bad for their career. This is similar to the remark by the IMAPP assistant professor who noted that research will be the first thing to be decreased when having children. One woman said she and her partner would not buy a house or get children, as that would mean they would have to start living together and that would prove difficult due to the two body problem.

Only one IMR man showed doubt about working in academia. He had experienced multiple episodes of near burnout and was critical of the high work pressure in relation to the relatively low salary.

5.3.2. IMAPP

All IMAPP assistant professors wanted to stay in academia. One man was considering becoming a full professor in the future, though in his eyes this would not be possible if

he stayed at IMAPP, as internal candidates would not be promoted to full professor positions, he claimed. Moreover, being a professor was not something he aspired right now, as he noted that they have little time for research and have to engage in many managerial tasks. He did not know if he was going to stay in Nijmegen or even the Netherlands..

Two of the assistant professors mentioned the ambition to climb the academic steps further. One man said if he would not, or if he was not given this, he would leave and go to another institute, perhaps even abroad. He did not see himself in higher management, but possibly as full professor. Interestingly, although the woman was one of the flowing interviewees, she described herself as being not so ambitious, and being lucky. This runs counter to her accomplishments so far and her ambitions. She displayed the implicit norm that one can only grow to top positions when working more than full-time, the heroic picture of the academic. The assistant professor kept applying for grants to be able to further build a research line and group.

Building a 'winning' trajectory

Like for the postdocs, we compare the accounts of the assistant professors to the characteristics of the flowing movers' careers as identified in 6.3.2. We do so to better understand why the assistant professors were able to build a 'winning' (i.e. flowing) trajectory.

Networking/being sponsored From the trajectories as presented by the assistant professors, it seems that networks and being sponsored was more important for the IMR assistant professors to gain their current positions than for the three from the IMAPP. Within the IMR, interviewees had not done extensive job search: often they transitioned quite smoothly and it was usually through a network that they heard of positions and came in contact with the institute. Almost all IMR interviewees had come into their current position through network connections, whereas in IMAPP two of the three had gotten access to the institute through applying for a job and grant. It seems that the latter were judged more on their previous accomplishments, which they had built for a big part in between their PhD and current position as postdocs and lecturers, whereas the IMR interviewees overall had had less in-between experience and hence had built less accomplishments to be judged on. This is possibly also one of the reasons why the IMAPP interviewees were talking more concretely of going to associate professor level and getting tenure than the IMR interviewees, who were less far in their careers.

Applying for grants Gaining grants for safeguarding and further developing their own research line was important to both the IMR and the IMAPP assistant professors. It was noticeable how especially the three IMAPP assistant professors were critical of the grant system and used the metaphor of a 'lottery' or 'gambling' concerning the subsidizing of research proposals by the Dutch national funding body. The success of your proposal, they stated, is not based solely on its contents – as many excellent proposals are submitted – but depends also on the committee members who judge the proposal and might or might not relate and understand the research. One man (IMAPP) even compared gaining grants to war:

“[an academic] career is determined by the gaining of grants...everybody gets help [in writing proposals]...we are at war and everybody makes weapons, makes even stronger weapons, and in the end it doesn't matter, you know?”

You just have to join the whole blabla...the whole circus...[it's about a] national geographic style of writing".

Acting pro-actively/strategically All assistant professors were strategic in the sense that they were continually looking forward and being busy with fulfilling all requirements for tenure or promotion. For IMAPP interviewees, doing postdocs was a standard route to take to become a tenured professor. Notably, one of the men strategically shifted his research topic to one in which he had more chance of gaining grants.

Being flexible Especially the IMAPP interviewees showed a high mobility. One IMAPP interviewee (man) mentioned how mobility was a convention and a necessity in STEM:

"actually in the whole STEM world, it is perceived that if you want to continue in science, you cannot do that by staying your whole career in one university. Or getting your PhD in a university and stay there. That is disapproved of".

Indeed, none of the interviewees (IMR or IMAPP) had spent a whole career in one university. Interviewees juggled with ways to build a family, stay in relationships with (either academic or non-academic) partners, or were single.

Flexibility also meant being flexible with one's time schedule. The norm of working more than full-time was implicit in many accounts:

"No one tells you how much you should work, right? But you work yourself, you push yourself to, so I sometimes work too much...it is self-driven work" (man, IMAPP)

This notion of 'self-driven' work was present among many assistant professors. This left interviewees with a certain freedom to arrange for their own time spending and career planning, but also put the responsibility for guarding their time, achievements and prospects on them. This is an issue that resounds throughout all interviewee samples. Science was called 'a hobby' or something similar by many interviewees in all interviewee groups, both flowers and hangers – though doubters less – and something they enjoyed dedicating their life to:

"I am always thinking about my work, because my work is very much a part of who I am...you're always constantly thinking about it. And as the pressure to kind of produce more and more and more increases, then that becomes even greater" (IMAPP)

Calling the career a hobby implied there is no 'off-button'. In that way, the demands for building an academic career (long working weeks and working nights and weekends as well) and the supply of passionate academics who want to dedicate this time to their job keeps this system in place.

Balance research and education For all interviewees, balancing research and education and extra tasks was an issue. Juggling with many different tasks, and especially letting teaching not eat up all of their time, was a challenge. We did see that among the IMR interviewees teaching and gaining Teaching Qualifications were discussed more than by the IMAPP assistant professors. Publications were the next important issue, after which grants. The IMAPP interviewees on the other hand gave the impression that gaining money was more important for one's career than getting publications. This could be because the IMAPP interviewees already had longer career trajectories than the IMR

interviewees and had hence already published more and proved themselves as researcher, with which they could get grants as a next step.

Living abroad Living abroad was a common practice among both IMR and IMAPP assistant professors, though due to the 'standard' postdoc route in STEM more present there. Some came from abroad, others were Dutch and had been appointed abroad. No experience abroad was exceptional, especially with in IMAPP. Within IMR, it was possible to become assistant professor without such experience. Yet we do see that the two tenured assistant professors are of non-Dutch nationality and all tenure trackers are Dutch. In the IMAPP the opposite seems true: two of the three assistant professors had the Dutch nationality, whereas of the postdocs all but one were foreign.

Now that we have done the in-depth analyses of the different interviewee groups – leavers, movers, current postdocs, and current assistant professors – we take a helicopter view and make a transversal analysis to better understand why some people left the respective institutes or sometimes academia as a whole and others stayed and succeeded, i.e. to gain a better picture of the leaky pipeline in this specific context.

6. TRANSVERSAL DISCUSSION

From the in-depth analyses of the accounts of the leavers, movers and current postdocs and assistant professors, we can better picture the leaky pipeline phenomenon in the two GARCIA institutes. Why do some leave and others stay and succeed? We shortly discuss the conclusions for each interview group to see what core aspects make them succeed, doubt, hang, or leave. After that, we discuss the several mechanisms we identified in the different accounts that constitute the leaky pipeline in the institutes under study.

6.1. Leavers

From the accounts of the five leavers, we saw how leaving trajectories were characterized by hesitance for establishing an academic career for various reasons, ad-hoc decision making, and/or passiveness in the sense that most of the leavers did, would or could not build the conditions for advancing in their field, e.g. not having a solid publishing record or not going abroad. Both individual and institutional factors impacted their move out of academia. Some of the leavers were critical of the academic system, or critical of the institute in which they had worked. The image the leavers had of the academic system was one of fierce competition and politics in which the 'ideal academic' participated in image building and emphasized publishing over more practical impact. The lack of a sponsor was paramount to several interviewees leaving academia. Both men and women had left academia.

6.2. Hanging movers

In the analysis of the trajectories of the hanging movers, who were both women, we saw that they were hindered by their caring responsibilities. Both criticized the Dutch system of parental arrangements (with consequences for mothers particularly, as they indirectly placed most care burden on women). They had a discourse of own responsibility, in which the choices they made themselves were leading in their failure to launch a full academic career. We see that they lacked most of the elements of more successful

interviewees, which were both personal and institutional: they had no strong networks or sponsors, no support from the institute, they did apply for grants, they had difficulties balancing research and education, were little flexible because of family obligations and consequential part-time working, and whereas the IMAPP woman had moved abroad quite often when following her husband, the IMR woman had only lived and worked in the Netherlands. The academic system seems to demand these aspects of individuals for them to succeed, which apparently is harder for women when combining these with caring responsibilities. The system had driven these women to leave the 'mainstream' academic track and find jobs on side tracks (i.e. a non-academic part-time job, and online lecturing) to find job security (IMR) and have a paid academic job (IMAPP).

6.3. Doubting movers

We noted in the analysis of the doubting movers that all had built their careers up to now with the help of informal networks. They all had experience in going abroad, were working on temporary contracts, and all had applied or were applying for research grants. All would have liked to have stayed at IMAPP, but did not do so because of their spouse, because their contract ended, or because they thought it better for their CV to move institutes. They also all sought stability and (job) security, and this meant possibly going outside academia to achieve so. The doubters were explicitly critical of the academic system, among which the work pressure and job insecurity were recurrent themes. People of both genders were doubting.

6.4. Flowing movers

In the analysis of the flowing movers we saw that most of them were non-Dutch, had moved abroad after their IMAPP/IMR employment, and had found (semi-)permanent jobs. Implicitly and explicitly, the interviewees showed that moving abroad was part of the job. Leaving academia was not an option for any of the flowing movers. What was noticeable is how all flowing IMAPP movers had children, whereas only one IMR flowing mover did so. We defined six 'success factors' and two main future plans, namely development in the current job and stability in their personal life. All of these success factors imply personal responsibility, except for having a sponsor. This was the same for men and women. We did note a difference in self-positioning of men and women, with men positioning themselves more as 'owners' of their career. Finally, we noted how being foreign gave certain particular disadvantages in the institutes, such as language barriers (especially in relation to teaching), isolation (mostly mentioned by women) and lack of a support network outside of the university.

6.5. Current postdocs

From the analysis of the current postdocs we learned that sponsors and networks were very important to these early career academics to gain access to institutes and positions. Especially in the IMAPP, where doing a postdoc and going abroad were seen as a standard career step in contrast to the IMR, the need for gaining grants, being pro-active and publishing was emphasized. Research was by far the main focus of the postdocs. Of the three postdocs in IMR, one showed similarities to the IMAPP postdocs in this sense. She was also the one most keen on staying in academia. Similar to what was said by other interviewees, several postdocs mentioned how the IMR was characterized by an individualist culture concerning research. This may be due to the historically education-focused nature of the institute, which led to social relationships being largely impacted by teaching duties and not research efforts.

6.6. Current assistant professors (tenure track and tenured)

From the trajectories as presented by the assistant professors, it seems that networks and being sponsored was more important for the IMR assistant professors to gain their current positions than for the three from IMAPP. Gaining grants for safeguarding and further developing their own research line was important to both the IMR and the IMAPP assistant professors. It was noticeable how especially the three IMAPP assistant professors were critical of the grant system and used the metaphor of a 'lottery' or 'gambling' concerning the subsidizing of research proposals by the Dutch scientific funder. Concerning going abroad and changing positions, the IMAPP interviewees showed a high mobility, although also from IMR none of the interviewees had spent a whole career in one university. Interviewees juggled with ways to build a family, stay in relationships with (either academic or non-academic) partners, were single, or got divorced. Flexibility also meant being flexible with time spending. The notion of 'self-driven' work – where the employee has an internal pressure to perform and an almost entrepreneurial look on their career, not driven by the university or otherwise – was present among many assistant professors. For all interviewees, balancing research and education and extra tasks was an issue. Juggling with many different tasks, and especially letting teaching not eat up all of their time, was a challenge. Living abroad was a common practice among both IMR and IMAPP assistant professors, though due to the 'standard' postdoc route in STEM more present there and in IMR interviewees had become assistant professor without experience abroad.

6.7. Comparing groups and the leaky pipeline

Comparing the groups it is possible to better understand why some people leave academia and others continue and succeed. Leaving or staying is not a linear decision made or caused by one factor, it occurs as the result of a multitude of factors and processes over the course of men's and women's experiences in the academic field. Both men and women leave or doubt about academia because of reasons of work life balance and the career of their partners, the main focus in academia on publications, feeling no deep passion for the profession, but also because of a lack of sponsors, political appointment procedures, and the individualist and competitive nature of academia. People who stayed showed more drive and passion to remain in academia, built and used networks and had sponsors helping them get access to positions, were (often) successful in obtaining grants and were not unsatisfied with their publications, they (often) found a way to deal with work-life balance in some way (short-term or long term), and in most cases either came from abroad or had been abroad for some time. The tenured interviewees (among current and prior early career employees) had in common that they had experience abroad, received (big) grants and had successful research records, had a sponsor or received a special position, had a network from which they gained access to positions.

The biggest difference between the IMAPP and IMR was in the focus of the two institutes: whereas the IMAPP is very much a research institute which also offers education to students, the IMR was historically oriented towards teaching and is evolving into a more research-focused institute. The IMAPP had more postdocs and interviewees from the IMAPP saw doing multiple postdocs as a 'standard' route to take in the STEM field. Because of its research focus, the IMAPP was well-embedded in national and international networks, which shows in the nationalities of the postdocs interviewed. In the IMR only a few people are appointed as postdocs. This difference in focus also

explains why some assistant professors in IMR were earlier in their careers than the assistant professors in IMAPP, and also why some of them did not have foreign experience and still were able to gain a tenure track position.

Concerning work-life balance we found a gender difference. Due to the much-praised freedom and flexibility provided by academia, the early career academics were personally responsible for balancing their work and private life. Because a motherhood culture exists in the Netherlands, where women who become mothers are seen as principally responsible for the care of children (but also of parents and others with care needs), this 'free' space was usually arranged along typical Dutch gendered lines: women worked part-time whereas men were able to choose whether or not to work part-time or take parental leave.

Another gender practice was that within both institutes women especially noted a negatively perceived isolation, especially postdocs but also other temporarily appointed. This applied to Dutch but especially to foreign women, who had no internal nor external network to build on. This is not to say that all women felt as such. This is also not to say that isolation was a reason to leave academia. Most men seemed less bothered by the individualistic culture of the institutes, or praised the freedom and support for autonomy they received within the institutes.

In the IMAPP both men and women seemed to speak more often of gender as a problematic issue, probably because the issue is more visible there. A few women were mentioned explicitly negative experiences they or others they knew had had, either within the institute or outside. Most women in IMR and IMAPP did not say to have experienced overt or covert gender practices in their institutes.

6.8. Pipeline mechanisms

The leaky pipeline phenomenon entails that for each step higher in the academic hierarchy, more women than men fall through. From the analyses, we identify six mechanisms operating in the leaky pipeline in the specific context of the institutes under study.

The first mechanism is that of *the reproduction of the masculine image of the heroic scientist* who is engaged body and soul in academic work, with a total availability for research, international mobility without taking into account private life, a spirit of competition, of putting yourself forward in the public space and of self-affirmation. Many successful and less successful interviewees mentioned how science was a hobby and a passion for them. Academic work, hence, is seen as a calling, not so much a job. Continuing in academia was seen as a personal choice and many interviewees identified as a driven, or 24/7, scientist. The standard working week was full-time, and part-time was seen as making it impossible to reach the top positions. Interestingly, many interviewees mentioned the relatively relaxed working week culture within the institutes, but rather saw the professional and wider academic culture as pressing on their shoulders. If one wants to accomplish all tasks required for a tenured position and climbing the academic hierarchy (i.e. education, research, grants, committee work, supervision) a (more than) full working week was needed. Academia as a greedy institution was hence present in the accounts of the interviewees. Mostly women were bothered by this as mostly the academic mothers worked part-time (see next mechanism). Visibility and image building, i.e. 'self-branding', were named by both men and women as important.

Most people leaving or doubting whether to leave academia did so because of this heroic image. They did not see science as a hobby, or were not willing to 'sacrifice' private life for it and participate in the competition based publication pressure and a race for grants. They did not want to or could not be internationally mobile, or were unwilling or unable to present themselves and make themselves visible enough. This counts for both men and women, as they mostly left because of their unwillingness to adhere to this image and all requirements that come with it, whereas several women also were not able to do so and hence (almost) fell through the cracks.

The second pipeline mechanism is related to this heroic full-time available scientist norm and academia's perceived freedom and independence: what we call the motherhood issue and work life balance. What we note is that mothers in the sample had to juggle with their career and private life, with for instance the two 'hanging' movers being mothers, the one tenured IMAPP woman believing she could not get full professorship due to her part-time work week, and other women talking of the complexities of having children in the future. Dutch culture has as a characteristic that women are seen as the primary care givers for children. Compared to other countries, a large part of women in the Netherlands work part-time because of this cultural norm. Though in academia women work much more full-time than the national average (Monitor Vrouwelijke Hoogleraren 2015³), we note that among the women and men in the interview sample, this norm was also present. Most mothers in the sample worked part-time. Hardly any father did so, but most fathers did have partners who worked part-time (or not) and took care of the children. A complex situation emerges here: both fathers and mothers indicated that the most positive aspect about academia when having children is the freedom to arrange one's own time. Yet, on the other hand, all interviewees mentioned the many requirements and tasks they need to accomplish to be able to succeed in science, which require long working weeks and induce stress. We call this the freedom paradox of academia. This, in combination with the 'norm' of the full-time dedicated academic worker, and the contradicting norm for women to be the primary caregiver, puts especially women in a conundrum. Working less hours means having to sacrifice part of these accomplishments. This is not to say men were not bothered or had to make arrangements when they had children with their partner. Some men took parental leave or started working less. The parenthood issue however did not seem to impact men in the same extent as it did women.

Partner presence is a third pipeline mechanism. Having a partner while at the same time having to comply with the rule of moving abroad every two or three years complicated the lives of most interviewed academics. Several men and women had decided to follow their partner to another country to be with them, either to the GARCIA institute or away from it, sometimes to the detriment of their own career. It is notable that most people saying to have encountered difficulties or disadvantages from this decision were women. The 'two body problem' - where both partners work in academia, often in the same field, and are unable to find work in the same place - was mostly mentioned by women in the STEM department. Women and men were living apart at the moment of the interview, though with the intent to leave Nijmegen and live with their partner. Some women and an occasional man chose to not go abroad and go out of academia. Multiple men had a partner who moved abroad with them, but there was also the story of a man who left

3 <http://www.lnvh.nl/monitor2015/downloads/Monitor%20Vrouwelijke%20Hoogleraren%202015-web-H7.pdf>

because his woman couldn't find a job here. A few (IMAPP) women had a partner who moved abroad with them.

Relatedly, a fourth mechanism seemed to exist what we call *the foreign effect*. Part of the heroic image of the scientist is also international mobility, which was a requirement that was largely taken for granted, especially in the STEM department. Some adhered to this norm and some did not, which in the SSH department was less relevant. International mobility, however, was not a guarantee for success, as was not having experience abroad punished for everyone (especially in IMR). Especially within the IMR, but also present within IMAPP, this mechanism of the foreign effect holds that for foreigners it is harder to become embedded in the institute, especially as temporary postdoc having done the PhD elsewhere. Language issues, social network issues, and work-life issues made it difficult for several foreign workers to be involved in teaching, be given 'extra' tasks, or build internal networks. This is a downside of international mobility, that we note was more often experienced negatively by women, even to the extent that one got ill and another decided to leave early for another (permanent) job abroad. Having little support within the institute shows how the greedy institution of academia works as a one way street: the individual is responsible for his/her own well-being and success.

A pipeline mechanism often mentioned as important for the leaky pipeline is the "*old boys' club*", which renders an entry into the leading networks more difficult for women as well as gaining access to resources and more direct support systems by senior researchers (informal mentoring and sponsoring). Informal networks have shown to be crucial for a successful career. From the interviews we did not notice strong particularly gendered patterns in the support, networks or visibility of the early career academics, at least as presented by the interviewees. Men and women alike were aware of the relevance of building networks and visibility. One gendered difference we note is that men more than women seemed to mention particular conferences as an important moment in which they worked on their network and gained information and access to particular positions.

Finally, the *precarity loop* may work as a pipeline mechanism, where academics who cannot manage to gain a permanent contract at one point decide to be done with the job insecurity and go for more secure fields of work. We noticed this among both the ones who had left and among the doubting interviewees. Both men and women mentioned the job insecurity, yet it seemed that men were more (explicitly) inclined to leave academia because of the insecurity than women. This could possibly be due to the fatherhood issue of the man having to be the breadwinner according to cultural norms, and having to provide a stable home because of that role. This was never mentioned explicitly though and can only be presumed.

7. INTERPRETATIVE ANALYSIS

How do the qualitative analyses fit with the quantitative data gathered in the GARCIA project that are related to the leaky pipeline? We describe important quantitative data from other reports, and discuss the leaky pipeline in light of these data and the current report.

7.1. Quantitative data gathered in the GARCIA project related to the leaky pipeline

D6.1: In the Netherlands, the leaky pipeline is clearly visible. Nationally, the men to women ratio is disproportionately askew as of the level of PhD. Although women form a majority at the levels of bachelor and master, from the level of PhD candidates onwards they gradually become a bigger minority, with the lowest number of women at the rank of full professor (grade A). The percentages of women and men bachelor and master students, PhD candidates, and postdocs and other non-permanent researchers remain stable over time, whereas we see an increase in the percentages of women and decrease of percentages of men in all levels from assistant professors onwards: women assistant professors from 33% (2010) to 38% (2014); women associate professors from 20% (2010) to 26% (2014); women full professors from 13% (2010) to 17% (2014). According to the She Figures 2012 the number of women researchers in the Netherlands in the A level is among the lowest in Europe: Grade B: 21%, Grade C: 34%, Grade D: 45%. Proportion of female heads of universities or assimilated institutions based on capacity to deliver PhDs, 2010: 7% against 93% of men.

The number of temporary positions has increased over the years, mostly in the form of postdoc positions (Postdocs 2005: 2,559; 2010: 3,548). Average number of years in postdocs: 7.5. The report states that especially 'postdoc-stacking' (i.e. doing multiple subsequent postdoc projects) within the same department and the same institute has a negative effect on the career perspective of researchers. This implies an up-or-out system. After a few postdoc projects, these people are not only 'too old' but also too specialized to transfer to another organization, whether inside or outside of academia. The exit flow is higher than upward flow, which means they have little chance of climbing up the current institute. (Rathenau Institute Talent Centraal 2013) This is what we noticed in the interviews in IMAPP: doing a postdoc in one institute (even in one country) was seen as impossible if one wants a successful academic career.

In academic careers nowadays, the Dutch national stimulation grants "Vernieuwingsimpuls" ("Innovational Research Incentives Scheme")⁴, including 'Veni', 'Vidi' and 'Vici' grants play an important role: 75% of Veni laureates was a postdoc and 45% of them went on to a higher position after the project (mostly Assistant Professor). 36% of Vidi laureates was postdoc and 80% of them went on to a higher position after the project. The biggest part of Vidi laureates was Assistant Professor and moved on to associate or full professorship. (Rathenau Institute Talent Centraal 2013) This was also present in the interviews, among both IMAPP and IMR interviewees. As only a small number of applicants receive such prestigious grants, the chance for a successful academic career is small.

Within the IMR, in 2014 more women than men were PhD candidates and postdocs, but the positions thereafter are dominated by men. Overall, the percentage of women staff has been fluctuating between 34 and 45% over the time period 2010 – 2014. The highest percentages of women staff can be found among the non-tenured Researcher 3 and Researcher 4 positions (postdoctoral positions), however the overall numbers of positions in Researcher 3 and 4 positions are low. Looking at the numbers of men and women staff, the number of tenured assistant professors has decreased over the years,

4 <http://www.nwo.nl/en/funding/our-funding-instruments/nwo/innovational-research-incentives-scheme/index.html>

whereas the number of non-tenured assistant professors has increased. The numbers of tenured associate professors and full professors has remained quite constant.

Within the IMAPP, women formed about 25% of PhD students (in general, though between departments the numbers differ greatly, with mathematics for instance having very few women), but then as of the postdoc level a very sharp decline occurs in all levels above the PhD level. The proportion of women PhD candidates and postdocs was the same in 2014. The percentage of women assistant, associate, and full professors in that same year was respectively 8% (N=1), 0%, and 7% (N=1). This shows a (very) leaky pipeline, starting between the postdoc and assistant professor level. Of the total number of 'exits', 22% was women in the period of 2010-2013. This is a higher percentage than the average percentage of women staff over the same time period. The highest numbers of women postdocs and PhD candidates work in the Astrophysics department. Within the Astrophysics department, the number and percentage of women PhD candidates and postdocs increased over time. In the other departments with women postdocs and PhDs, the number remained constant. Overall, the percentage of women staff has been constant over the years (16% women on average). With an increased proportion of women non-tenured staff, this means a decreased proportion of women tenured staff. Within Mathematics, there is a big difference between the percentage of women students (27% in academic year 2014/2015, see Table 10 in the Appendix) and the percentage of women PhD candidates (8% in 2013 and 0% in 2014). The 'leak' seems to start between the postdoc and the assistant professor level, however it should be noted that when the data is divided by department, the leak starts at different moments in the different departments (e.g., already after the MSc programme).

Finally, the report says: The policies and practices around care and work-life issues remain rather traditional in the Dutch context. Child-birth affects women more than men. In 2013, 31% of women reduced their working hours after child-birth, a 4% decrease compared to 2011. Close to 60% of women kept working the same amount of hours after the birth of their first child (Merens & Van den Brakel, 2014). Compared to men, women are still primarily responsible for and spend more time on childcare and domestic work. We see this in our data: all women with children worked part-time, whereas no men did so. Despite a culture of taking care of children in the family (by the mother), the use of formal childcare has increased rapidly.

D5.1: The university has less and less money to provide direct funding to researchers. Researchers are therefore increasingly depending on funding from the second- and third-stream (national funding agencies and industry respectively) to do research. Finances within the university are decided upon and controlled centrally, but implementation is done at faculty-level. Faculties have complete autonomy over their internal allocation. They have their own models to allocate the faculty money over the different sections within the faculty. For the SSH department IMR, the internal budget is based on teaching (39%), research (27%), and contract agreements (34%). Most of the money for the IMR comes from teaching. Excluding PhDs, in IMR, two-third of the personnel is working on permanent contracts, and one third has a fixed term position. For the STEM department IMAPP, the budget consists of a fixed part, a performance related part (teaching: students enrolled and diploma's; research: premium for completed PhD's and FTEs other money streams), and a third part (additional, policy, experimental and fundamental research). Most of the money of IMAPP comes from research. Less than 50% of staff has a permanent contract, the rest is working on project based, temporary contracts. These numbers show how IMR is more teaching-focused whereas IMAPP is more research-

focused. We see this in the interviews as the assistant professors in the IMR had a heavy teaching load; and as the IMAPP had many postdocs, whereas the IMR only had a few.

The university *has* a history of emancipation, and has new gender policies in place, among which a mentoring program for high-potential women academics and ‘family-friendly’ policies. The Institute for Management Research is not very active concerning gender policies, none in place, nor is gender perceived as a relevant issue. The reasons for this are that the general perception is that the faculty is doing well concerning gender equality, that a substantial gender research group is in place, and that other gender projects have also already been doing work on gender equality in the faculty. The IMAPP is part of the STEM faculty which at the moment is seeing an important momentum concerning gender awareness and policies. Within the IMAPP, money has been used for several women-specific tenure track positions.

Within the IMR (no data available from IMAPP) we noticed a gender and functional segregation concerning research points: full professors (men and women) earned the most points in 2013, whereas women early career academics earned the least. This decreases the latter group’s chances of continuing in academia and climbing the academic ladder in comparison to their male counterparts.

Regarding the conditions for an academic career we can conclude that the IMR is focused on the internal organisation and standardization of PhD projects. The IMAPP is more outward looking, as it has no central doctoral school but allocates PhD candidates to national discipline-related doctoral schools. The student-staff ratios show the different orientations of the two institutes, with the IMR being education-focused and the IMAPP being research-focused. This is also reflected in the number of fixed-term contracts, which is one-third in the IMR and about half in the IMAPP (going for a large part to postdocs).

The glass ceiling index in 2013 for IMR is 3,1; for IMAPP this is 1,5. Please note that this figure is based on a very small number of 2 female professors, and one has left since. Furthermore, it should be noted that the STEM field has a disproportionate amount of professors in the staff, which influences this index.

The student-teacher ratio for IMR and IMAPP (table below) illustrates again how the IMR is more teaching focused and the IMAPP more research focused. This impacts the routes employees are expected and likely to take in their careers – e.g. postdoc or not, going abroad or not – and forms a context for the leaky pipeline. We noted how these different career paths for the SSH and STEM field came to the fore in the interviews.

Student-teacher ratios IMR and IMAPP

2009-2010		2010-2011		2011-2012		2012-2013	
IMR	IMAPP	IMR	IMAPP	IMR	IMAPP	IMR	IMAPP
36.2	1.1	44.6	0.9	42.4	0.7	39.9	0.91

D4.2.2: Two country-specific issues are relevant in the context of work/life balance issues that get specific attention in the current labour agreement: firstly, the high number of temporary contracts among academic personnel in the Netherlands (40.7% in 2012,

VAWO 2013)⁵ (which creates leavers and movers), and, secondly, the Dutch government's emphasis on citizens' own responsibility to take care of each other (e.g. informal care giving – *mantelzorg* in Dutch). In a note to prepare the new labour agreement the involved labour unions write that employees that fulfil informal care tasks need to get more support in the form of agreements that should guarantee the employee's balance between work and private life (Joint Commitment CLA Dutch Universities 2014). According to them, regulations to facilitate informal care should be part of university's policy on sustainable employability. Work-life balance policies are in place at the university level: Flexible working time regulation; a regulation in which an employee can exchange employment conditions (such as holiday hours, salary, end-of-year bonus, holiday allowance) to buy extra time; parental and pregnancy leave, etc. Units within the university are allowed to have their own specific agreements that may very well deviate from these local regulations. Yet, in practice, there is no faculty specific policy regarding work/life balance issues. Ad hoc arrangements are made when individual academics need it.

In the Netherlands, a culture is predominant in which women are expected to take most care of children. Though this is lesser the case for higher educated and academic women (Monitor Vrouwelijke Hoogleraren 2015), the qualitative analysis showed that the mechanism of a 'motherhood issue' was in place there as well: women with children often worked part-time whereas most academic fathers kept working full-time and sometimes chose for the advantage of their career not to take parental leave. In their case, the motherhood culture made this choice feasible for them as most of their partners stayed at home or worked part-time to take care of their children.

7.2. Characterization of institutes concerning leaky pipeline

Based on previous reports and the current interview analyses, we characterize the two institutes as follows, related to the leaky pipeline.

SSH department: historically teaching-oriented institute in transition to more research orientation, high teacher-student ratio, individualistic culture in which social relations are predominantly formed around teaching, few postdocs, decreasing funds from central university and government and hence decreasing funds for permanent positions or contract extensions, increase of temporary positions at assistant professor level, leaky pipeline as of postdoc level, around 20% women full professors, highly visible gender research group and education, formal procedures for assistant professor positions, low gender action-focus among decision makers and no formal gender policy, low gender urgency awareness among staff, perceived 'relaxed' culture concerning work times, postdoc seen as detour or extra step and not necessary to gain assistant professor position but to extend research record.

STEM department: historically research-oriented institute with low teacher-student ratio, 'flat' structure characterized by informal relations, social cohesion within groups but less between, decreasing funds from central university and government but track record of gaining external grants, many postdocs, leaky pipeline as of postdoc level, differences between sub-departments in terms of number of women staff, grants specifically targeted at women, low gender awareness within institute but growing awareness, to be

⁵ Note that women more often than men have temporary contracts: 52% of female academic personnel have temporary jobs against 33.4% of men (VAWO 2013).

implemented gender policy within overarching faculty, around 7% women full professors, non-transparency of postdoc recruitment, formal procedures for assistant professor positions, perceived 'relaxed' culture concerning work times, postdoc seen as standard step in academic career and necessary to get higher position and to extend research record, focus on grants, requirement of going abroad, impossibility of building career inside institute.

7.3. Key moment, mechanisms and factors playing upon leaky pipeline

From the quantitative and qualitative data, we identify key moments, mechanisms and factors playing upon the leaky pipeline.

Key moments related to the leaky pipeline:

- The decision to go into academia through doing a PhD
- Being stimulated, deciding to and doing a grant proposal
- Getting a grant honoured
- Being scouted for a position at e.g. a conference or through a supervisor
- Evaluation moment of tenure track
- Getting children
- Partner career decisions
- International mobility choices

Key moments are hence related to both work decisions (grants, job applications) as decisions on 'life' (children, following partner). These moments are not necessarily in sync with one another.

Mechanisms and factors related to the leaky pipeline, impacting whether or not people (men and women) decided to leave academia, move from the GARCIA institutes, or stay at the institutes were both at the organizational and systemic level and at the individual level:

Organizational and systemic level:

- Academic as 'hero' with all requirements, among which increasing need for grants and funding
- 'Old boys networks', need for networks and sponsors, support within institute in getting position or grant
- Precarity loop
- Balance between teaching and education

Individual level:

- Motherhood issue and work-life balance, having children or not, especially for women (part-time working culture)

- Willingness to juggle work-life balance and tolerate stress
- Partner presence
- Foreign effect, going abroad and mobility, being Dutch or foreign
- ‘Passion’ for the job

In conclusion, we learn from this report that although the numbers are straightforwardly showing a leaky pipeline in the national and local context of the GARCIA institutes, the factors and processes leading to the leakiness of the pipeline are multiple and interrelated. Looking at individual stories, the norms and standards in academia are – sometimes explicitly, often implicitly – clearly impacting the trajectories and the sensemaking of the different movers, leavers, and current early career scholars. Sometimes these pressures lead to people leaving, sometimes people cope with them and proceed, other times other factors are at play as to why people leave or stay. Some patterns were found, as show the leaky pipeline mechanisms discussed above, among which the impact of being an academic mother (and father, but to a lesser extent) and of being a foreign employee in the Dutch, and more specifically the Nijmegen, context. The increasing demands on early career scholars were much present in their accounts, received with both acceptance and resistance. Hopefully the report has brought some insight on how the academic system, the local arrangements and individual situations impact early career scholars, and how elements of this multi-level constellation are gendered. In the final section we discuss several recommendations that may help solve the leaky pipeline.

8. RECOMMENDATIONS

This report has shown how factors on the individual, institutional, cultural and national level intersect and shape the leaky pipeline within the two GARCIA institutes (the IMAPP and the IMR). Based on these analyses, here follow several recommendations for tackling the leaky pipeline phenomenon on different levels.

- Start a conversation in the faculty about work-life balance and educate employees about arrangements that exist.
- Make sure employees are not ‘punished’ for taking pregnancy and parental leave but are accommodated. Ranging from dispensation from teaching or administration, research assistance, or help at home. UWV substitution funds may be used to finance this.
- Make sure people are evaluated proportionally in case of part-time work and parental leave. Consider the performance appraisal: taking into account explicitly all circumstances that influence the experienced work pressure and performance (e.g. research output).
- Better facilitate the embedding of foreign women (and men) in institutes e.g. by structurally organizing and integrating people in research seminars, by providing them with a Dutch ‘buddy’, by communicating in English.

- Provide 'hours' for the procedure to get Teaching Qualifications. Also consider restructuring these procedures, as now they are perceived as a burden and an obligatory step to gain tenure, instead of a useful tool to improve quality.
- On a system and university level: enhance the ratio PhDs – postdoc/assistant professor positions, i.e. less PhD candidates and/or more postdoc/assistant professor positions.
- Enhance the (perceived) randomness of grant approvals. Slice up the big grants into more small grants, to decrease the Matthew effect and give more early career scholars a chance to conduct their own research and stay in academia.
- Postdoc contracts need to last longer for people to get work done, articles published, networks built, getting embedded in organizations, provide teaching.
- Start a conversation on the 'ideal academic' to make room for more diversity in the 'success stories'

From WP6.1 we take the following suggestions:

- Educate women and men in academia (from PhD level to institute directors) about the gendered context of academia.
- All academic staff: organizing a lunch meeting to give best practices to avoid gender bias in recruitment and evaluation.
- Workshop committee members; staff members that frequently feature in recruitment and selection committees.
- Workshop chairs of departments (leerstoelhouders); full professors that are responsible for the evaluation of their group (vlootshouw).
- Focus on hiring women PhD candidates, particularly in the IMAPP departments.
- Loosen the criterion of international experience for IMAPP postdocs, and take into consideration that it can have gendered consequences, and that international networks and collaborations can be obtained in many different ways.
- Create postdoc positions that contain the possibility to do teaching. For example, a postdoc position that has funding for three years full-time research can be extended to a four-year contract when the postdoctoral researcher has 25% teaching duties. The teaching time is paid for by the department (if the budget allows). This way the postdoc gets valuable experience in teaching and also has a longer secured position.
- Develop a talent follow up system to trail talented women PhD candidates and postdocs after they leave, and offer them a position after a number of years.

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1. INTRODUCTION

Iceland has historically had a very high rate of women's labour market participation, and women in Iceland also have long working hours. There is also a large educational gap, with women making up the national majority of university students. However, despite the high ratio of women's education and labour market participation, women have fewer opportunities in the labour market and the gender pay gap remains considerable. The Icelandic labour market is highly gender segregated, vertically and horizontally, with men in higher positions than women; women more often working in the public sector such as health care, welfare and education, and men more often in the private sector (see D3.2.)

These broad societal gender regimes are arguably mirrored in the way the University of Iceland is organised across disciplines and in the gendered fabric of the organization. In 2013 the student body at the University of Iceland was approximately 14.000 out of nearly 20.000 university students in total in Iceland of which 34% are men and 66% women. However, despite women's high participation in some parts of higher education they are decidedly underrepresented in the higher professional layers of the educational system that come with prestige, influence and a higher salary. In general, women are predominantly represented in SSH fields, which enjoy the least amount of funding, the highest teacher-to-student ratio (i.e. bigger workload), the least amount of stature, and the fewest options for a future career in academia. Oppositely, STEM fields, which are dominated by men, receive considerably more funding and enjoy a higher stature even though they attract a much lower number of students. It is in the ranking of assistant professor that distributions of men and women come closest to resembling gender equality at the University of Iceland. However, if we move up the academic ladder we find that, across both SSH and STEM, men overwhelmingly occupy the higher academic positions with the most stature (see D6.1.)

In other words, there is good reason to identify and analyse narratives on career experiences, starting from the individual trajectories of early career academics, as this might shed some much needed light on the leaky pipeline from the postdoc to the assistant professor ranking through to the rank of full professor.

On the following pages we will go over our methodology in more detail as well as describe our sampling methods. We will then perform a transversal analysis of interviews with academics who have left the University of Iceland at one point or another (what we also refer to as academic movers/leavers), as well as with current postdocs and assistant professors. Based on this analysis we will then provide a transversal discussion of the different interview categories. We will end this report with recommendations for tackling the leaky pipeline phenomenon in our specific context.

2. METHODOLOGY AND SAMPLES

Qualitative data was collected through an interviewing process with 12 former as well as 20 current academic employees at the University of Iceland. Participants representing the group of current academic employees were found via a search on the University of Iceland website. Email invitations were sent to potential participants and were conducted with those who agreed to participate. Since the University of Iceland does not keep records of employee exits, former academic employees were found via word of mouth. They received the same email as the first group of participants.

Semi-structured interviews based on a structured interview guide were carried out with all participants. Interviews generally lasted in and around one hour. The guide posed questions relating to individual trajectory, organization of work, wellbeing, work-life balance, career development and perspectives on the future. Generally, the interview guide was followed systematically unless interview participants showed particular interest in talking about a specific topic, in which case detailed information on said topic was pursued.

Several difficulties were encountered whilst trying to build our samples. The original sample guide called for 20 former employees as well as 12 current postdocs and 8 newly tenured academics. Firstly, as one of our contacts replied when we were trying to track down former employees: “You are going to have a hard time finding people who quit a steady academic job in the years after the financial crisis.” This turned out to be true. Eventually we had to expand our sample criteria just in order to have a dozen interview participants to represent our movers/leavers. As such, a few of our former academic employees do not fit the original sample criteria.

Of the 12 former academic employees, 5 were employed at the School of Social Sciences (2 women, 3 men). One of these were technically still working at the University of Iceland at the time of the interview in an adjunct position, but we decided that her input might still be important given that this participant had for years categorically refused any chance of promotion because she knew what kind of working conditions she was in for. Another had had a managerial position at the University of Iceland rather than being a professional academic. Yet another had been working in an adjunct position at the university and applied for an assistant professor job that he since regretted due to reasons that we deem relevant in a leaky pipeline context. Seven were from the School of Engineering and Natural Sciences (5 women, 2 men). Of these, one was a former professor, while another was a former professor that had technically never been a formal employee at the university, but had first hand experience with the hiring process at University of Iceland in a way that we deemed very relevant to shedding light on the leaky pipeline phenomenon. One was a former postdoc.

Of the 20 current academic employees, those representing SSH were 11 participants from the School of Social Sciences, 9 of which were assistant professors (6 women, 3 men), and 2 associate professors (2 woman). Nine were from the School of Engineering and Natural Sciences (5 women, 4 men) and of these, 5 were postdocs (3 women, 2 men), 3 were assistant professors (2 men, 1 woman) and 1 was an associate professor (1 woman). The reason why 3 associate professors have been included in our sample was due to a systemic glitch in the University of Iceland online system where people had been mistakenly listed as being of the wrong academic rank. This did not come to light until after the respective participants had filled out their socio-demographic information after each interview. We soon realized that this was not a one-time glitch and began

asking people about their academic rank before the beginning of each interview. However, our associate professor participants still managed to provide us with very relevant information.

Another difficulty we encountered was that the academic hiring and ranking system at the University of Iceland did not allow us to sample “newly tenured” in the category of “early career academics.” At the University of Iceland one is generally hired for a tenure track position of 5 years after which one can apply for a permanent position. Obtaining a permanent position after the first 5 years is generally considered the rule more than the exception. Therefore, our “newly tenured” group of participants is represented by assistant professors or associate professors in respectively STEM or SSH, i.e. those who have gotten on the tenure track within the last 5 years (or longer if they have been on maternity leave, etc).

Our interview sample is obviously limited from a comparative perspective in that it does not come close to replicating the sample sizes and quality of other GARCIA partners. It should also be kept in mind that our sample of movers/leavers represents a very small group of academics. While there are no official statistics on the number of exists from the University of Iceland, the difficulties we had collecting a sample of movers/leavers lead us to believe that very few people end up leaving a position at the University of Iceland.

3. MOVERS/LEAVERS

Many of our movers had a past of studying or working abroad before applying for a job at the University of Iceland. Jarl, now a professional researcher with a governmental institute, did parts of his PhD abroad at a very prestigious university where demands were high. He lived abroad with his partner, who was also doing a PhD at the time. The couple were devoting themselves to their academic career. They did not have any children. Time was spent at the university or hanging at a local bar with friends. As Jarl said, “it’s absolutely fine just living the job for a few years and doing it 24/7.”

Several participants reported this experience of having spent their PhD years “living academia”. Rikard had finished his PhD abroad while living with his partner, who was also in academia. He moved to yet another country to start an academic career at a prestigious university before he started longing to move back to Iceland. This story is mirrored in Ronja’s trajectory. She also stayed abroad with her partner for many years while nurturing the foundation of a budding academic career. So did Sabína, who lived abroad for 10 years with her partner before finishing her PhD and deciding to return to Iceland. Pálína has a very similar trajectory as she also finished a PhD abroad before returning to Iceland.

Interestingly, some of these movers do not just have a common past of finishing their PhDs abroad, while dedicating their lives to their budding academic career. They all did it with a partner, who was also on an academic trajectory and some of them, apart from Sabína and Pálína, did it before having children. Sabína had two of her children while living abroad and did not mention any particular difficulties in this regard, despite the fact that she was doing her PhD. Pálína, on the other hand, experienced a considerable delay in her education when becoming a mother because she and her then boyfriend decided he should finish his PhD first. Once he was done, Pálína could take the time to catch up. Jarl, Rikard and Ronja did not have children until they arrived back in Iceland.

This group of movers all came back to Iceland to start an academic career with varying degrees of success. Jarl started working at the University of Iceland as a sessional teacher while still finishing his PhD. At this point in time, he also became a father for the first time. Upon returning home, Sabína simply called the university to check for available positions and got offered an assistant professor position almost immediately because the department desperately needed people to teach. Another participant, Gerður, came back to Iceland after finishing her PhD abroad and started filling in a teaching position for a colleague. Ronja and Rikard also had similar stories to tell. Other participants, however, rather than coming directly from abroad to start a career at the University of Iceland, had already been working at other research institutions, both at home and abroad.

Pálína started her career working for a different Icelandic university, which took up a lot of her time. Combined with the fact that she had recently become a parent, this was a very difficult period of her life. Another participant, Kristofer, also started his career working as an assistant professor at a different university before landing a managing position at the UI and Magga, had a shining academic career abroad where she had made associate professor before returning to Iceland.

Geiri had a very different experience from the other movers. He was working professionally and hands-on within his field for many years before applying for a position at the UI as an assistant professor. He got the job despite the fact that he had never completed a PhD, largely due to the fact that it was a relatively new academic field in Iceland at the time. As he said, “today I probably wouldn’t even be considered eligible.” He still does not hold a PhD in his field.

Other participants with experiences that differed considerably from others include Iðunn, who has been at the University of Iceland for many years without ever considering applying for an assistant professor position. In this sense, she is not so much a mover as she is a person with intimate knowledge of how the system works, for which reason she has decided to never become part of it in the first place. Finally, Mjöllnir is not Icelandic, but came from abroad for a job as a professor at the University of Iceland after having already cemented a career in his home country.

In this way our movers from the University of Iceland can be divided into roughly three groups based on their trajectory experience: Those who studied abroad with their partners before settling in Iceland, those who had already started an academic career elsewhere, and those with entirely unique experiences. Across the board, however, the most reported reason contributing to a move from the University of Iceland was the workload experienced by newly hired academics.

For Jarl, the workload at the University of Iceland was incompatible with his new role as a father. As he put it: “You can’t really work 12 hour days if you have children. The little one was picking up on it ... she started objecting to me opening up the laptop because once you open it up you’re not there.” Jarl had actually written his application for the job as assistant professor and even gotten his former supervisor to go over it when three colleagues, who had already gotten assistant professor positions, told him independently of one another to not take the job: “[They said that] the workload was horrific [and] one of them specifically called me to say ‘I heard you applied, and you don’t. Want. This. Job.’ I found this very striking.” Jarl ended up leaving the University of Iceland for a job in the public sector that “paid better, [is] a better job – and the working hours are much, much,

much nicer.” Privately, he lives with a partner and children and feels his new job is better suited for his familial obligations.

Another participant for whom the long hours culture in academia interfered significantly with family life was Geiri. When working at the University of Iceland, Geiri’s domicile was very far away, and as a result he was travelling a lot back and forth from the capital, where he would sometimes be for many days at a time without seeing his family:

“When I was stationed in Reykjavik I was working from 8 in the morning to 10 in the evening every day, because — my white lie was that I needed to finish up the work and I’d get home earlier. Then when I left for home I took the work with me and started working from home every Saturday and Sunday. Going through papers and preparing work — under the notion that now you are — staying at home, doing what you wanna do ... but you’re working. So — and my wife often said ‘Why don’t you just stay in Reykjavik, you’re not here anyway. Mentally you are not localised here.’”

Ultimately, this situation was unacceptable to Geiri who ended up moving to a different Icelandic research institution closer to his family, with better pay and better hours. He now lives outside Reykjavik with his wife and children.

The academic workload was also a concern to women participants, but interestingly they never cited a disconnection from their families as a reason for moving the way Jarl and Geiri did. Pálína was accustomed to long hours long before she came to the University of Iceland. Even so, she was taken aback by the immense workload that met her when she started out. She was constantly charged with new tasks of improving teaching and following through on new initiatives to make the academic programme for which she was working “more sexy” and appealing to students. Even when she experienced serious illness in the family or when her children got sick, she was still “whipped into full teaching responsibilities.” Still, she also pointed out that “the work is my passion” and that she believes she has often made choices that favoured her work over her family. Pálína ultimately decided to leave the university for a better position at a university abroad where she now resides with her new partner.

Sabína explained that she ultimately moved from the university because “teaching is bad for my health”. From the moment she got her job at the University of Iceland, Sabína was in charge of several big courses, having to spend many hours preparing. However, she also pointed out that this was largely due to a “small deadlines”-structure of teaching; the process of having to always prepare for the next day rather than having a deadline many months away that allows for in-depth contemplation and reflection. The “small-deadlines” structure did not sit well with her propensity for procrastination. She explained that when she knew she could do a minimally good job at preparing a lecture in six hours, she would sometimes wait until late the night before to start preparing the lecture, and as a result she would end up spending the night completing it. In the long run this resulted in stress and a general feeling of despair that ultimately made her switch to a very well paid 9-to-5 job in the private sector where she got to work more project-oriented. She now lives with her husband and children in Reykjavik, having exchanged the academic lifestyle for a well-paid day job.

Another reason cited was everyday sexism as well as institutional sexism. Pálína mentioned a particular atmosphere at her STEM department where an older male academic would often comment on the way she dressed in a way that “bordered on the

uncomfortable.” When the university was carrying out a sexual harassment survey she decided to confront him directly with his behaviour. He became very embarrassed and Pálína described this as a positive experience in which they both came to mutual understanding of what had happened. She also experienced sexism from women in the department. One female secretary made a virtue of often commenting on the way Pálína dressed and even gave her a derogatory nickname. When a new secretary was hired at the department, the sexism continued, but in a different way: The new female secretary was very dismissive of the women in the department, yet seemed very eager to please when it came to male employees.

But sexism was also described in more institutionalized terms by some of our female movers. Magga did not even get to start a career at the University of Iceland before she was turned down for a man with fewer qualifications than her. As she said: “I was a bit of a rebel, I wanted to change things”, which did not sit well with department leaders at the time. When Gerður came back to Iceland after finishing her studies abroad, she experienced (on more than one occasion) that male academics with much less experience and less publications were preferred over her for positions for which she applied:

“I was passed over when the person, who was put above me to supervise the classes --- he’s a male with less education ... I have a PhD and he doesn’t have a PhD [so] I experienced it as a gendered thing ... When I came back in [year] I was so optimistic and I really did believe that I had the same opportunities as my male colleagues but the reality has been completely different ... three times I’ve been passed over for males that had less education than I had.”

For some movers, the lure of better pay in the private sector was often cited as a reason for leaving the University of Iceland. However, this reason never stood alone, but seemed to function as the last “push” towards a different career. Rikard, a former assistant professor in a STEM department, was simply not interested in his own work anymore, mainly because he was the only one in his department doing the kind of research he was doing. He started feeling lonely and the only times he enjoyed himself was when he was able to attend conferences where he would meet other people with his research interests. He now has a job in the banking sector, putting his talents to good use and feeling that his work is being appreciated. However, boredom and loneliness was not quite enough for Rikard to quit his job, but when a person close to him suddenly decided to quit academia for the private sector and a much better pay, Rikard decided to start looking at job ads, eventually landing him his new job. He now lives in Reykjavík with his partner and children.

Sabína had a very similar experience. As mentioned, she was very overburdened with work in her department, and the thought of getting to work for a pay that she felt matched her efforts eventually made her quit her academic job. She cautioned:

“I’m fairly concerned for the future of [the] department because it’s coming up against the market forces ... The market pay for [people in my field] is so much higher than what they can offer their [assistant professors].”

Ronja also experienced private sector salaries as being a lure away from a job where she was already dissatisfied. Like many new academics she was charged with teaching the big classes. She would have 300 students in a class, which she said added a certain pressure to the job. She could not just be sick or stay home for whatever reason because

there would be 300 students waiting for her. As such, she did not experience the kind of flexibility that is supposed to be one of the perks of academia. Combined with her low pay and the promise of higher salaries in the private sector, this was the final straw that made Ronja quit her job.

Only for one participant was the pay a main reason to leave. As Kristofer pointed out, when raising four children, no manner of public salary will ever cover the cost it is to have such a big family. Kristofer ended up leaving the University of Iceland for a private Icelandic university where he now works as an associate professor at a much higher salary. He lives with his wife and children in Reykjavik.

Finally, one reason also cited for leaving was simple homesickness. Mjólnir's reason for leaving was that he wanted his children to grow up in his home country rather than in Iceland. He had landed a job as professor in a STEM department at the University of Iceland, and so the pay was very satisfactory. However, the small size of the university and lack of academic diversity combined with the longing for his home country ultimately made him quit his job. The same was true for Finna, who got a very nice offer on a bigger house in her home country and so decided to move back there with her Icelandic partner.

Finally, moving trajectories were also sometimes characterised by wrongful expectations. Geiri "had some expectations about how people would work inside academia, and [it] was very frustrating"; a situation that ultimately made "the first two years of [his] work in the university ... a very tough time." Gerður also "had high expectations that [she] would be participating in building something and doing something for [the] field but it didn't turn out that way." Jarl perhaps expressed it most clearly when saying:

"You become engaged in academic life and you have an idea of what the university is supposed to be, and [maybe] universities just need to be honest about what sort of machines they are. They are increasingly becoming intellectual sweatshops or something like that. Whereas the idea of sort of the aloof professor who thinks big thoughts and only expresses them when he has something worthwhile to say – there is no way in hell you could do that today."

While one can have sympathy with the situation of this handful of academics whose expectations to their profession are far from being met, one cannot help but flinch at the fact that Jarl compares academia to a "sweatshop" – a place where disenfranchised people work under inhuman conditions at the mercy of their employers. Needless to say that while the conditions of modern academia might not be perfect, they are far from being comparable to sweatshops. This might give witness to the occasional blindness that academics experience in relation to their own privileges and the fact that academia is not necessarily a profession above the rest. As such, for some participants there was an unbridgeable chasm between what they expected academia to be like before they started a career and what the job as an early academic actually entails. In modelling a specific moving trajectory, the gradual disillusionment with the romantic ideal of the venerable academic, who has the time to develop teaching and nurture their students while carefully drafting the research papers that will define the future of their field, is a possible moving factor that is well worth noting. This should perhaps be viewed in relation to the common trajectory experience of completing one's PhD abroad with your academic comrade-in-arms at a more or less prestigious institution long before you both decide to settle down and have children. Some movers described the time before

returning to Iceland to start a family as an exciting time of being emerged in one's academic work; of willingly spending long hours at the university during the day and socializing with fellow academics at night, developing ideas and planning for the future. This time in our participants' lives might be the time when romantic ideas about the academy forms; ideas that are either promptly or gradually shattered by the reality of the modern university.

Movers who return to Iceland to have children also quickly realise that academic life and family life do not coincide very well. Especially for some male movers, adding children to their life situation did not improve their career trajectory at all. In fact, from the examples above, it becomes obvious that university life for an early career academic is not designed to suit people who want to spend time with their families. Women movers, however, rarely complained about this, perhaps because women academics tend to view family as a *condition* while male academics view their family as a *life choice*; a tendency that we have explained in more detail elsewhere (i.e. D.4.2.2). Moreover, while moving trajectories of both male and female academics were characterized by high workloads, female academics also experienced a kind of institutional sexism. There were examples of high workloads, work-life imbalance and sexism in both SSH and STEM moving trajectories. However, when it came to the lure of a higher salary outside the academy, it was predominantly STEM academics that mentioned this as a reason to move away from the institution.

4. POSTDOCS

This chapter deals with postdoc trajectories, that is to say, postdocs that were currently employed by the University of Iceland at the time of the interview. Though the postdoc is a fairly new concept at the University of Iceland, even the few postdocs we were able to interview provided us with an interesting pattern of trajectories.

Like many of our movers, Sesselja finished her PhD abroad before applying for a postdoc position at the University of Iceland. She knew she wanted to come back to the University of Iceland, so she contacted her old supervisors to let them know she was interested. They had ideas for "a very interesting project" that they and Sesselja applied for together. Sesselja got the grant and has just recently started her postdoc position. She is currently only doing research and has not started fulfilling any teaching responsibilities yet. She lives with her partner and children in Reykjavík.

Linda had a similar life situation in that, at the time of our interview, she too was co-parenting a young child with her husband in Reykjavík. Unlike Sesselja, she had finished her PhD in Iceland while working at a private company, so even though she was technically registered as a student at the University of Iceland, she was in a full-time research position in the private sector. When she finished her PhD she applied for a postdoc grant to keep her job at the company, which she got. She is still formally working via a postdoc grant at the University of Iceland.

Einar is also on a postdoc grant from the University of Iceland even though he works for a private company. When he finished his PhD he started working on research for his supervisor and did so for almost a year until he felt he needed a change of environment. Einar has a child from a previous relationship and so he would not leave the country to pursue an academic career. Instead he started working for a professor via a private company and later applied for his own postdoc grant that he is almost finished with. He

is fairly relaxed about the future. He is planning to apply for another grant somewhere in the near future and “see how it goes from there” as he said. Einar lives in Reykjavik with his partner and newborn child while his teenage son from a previous relationship stays with them every other weekend.

Both Linda and Einar mentioned during their interviews that a lot of the postdocs at their respective companies were foreigners, rather than Icelandic. This was the case for two other postdocs Diðrik and Berglind. Diðrik started his studies in his home country in the Middle East and did his PhD in the Mediterranean as a collaborative project with a prestigious American university. From there he moved across the Atlantic to expand his academic network and it was here that someone at the University of Iceland took note of his work and he was encouraged to apply for a recently advertised postdoc position. He got the position and he and his partner, who is also an academic, moved to Iceland together.

Our last postdoc, Berglind, was also well travelled. She did her PhD in three different countries before coming to Iceland on a grant that turned out to be too small for her to sustain herself longer than a couple of months. As a consequence, a lot of her time as a postdoc is spent writing applications rather than research. Berglind would like to eventually settle in Iceland and have a family. For now she is single and living on her own.

Thus, when it comes to mapping the postdoc trajectory, what we have are firstly three Icelanders that have settled in the capital with their families and who obtained their respective postdocs by drawing on contacts within their particular field of research. This might very well be a core explanation as to why these two postdocs were able to stay in their research field. Sesselja was able to simply call her old supervisors and ask what projects might be suited for her. As she said: “I’ve always known that I was welcome back here, so it was easy to come back because I knew people were positive.” The same might very well have been the case for Linda, who had finished her PhD in the same company in which she is now doing her postdoc. As such, it might be reasonable to suspect that strong connections within one’s field or alma mater could be a good predictor of one’s ability to continue in academia.

In many ways, the respective life situations of Sesselja, Linda and Einar are very similar. They all live with a partner and child in Reykjavik and all occupy a postdoc position within a STEM field. Some key differences, however, is firstly that Sesselja, being in her mid-thirties, is very new to the postdoc position, while both Linda and Einar has occupied their positions for a few years. This key difference might explain why Linda has experienced some of the difficulties that women with families in academia often face, while Sesselja, being new, insists that she has very little to complain about (Einar was spared such difficulties altogether, possibly because of his gender).

Linda has been with the institution long enough to experience the kind of institutional sexism that might partially account for the relatively low number of women in STEM positions in general. Like in some of the examples of our movers/leavers, Linda experienced a situation in which a man was unjustly hired over a woman:

“There was some section manager that left and there were two really competent women in his group and they were not chosen to take his place. We feel that the company and the institution wants everybody to be equal, but it’s more said than done if you know what I mean.”

That things were more said than done was also true when it came to any equality-based initiatives in the institution. For a while, women in the company have demanded an unbiased assessment of the company's equal pay practices, but this has continuously been denied because it is "too expensive". Linda elaborates:

"One person, who is a resource manager ... said that he has done the analysis himself and that everyone is being paid equally but we kind of don't believe it, because we want an outsider to do it and he said an outsider can't do it because an outsider doesn't know the people here. But that's exactly why we need an outsider, otherwise you're biased by something you know or are thinking. So this is something that has been annoying us and we're still putting pressure on getting this."

Moreover, Linda was not met with understanding from her workplace during her pregnancy when she had a lot of health problems while simultaneously having to work very long hours. She "was having a lot of work load and was not coping, and I kind of broke down and I was saying that I was having too much work and it was not taken seriously." However, Linda insists that her and her boss came on good terms again after she got very sick and he realized how serious her health issues were. And "now if I have to go pick up my son, if he is sick or something like that ... he is not giving me a hard time because of it." It is, however, important to take note of the fact that the default reaction to Linda's health issues was to ignore them, just like Pálina in our previous example experienced getting ignored even when her son was very ill. Still, during our interview, in spite of the examples listed here above, Linda ends up appeasing her boss. We suspect that this might perhaps be a tactic for some women in academia who experience sexism, yet have to reason why they are staying put. In Linda's case this tactic was very pronounced. In the first half of our interview she insisted that she was not being treated differently because of her gender and that there was nothing to complain about in relation to equality at her workplace. Yet, just minutes later she mentioned all of the examples above. This inclined the interviewer to ask about this in more detail:

"Interviewer: You said 15 minutes ago that there were no equality issues here...?"

Linda: I just didn't think of it when you asked the question.

Interviewer: How come?

Linda: It doesn't have much to do --- when you ask this I think about those that I work with on a daily basis — I'm not thinking about my salary or something. I have a nice relationship with the women that I work with and the men that I work with, but I'm not thinking about the structure around here maybe. "

As exemplified by Linda, even as a woman in an environment characterized by a degree of institutional sexism, it is tempting to focus on the positives: a good relationship with colleagues, access to academic resources, a degree of flexibility, and so forth. It might be both harder and more inconvenient to think about structural inequalities because such issues are the basis of potential conflict.

In a similar manner, for Sesselja, there were few obstacles to her budding career in a STEM department at the University of Iceland by her own account. When asked about

the long hours culture in academia and creating balance between work and family life, she replied:

“I don't have a problem with it. You just do what needs to be done ... I think it's just like every other job, you have to work your 8 hours a day, you just have to manage your time. Its good to have a family in academia, but if, like me, you have field work during the summer, then I have to be away for really long days, but its ok, I can manage. If there's an application you have to do, you just have to work and get it finished.”

Firstly, it is important to keep in mind that Sesselja is very new to the postdoc position. She has not yet taken up any teaching responsibilities, which, as we have seen elsewhere tends to be the point at which new researchers (e.g. Jarl, Geiri, Sabína) realize the scope of the workload in academia. As Sesselja also pointed out, so far “it hasn't been hard at all [though] it's a little bit like going into the deep end starting to teach.” In other words, Sesselja does not yet have any experience being a full-time academic employee, but imagines that the job will be little or no trouble if she just has the right attitude.

Secondly, as in the case of Linda, Sesselja here appeases the academic condition by saying that “You just do what needs to be done.” Any worries about the possibility of excessive workloads or work/life imbalances are here swiftly put to rest by the no-nonsense attitude that “you just have to work and get it finished.” We might venture that this kind of hardline response to the possible difficulties of one's academic future could be a kind of survival mechanism for the researchers most likely to bear the brunt of work/life difficulties and institutional sexism in academia (i.e. women). This suspicion is further strengthened by the fact that, just like Linda, Sesselja lays down her guard later on in the interview and admits that her new profession is not a bed of roses for the parent that has to stay home with a sick child:

“I'm kind of an employee, but still I'm not registered for taking sick leave, which means that if I'm at home with my sick child I lose time for my research. The pay will be the same, I have my three year grant, and if I'm never sick during that time I'll have three years to do my research - if there are two months that I have to take out because of sick leave for myself or my family, I mean I'll just get two months less.”

In other words, Sesselja initially has to appease her new postdoc position. And of course she does; to criticize the nature of the position that she has just recently entered would, in a sense, perhaps be to criticise her own choice to enter this profession in the first place. When she lets her guard down, however, she is able to acknowledge that being a parent and being a postdoc might not be an entirely problem-free arrangement.

For Einar there were not many issues with his job, maybe apart from occasional boredom. As he said, “It gets to be a routine, you just work within this academic system of producing knowledge and writing papers and applying for grants and so on and so forth.” Einar had no aspirations of making the world a better place by producing knowledge that might contribute positively to technological or social progress. To him academia was a “game” that was played to the best of one's ability. As such, he is “not super career driven and with an elaborate 10 year plan”, which allows him to take it easy. Combined with the fact that he does not have any teaching responsibilities, having time for his family is never a problem.

As such, we have two Icelandic women in a similar life situation, working similar postdoc positions for two different STEM departments. In combination they mention gendered issues like a lack of initiative to ensure equal pay and lack of understanding for work/life issues, yet at the same time they also both initially insinuated that their new postdoc positions were characterized by a sense of equality and that if any issues arise, you “just do what needs to be done.” Interestingly, though perhaps not surprising, the male postdoc in nearly the same life situation mentioned no such issues.

Our two remaining postdocs are also both from STEM departments and are both foreign researchers who are in Iceland on different grants. None of them have children. Diðrik did not appear very keen on participating very actively in the interview process and as such it was very difficult to extract information from the transcribed interview. However, there is reason to believe that Diðrik’s international mobility made him a prime candidate for a postdoc. He has no children and his partner was able to travel with him to Iceland. Also, as Linda pointed out in her interview, many postdoc are foreigners, perhaps because, as our last postdoc Berglind pointed out, as a foreign postdoc “Icelanders expect you to leave after one to two years” once you have produced the knowledge you are expected to produce. Like Linda and Sesselja, Diðrik did not initially have any points of critique or difficulties to discuss in relation to his postdoc position. This, however, was probably related to the fact that he, like Sesselja, had not yet started teaching or been given any administrative responsibilities. As he said, “so far I don’t have those responsibilities much. Maybe later when I start teaching they’ll give me something, but so far it is just research.” Every answer Diðrik gave was very matter of fact and only when pressed to mention any point of critique did he mention that he noticed “that it takes a lot of time for people to do ... things that are necessary — takes more time than you’d expect so. But this is just one of those things.”

Our last postdoc Berglind, on the other hand, was very open. According to her, the main reasons why she has been able to stay in academia are closely linked to her having no family, being internationally mobile, and spending a lot of time writing grant applications to sustain her postdoc position. As she said, it is expected of you, as a foreign postdoc, to eventually move on. According to Berglind, this sentiment is also reflected in who gets the big grants. If you are internationally mobile and can show that you will be able to engage in international research collaborations, you will be more likely to get the grants you apply for. However, as Berglind says, this is also one of her main problems with modern academia:

“If I want to optimize my chances of having my projects financed, I’d have to move [to a different country] every other year, and I think that is completely horrible. I mean, who wants to be that kind of nomad? I did it all through my PhD, am I also supposed to do it now? I need a social circle and that just falls apart when I keep moving, and I don’t see how my work activities improve if I keep moving country all the time.”

Berglind also reflects on work/family issues in academia. Interestingly, work/family issues affect Berglind, even as an internationally mobile postdoc with no family:

“I have no family, so per definition I have no one who needs me to come home ... and I often sense that it’s a little like ‘You’re a postdoc, you have no family, then why are you going home at 17.00?’”

As such, Berglind is expected to work harder and longer hours because whichever understanding her colleagues might have for a woman with a child does not apply to her. Moreover, Berglind knows that if she ever wants a family, she might have to give up her academic career. She explains how she once had a professor that she looked up to:

“She turned 50 while I was there. Single woman, no family. Then you start thinking. You can’t help it. Is it even possible to have a family and go on maternity leave ... If I’m going to have a family, then I want to be there for the family [and] if you see examples of women [in academia] that have been able to have children ... you just start giving up”

In this way, the work/life balance issues become a problem not just for the women who already have families, but for those who are considering starting one in the future. When Berglind sees the ghost of academic in a 50-year-old single woman in STEM with no children, she begins to doubt whether her plans of possibly starting a family one day will ever be an option for her. She further elaborates on the trouble of being a female role model in STEM herself:

“I feel that young women look up to what I’ve achieved so far. You can just feel it from their interest: ‘How did you do this? How did you do that?’ They see me as a role model and think: ‘Ok, if she can do it, then I can do it.’ And it’s frustrating because I’m a role model for them, but I don’t see how I’m going to make this work out ... It’s frustrating when they look up to me while at the same time I have no idea where I’ll get my money from in two months.”

Taken together, on one hand we have two foreign postdocs who were able to obtain their positions partly because of their international mobility and because they did not have families. On the other hand we have two native Icelandic women with families, who are not very internationally mobile. However, unlike our foreign postdocs, our native Icelanders were able to secure their positions because they had good contacts at their workplace or alma mater. While the one of two male postdocs was not a very active research participant, it is still very telling that they were the only postdocs that had not experienced some kind of gendered difficulties in their postdoc positions, whereas the remaining three women postdocs had experienced everything from work/family issues and institutionalized sexism to representational issues and excessive workloads.

5. NEWLY HIRED

When looking at the respective trajectories of our newly hired participants and attempting to distinguish a pattern among them, one eventually comes to the conclusion that what distinguishes this group from our postdocs and movers/leavers is that they all have vastly different trajectories that do not appear to have a specific feature (e.g. gender, field of study, etc.) in common. Two participants had graduated with their PhD in a field different from the one they had been hired into. Three did not even have a PhD, but had been hired by their departments because their field of study was so new when they were hired that no Icelanders had a PhD in those particular fields or simply because they had enough publications. One had a decade long professional background in the private sector. Half were foreign researchers, others had studied abroad while still others were home grown University of Iceland researchers. Two had done a series of postdocs before becoming assistant professors.

Among our movers/leavers and even in our very small postdoc sample, having some sort of international mobility or background at a university abroad seemed to be a distinguishing feature. One of our newly hired assistant professors, Ásgeir, even pointed out that “they really want ... that you’ve been in other places before you come back. It’s sort of an unwritten rule.” As such, one would suspect this to be a pattern across the board, but interestingly, it did not reflect the sample of newly hired assistant professors. When grasping the current situation of the sample, there are some points of similarity. Five participants had a very similar life situation: Living in Reykjavík with their partners and children while struggling to keep up with workloads and teaching responsibilities at the university. One was a single parent, one was childless and lived with her partner and one was both single and childless. Regardless of family situation, however, all participants from this sample lived in close proximity to the university.

Taken together one might argue that this particular group has a very diverse trajectory experience. But as with our postdocs however, some trajectories were marked by a sense of participants “winning” the race to their tenure track job because they already knew someone at the university with whom they had a good relationship. As such, Ásgeir explains why he believe he was eventually hired:

“I am guessing that my supervisor for my PhD studies here probably was on my side in the whole process, even though I guess he did not “officially”. But there’s also a good reason for that, I mean, it’s not only because we are friends or something like that, I mean, we work in the same field and he believes the field will be strengthened if I come in because we have worked together before with success, so — it’s not only because of some personal reasons — but it will play a role always, it’s difficult to distance yourself from that.”

Even though Ásgeir insists that he did not get the job because he and his former supervisor are friends, he also admits that one cannot distance oneself from the personal relationships one might have inside the academy.

Knútur is another example of someone who did not land his job through the official channels. Having finished his PhD, he was doing occasional teaching at the University of Iceland when a department leader from a different field saw one of his lectures and subsequently offered him a job. Fatima had occupied an adjunct position before she became an assistant professor, and as such she also had contacts within the department when she applied for her tenure track job. This was also true for other participants. Finally, one participant, Atli, explained how his trajectory, in this way, was marked by a clear sense of academic “inbreeding”; that he simply fitted well into the research group. As he said, he was a “good strategic choice.”

However, it is also important to point out that many participants did not have prior strong ties to the University of Iceland before getting their tenure track position. As such it does not appear as if there is a very specific “winning” trajectory that helps this group obtain their first tenure track position. However, even though there does not appear to be a specific winning trajectory, there are strong indicators in the interview categories that would suggest that candidates for tenure track positions have some attributes in common that give them distinct advantages regardless of their educational or career trajectories.

Firstly, accepting the tremendous work effort and the long-hours in academia seems to be a winning attitude. Knútur, a newly hired foreign researcher, explained how he comes from a working class family with a strong work ethic. By his own account he does not know how to work any differently than putting in all his best effort at all times. He even works through his lunch break:

“I do sort of eat my lunch at my computer and I work – so when people are like ‘you wanna have lunch?’ [and I say no], they know I’m not being antisocial, it’s just — during the semester it’s just 24/7.”

Knútur has a family and his work ethic often gets in the way of his familial responsibilities. As he says, “I do make time for my kids and stuff like that, but I do have no choice but to work in the evenings.” For participants with younger children, keeping up with the academic workload was a challenge. It was less so for those with older children and the participants with no children seemed to be the one’s who got on easiest with academic life. For one childless assistant professor, Adda, academic life was enough of a breeze that she even found space to criticize those who did not put in the effort to achieve good results in both research and teaching (i.e. often parents):

“I know there are people who prefer to do research and they don’t take the teaching part seriously and they don’t make good classes, but I try to make good classes, because that is the way I can attract students — to do work with me — and they can actually do part of the work I’m supposed to do [giggles].”

In the context of living the academic life, this is a clear example that having no children is both an advantage and a privilege. During the interview process, no other participants with family and children faulted other academics for not paying enough attention to teaching. Moreover, Adda seems to have “mastered” or “played” the system. By paying attention to teaching she is able to attract students, and if she attracts students she can informally employ them to work for her, thus lessening her own academic workload.

A pattern among newly hired assistant professors seemed to be a desire and a willingness to live up to high demands for performativity, regardless of whether it interfered with their work/life balance. As Geiri put it, “as a new academic ... you have to prove that you’re worth something”; an attitude that for him ultimately resulted in many days a month away from his family. Participants Dóra and Elísa both reported occasionally feeling that they did not belong in the university; that they suffered from the “imposter syndrome”, resulting in them trying even harder to live up the expectations set by the academic environment. This beginners’ willingness, so to speak, to put in the work required was expressed by Fatíma as such:

“There’s that feeling that when you’re new ... you want to try everything, so when people say ‘Fatíma, do you wanna do this?’, you go ‘Yeah, yeah yeah!’ like a puppy. And there’s still ... that little ego that goes ‘I am so grateful they chose me’, you know. So I’m all excited and I end up over working myself.”

Having a lot of publications under one’s belt was also an attribute of many of our newly hired participants. Some were very adamant about enumerating their most prestigious publications, underlining that their ability to publish in ISI journals is what had secured them the job. For example, as Bergþóra says: “I have been very successful [and] this has opened the eyes of others and this is helping me now ... I have published 5 ISI papers ... Those are the best journals.” As such, the much criticized point evaluation system at the

University of Iceland (e.g. D5.2, p. 132-144) here becomes a subject of praise because it is what ultimately has secured Bergþóra her current position. Throughout our interview she appeared to be in a constant state of competition with herself and her colleagues, making sure to enumerate the papers she had published and in which prestigious journals. Rather than being critical towards the point incentive system as many of our interviewees were, Bergþóra seemed to accept this system as an unquestionable condition of being an academic. Her spirit of competition was further highlighted when she spoke about the publication process and said that “if you are publishing with other people, they might be very demanding about what order the authors are on the paper, and even though you might have contributed most ... so sometimes you just have to stand your ground.”

Oppositely, some of our movers/leavers were very critical towards the point evaluation system, indicating perhaps that people who just made assistant professor are more likely to be thankful rather than critical of the system into which they have just been accepted.

Finally, some participants also mentioned nationality as a distinct advantage to obtaining a tenure track position. As such, Atli mentioned that part of the reason why he got the job was because “They needed someone to teach the big courses in Icelandic” and Ásgeir concurs when saying:

“The one thing that probably works for me is that I am an Icelander ... Even though, sort of, the policy is to advertise internationally and so on; if they get a good candidate who is also Icelandic, then that works as an advantage.”

Fátima, who is not a native Icelander, also experienced that not being able to speak Icelandic could be a hindrance in the form of student prejudice:

“I’ve had a couple of issues with students that I was surprised about — ehm — when they were frustrated about something, instead of coming directly to me they [the students] sort of attacked my Icelandic [in class] which I thought was very odd.”

Taken together, trajectory experiences among newly hired assistant professors vary greatly and there does not appear to be a specific winning trajectory. However, when examining our interview categories it becomes clear that newly hired assistant professors tend to not only accept the high workloads in academia, but tended to accept conditions in general that our movers/leavers tended to more critical of. There are also indications that prior connections to the university as well as being a native Icelander might work somewhat to one’s advantage.

6. TRANSVERSAL DISCUSSION

In light of the previous, there is little doubt that modern academia puts great demands on those who wish to make a living from it. We might understand these demands as part of a larger discursive web of a masculine habitus in the scientific field, here to be understood in the Bourdieuan sense of gendered dispositions that “result from social conditioning related to one’s position within social space” (Mottier, 2001: 349). As such, academia favours a heroic masculine figure that puts his work and the pursuit of knowledge above all else. In turn, this creates distinct advantages for those academics that are able to embody this figure.

Looking at some of the stories from our movers, there is an indication that the tone for a life emerged in academia is set long before one sends in the first job application. Some of our movers had dedicated years of their lives to “living the job” while writing their PhDs. Most of them had done so before starting a family, leaving them with even more time on their hands to emerge themselves in the academic way of life. We may add to this that many of them did so while also having a partner, who was in academia. This could mean that the kind of external resistance from one’s family to the academic way of life that for example Geiri reported (i.e. “Mentally you are not localised here”) might not be a concern for those who share their lives with another academic. In this way there is reason to believe that some academics might set themselves up for a particular way of life that spills over into their first professional academic job. As many participants reported, the first years as a new academic are often spent trying to show what you are made of, that you can live up to the expectations and high workloads. As such some participants mentioned both feeling eager-to-please (“like a puppy”) or suffering from “imposter syndrome” when first starting a professional academic career. One might interpret this time in the career of newly hired academic as a kind of socialization process into the masculine habitus.

If we compare this trajectory to our postdocs we find that the aforementioned situation of accustoming oneself to the future masculine habitus of the scientific field is not as common. This might be contributed to the small size of the postdoc sample. Diðrik, however, is one example of an academic without children, who has the international mobility and the time to emerge himself in his work. He even has a partner who is also in academia. Even though Diðrik was not the most talkative research participant, he did indicate that his career trajectory had been extremely smooth so far, indicating that Diðrik fits the profile of the heroic academic figure.

Berglind, the other postdoc without children, on the other hand, did not fit the profile. While she did have opportunity to emerge herself in her work, she simply chose not to because she did not want to set the stage for a life without time for friends and family. As she said: “My work[day] is from 8 to 5. I work 100% those 9 hours per day. There is not space for 100% more. Then I have no life! Is that the kind of person you want to hire?” The answer to Berglind’s question might unfortunately be ‘yes’. The scientific field appears to generally reward those who prioritize work over family, friends and free time in general over those who seek balance in their lives. As Berglind also mentions, there is a pressure on her as a postdoc without children to put in the extra hours. This is exemplified by Jarl, who mentioned that he is “entirely unsympathetic towards” young academics with no children. As he puts it, “if you’re a young academic ... and you don’t have a family ... I think it’s absolutely fine just living the job for a few years and doing it 24/7.” The problem with this kind of attitude, of course, is that the scientific field does not suddenly change when or if a new academic realizes that they want to spend more time with their families, i.e. when they want to negotiate the level to which they accept the masculine habitus of the field. Academia relentlessly continues to favour the embodiment of the young heroic academic with endless time and energy on their hands. In this way, the early academic years are “an investment in the future because you sort of build a base” as Jarl puts it.

In relation to our newly hired assistant professors, it is clear that they too were struggling with the high workloads of academia and the way in which these interfered with their work/life balance (e.g. D4.2.2.). However, these assistant professors were less vocal than our movers about what they considered the troubles of the scientific field. Even when

mentioning things that bothered them, they would trivialize issues or quickly follow up complaints with praise of their jobs. In this way our newly hired academics could perhaps be said to experience a kind of cognitive dissonance after learning about the reality of long-term academic. On one hand they have spent years educating themselves or perhaps even been dreaming of becoming the venerable and respected academic, only to find that the reality of the masculine habitus of science is much different from what they had expected. No participant who was still in academia ever said this out loud, however, perhaps because the consequence of doing so is to some extent to admit to a kind of personal failure. As Geiri, who has left academia, put it: "I had some expectations about how people would work inside academia, and that was very frustrating to try to uphold [these] expectations."

While the lone heroic masculine figure that is so favoured by the academic system is not necessarily male, it most definitely mirrors an image that is traditionally male in the form of the old image of the breadwinner. It is through this masculine social disposition that academia chastises those men for whom a reasonable balance between family and work is necessary, while rewarding anyone, including academic women, who can live up to the standard set by the masculine habitus.

Jarl and Geiri are examples of men, who do not fit into this ideal image. Even though Jarl had moulded himself in a trajectory in which he was living academia 24/7, the prospects of not balancing his work life with the responsibility of being a father who is present for his children ultimately made him leave academia. In this way, he failed to embody the masculine ideal that the academic environment demanded of him. Geiri almost made it. He found himself in a social disposition in which he was able to emerge himself in the academic work, even though it hurt his relationship with his family. He had aspirations and ambitions for his field, yet his partner ultimately "won the staring contest" against his job, as he put it. He ended up giving up on his ambition for the sake of his family. Same cannot be said for Knútur, a newly hired assistant professor, who "don't know how" to do anything but what is expected of him to the point when his colleagues might even perceive him as anti-social because of the dedication he puts into his work. He manages, at least to some extent, to embody the heroic academic, even if it means that his daughter "at 17 ... might remember me working a lot."

Bergþóra was another example of a newly hired assistant professor that managed to thrive in a masculine habitus. Bergþóra did not appear to perceive the publication process as a collaborative effort, but, fully in the spirit of the masculine habitus, as a competition where the winner gets awarded the most points and the loser takes a backseat. As a result, Bergþóra has been very successful and has a lot of prestigious publications under her belt.

Pálína, on the other hand, knew about the flaws in the system and experienced firsthand how the immense workload in academia took time away from her family to the point where her children actually confronted her when they got older. But Pálína had made a choice. She was always career driven and ready to give it her all in spite knowing the consequences. Unlike Bergþóra, Pálína was fully able of being critically inclined towards the masculine habitus in which she worked, yet she was willing and able to play along to its tune because of the passion she had for her job.

Berglind was a postdoc, who flatout refused to play along to the tune of the masculine ideal. Despite not having any family of her own yet, she refused to give in to the expectations of her having to work evenings and weekends and knowing that she wants

to “be there for [her] family” in the future. As a result, she is painfully aware that her career trajectory is looking more and more uncertain. Having seen older women in STEM fields who are childless and on their own, Berglind is, in her own words, beginning to “give up” the idea of an academic career.

However, while the masculine habitus of academia may theoretically speaking be disciplining actors in academic field regardless of gender, there was a clear tendency for academic women to take the brunt of the punishments associated with not living up to the masculinized standard. As we have mentioned elsewhere, this might be related to the tendency among female research participants to think of their family responsibilities as a condition, while our male participants had a clear choice as to whether they wanted to focus on career or on family. As such, academic women among our movers and postdocs were vocal about work/life issues, whereas women among newly hired assistant professors were more likely to just accept work/life balance hardships or even praise the flexibility they had.

Another mechanism worth mentioning is the *Matilda Effect* in science (Rossiter, 1993), which can be broadly understood as the social process in academic life whereby women scientists enjoy less visibility than their male counterparts and as a result end up becoming underrepresented. As such, Magga was turned down for a position in STEM field because she was a “bit of rebel” and wanted to change things in the department where she applying. Bergþóra, a newly hired assistant professor, experienced having to work a lot harder and be more competitive than her male colleagues who she said were being offered jobs before they even finished their PhDs, whereas she had to fight tooth and nail to get published and collect points to measure up. Finally, Gerður, a mover, had seen less qualified men hired over her on several occasions.

Sabína, a mover from a STEM field, was charged with a disproportionate amount of teaching when she first landed her job; so much so that she did not have time to focus on her research. Ronja, another STEM mover, reported having so much teaching that there was no space for flexibility. Interestingly, while both Ásgeir and Atli, two newly hired men in a STEM field, reported teaching “big classes” as well, they did not report any difficulties in finding time for publishing, which might indicate a gendered difference in teaching workloads, where STEM women might be more likely to be charged with teaching responsibilities that do not award them any of the research points they need for advancing their career. On the other hand, an example like that of Adda shows a STEM woman who is able to play the system by building rapport with students so that they can take on some of the workload.

Finally, sexual harassment deserves mention as a possible mechanism of the leaky pipeline. It was only explicitly reported by a single participant (a woman mover in a STEM field), yet this one example nonetheless reveals it as a distinct part of the academic culture at her particular department before she decided to leave, and therefore it cannot be ignored. We also need to keep in mind that examples of sexual harassment tend to go unreported, for which reason we cannot assume that this was, in fact, the only example.

Comparing the issues across SSH and STEM fields respectively yields an interesting find. Firstly, our male participants in STEM fields, regardless of which group of interviewees they belonged to, did not report any significant work/life balance issues, even though only one of them did not have children. In SSH, three male academics reported issues related to work-life balance. Of these three, the two of them (Jarl and Geiri) were movers. In this way, a general awareness of work/life balance issues was more

pronounced with men in SSH. This could be related to workloads in general, complaints about which were much more pronounced in SSH contexts than in STEM contexts, which fits with the statistical data showing a much higher teacher/student ratio in SSH fields.

However, women academics in general were more likely than the men to bring up issues of family versus work, and women in SSH were more likely to do so than women in STEM. There is reason to believe that this gendered misalignment has to do with the perpetuation of broader societal gender regimes, where women are expected to care more about family issues than men, adding to this the immense workload so often reported by people in SSH fields.

Finally, the lure of a higher pay in the private sector was also a leaky pipeline factor. However, it is important to point that private sector pay was only a *lure*. Only in the case of Kristofer, an SSH academic, was the promise of a higher pay in the private sector the main reason why he left the University of Iceland. For Jarl, also an SSH academic, it was high workloads and an unacceptable work/life balance that made him quit his job, while the higher salary in his new job was more of a perk than a main reason to leave the university. This was also true of STEM academics Ronja and Rikard who were respectively missing flexibility and excitement in their jobs and the prospect of a much higher salary in the private sector finally made them apply for jobs outside academia. Overall, even though research participants had a clear tendency to complain about their pay, most also accepted it as a condition of the profession, and tried to focus on the positive aspects of their jobs instead. However, it is also important to point out that STEM participants in general were very much aware that they had an advantage in the private labour market over SSH participants. As such Sabina expressed worries that her field was coming up against the forces of the private labour market, and both Atli and Ásgeir pointed out in their interviews that they would be able to get much higher salaries elsewhere. Across STEM participants, 2 women and 1 man had been lured away by a higher salary, and 2 men pointed out the possibility of leaving for said reason. As such, there did not seem to be a gendered difference among STEM participants in who chose or contemplated leaving academia for a better pay. Interestingly, however, for the vast majority of SSH participants, getting a higher pay elsewhere was just not an option and therefore not mentioned as a possibility at all.

When speaking of the masculine habitus of the scientific field, it is tempting to link this to the traditionally masculine homo economicus figure that acts as a rational and self-interested agent in the free market, seeking to optimize profit as a producer of (in this case) knowledge. While SSH participants are not de facto barred from embodying the homo economicus in the academic environment (which often times functions in terms of internal market forces), STEM participants arguably have a much more direct link to the free and privatized market in that their knowledge, unlike that of SSH, often translates directly into profit.

7. CONCLUSION

From a qualitative perspective the leaky pipeline in the Icelandic context could be understood firstly in terms of the masculine habitus and its relation to high workloads and the resulting work-life imbalance that affects mainly women due to a broader social reliance on traditional gender roles. Secondly, the leaky pipeline is likely perpetuated by a kind of institutional sexism in academia that is reminiscent of the Matilda effect.

As such, throughout our interviews, the masculine habitus of the scientific field visibly punished anyone who strayed from the path of the disposition of the lone and tenacious academic with no other responsibilities than their job. Most often, straying from this path involved spending time with one's family or just wanting to spend less time at work for the sake of one's mental health. Failing or refusing to live up to these expectations ultimately made many of our movers/leavers quit academia. Broader societal gender regimes could be to blame for why women rather than men reported on the negative ramifications of work/life balance issues.

Defying the masculine habitus by tilting the work/life balance towards one's life and family and away from academia was visibly different in SSH and STEM contexts respectively, as well as between movers/leavers versus current academic staff.

Among movers/leavers in general there was a clear tendency to have been emerged in academia during the PhD years – something that, together with the aspirational level of newly hired academics, might help socialize them into the masculine habitus of academia without exposing them to the challenges that an academic profession presents for people with families. In other words, some movers/leavers might have experienced an academic *picture perfect* in their early years only to be confronted with the somewhat harsher reality of their future career, sometimes resulting in a kind of cognitive dissonance with their profession.

While there were of course exceptions in all cases, there was still a clear sense among SSH movers/leavers that workloads were a big problem with real consequences for academics and their families. While this was also the case among current SSH academics, this group also had a tendency to downplay these problems, perhaps as a way of justifying their personal decision to stay in academia. All current SSH academics were parents. Across many SSH interviews, workloads and resulting work/life balance issues were emphasized. Only a few participants among our STEM movers/leavers counted workloads and work/life balance issues among reasons to leave academia, reflecting perhaps what we know about a generally smaller workloads in STEM fields at the University of Iceland due to a lower teacher/student ratio. While all current SSH academics were parents, as previously mentioned, as many as 4 out of 9 current STEM academics did not have any children. This could be an indication that the emphasis on masculine habitus is stronger in STEM fields. Here STEM fields are strongly masculinized and are generally rewarded more funding and have more prestige attached to them.

Another reason why women are not represented in higher ranks of academia might be the Matilda effect. Among our movers/leavers women told us stories about how men with fewer qualifications than them had been hired in their stead or how they needed to work harder to obtain the same influence as their male colleagues. It is worth noting that it was exclusively women who told us these stories, which underlines the gendered urgency of this problem.

In summary, even though we make speak of a Bourdieuan masculine habitus in academia that devises respectively punishment and reward *according* to a gendered disposition, but *irrespective* of gender, broader societal gender regimes ensures that women are still disproportionately the victims of this mechanism. As such, it is predominantly women who end up being pushed away from academia, because the tremendous workloads of the masculine habitus do not sit well with the feminine habitus of being constantly present for one's family. As we have seen, this may be the case for both women and men, even though women academics tend to think of work/family issues as a condition

while men still have the choice to choose career over family, again making women more vulnerable to the negative ramification of this social arrangement. Add to this that a masculine habitus also creates the kind of institutional sexism in academia that is still very much based on biological sex in the sense that examples of less qualified men being hired over more qualified women still exists.

In order to tackle the leaky pipeline in this specific context, it is clear that initiatives have to target the masculine habitus of the scientific field as well as different forms of institutional sexism, while keeping in mind the gender regimes of the surrounding community. This could be achieved by reorganizing institutional structure so as to not specifically reward those researchers who are willing to spend less time at home while willingly engaging in the academic long-hours culture. As we have seen, the current state of things is so that a specifically masculinized version of the 'perfect academic' is being upheld, while institutional structure could be organized so as to favour a more gender-neutral academic figure. Moreover, institutional sexism can be targeted directly through formal consciousness-raising and gender responsive regulations.

REFERENCES

- Mottier, V. (2001). Masculine Domination: Gender and power in Bourdieu's writings. *Feminist Theory* 3: 345-359.
- Rossiter, MW. (1993). The Matthew Matilda Effect in Science. *Social Studies of Science* 23: 325-341.

SWITZERLAND

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REMINDER

Table 1. Categories and bodies of academic employees at the UNIL

Academic Bodies (french)	Categories of academic employees (french)	Acronym UNIL (french)	Translation
Corps professoral	Professeur.e ordinaire et associé.e	PO & PA	Professor
	Professeur.e assistant.e en PTC	PAST - PTC	Assistant professor with tenure track
	Professeur.e assistant.e	PAST	Assistant professor without tenure track
Corps Intermédiaire	Maître.sse d'enseignement et de recherche	MER	Senior lecturer
	Maître.sse assistant.e	MA	Junior lecturer
	1 ^{er} Assistant.e	1er Ass.	Post-doctoral assistant
	Assistant.e diplômé.e	Ass. Dip.	PhD Teaching & research assistant
	Doctorant.e FNS	Doc FNS	PhD Research assistant
Personnel administratif et technique (PAT)	Responsable/Chargé de recherche	No official acronyms	Senior researcher
	Chercheur.e FNS Senior		Postdoc researcher
	Chercheur.e FNS Junior		Junior researcher (without PhD)
	Collaborat.eur.rice.s scientifiques et technicien.ne.s de laboratoire		Other scientific staff

Abbreviations

FBM (STEM) Faculty of Biology and Medicine

SSP (SSH) Faculty of Social and Political Sciences

1. INTRODUCTION

The main aim of this report, based on a qualitative interview conducted among UNIL post-docs, is to provide a comprehensive overview of the 'leaky pipeline' in the Swiss context. Given that the national environment strongly shapes the structures of academic labour markets and the structures of the careers within these markets (François & Musselin, 2015), we begin by sketching the key characteristics of the Swiss university system, labour market and national gender regime⁶.

1.1. The Swiss context

1.1.1. The Swiss academic labour market since the 1990s: A growing “post-doc bubble” and an attractive academic market

The Swiss university system is based on the 'Humboldt' model of organizations, imported from Germany (Kopp, 2014). In line with this model, Swiss universities are organized around disciplinary faculties and institutes (*Lehrstuhl*) chaired by single full professors. Within this system, academic staff are divided into two distinct categories. At the top of the academic hierarchy stands the 'body' of professors or 'chairs', i.e. members of the academic staff who are employed on a permanent and usually full-time basis to teach, carry out research and manage the daily running of their institute. At the relatively lower stages of the academic hierarchy stands the *Mittelbau* (or *corps intermédiaire* in French), i.e. PhD students hired as assistants, post-docs or junior academics, who are also expected to teach and do research but who are recruited on temporary, fixed-term contracts (sometimes part-time) and who are obliged to work under the professional authority of full professors or 'chairs' (Musselin, 2009: 23). To progress to permanent positions, members of the upper *Mittelbau* had to wait – sometimes for a very long time – for a permanent position to become available (Schultheis, 2000).

This 'humboldtian' organizational frame is thus associated with what some researchers have termed a 'survivor' career pattern (Enders & Musselin, 2008: 134–135). To reach a permanent position, young academics have to find the means to 'survive' the long period of precariousness and dependency on their professors and are in constant competition with their peers in the *Mittelbau* for the opportunity to move on to permanent professor positions.

In the context of rapid expansion and the internationalisation of its higher education sector since the beginning of the 2000s, Switzerland has started to experiment with new kinds of academic positions. Innovative policies to support the post-doctoral careers of young researchers have been adopted, notably by the Swiss National Science Foundation (SNSF) (Fassa & Kradolfer, 2013). The (temporary) funding opportunities provided by the SNSF and others foundations or institutions have undoubtedly increased the number of PhDs and *Mittelbau* who are able to undertake the kind of academic activities that will enable them to apply for permanent professorships at some (distant) point in the future. However, since the number of permanent positions within Swiss universities has

⁶ More information on these topics are available in previous GARCIA reports – see especially (Le Feuvre, 2015; Kradolfer, 2015; Bataille & Goastellec, 2015).

remained relatively stable over time, the pro-active support of young academics has led to the emergence of a large PhD and post-doc 'bubble' in the Swiss context (Theodosiou, Rennard & Amir-Aslani, 2012).

An analysis of the internal structure of the Swiss academic labour market shows that the number and relative weight of the *Mittlebau* increased considerably over the period under study (OFS, 2014). The academic career structure has thus become increasingly 'bottom heavy' over time: in 1980, there were four (temporary) assistantships or scientific collaborator positions for every full professorship. By 2014, this figure had doubled (1 for 8).

These changes suggest that competition for a permanent professorial position within the Swiss academic context has intensified over the past 25 years. This is compounded by the undeniable attractiveness of Swiss universities for foreign academics, particularly those from the neighbouring countries of France, Germany and Italy. At present, more than 45% of full professorships in Switzerland are held by foreigners.

1.1.2. The Swiss labour market: Full employment and skilled labour shortage

In the current European climate of high unemployment and economic recession, Switzerland stands out as something of an exception. Indeed, with an unemployment rate below 5% since the end of the 1990s, the Swiss economic context can be qualified as healthy and stable, especially in comparison to its neighbouring countries, such as France or Italy, which were badly hit by the post-2008 economic recession.

One other significant characteristic of the Swiss context is the relative shortage of skilled labour. In comparison to countries like Canada or France, there is a relatively small pool of tertiary-level graduates in Switzerland. In 2011, only 20% of 18-year-olds passed the national qualification that provided direct access to higher education institutions, as compared to 68% of French 18-year-olds and 51% of Canadian 18-year-olds from the same generation (Kamanzi, Guégnard, Imdorf, et al., 2014). This dearth of university-educated employees can be partly explained by the social prestige associated with vocational training in the Swiss context and by a highly segregated secondary school system, where selection to the higher education track is stiff and occurs relatively early within the educational trajectory (Kamanzi, Guégnard, Imdorf, et al., 2014: 174).

A direct consequence of this selective system is a durable shortage of high-skill workers in the Swiss labour market. According to a recent survey of the Swiss 'talent shortage', 41% of employers declared that they are struggling to find staff with skills adapted to their needs (Manpower, 2015). Among the difficulties faced by Swiss employers, the survey cites the lack of suitably qualified candidates. Because of this lack of qualified staff, many Swiss companies tend to recruit from abroad (Wanner, 2004). A study has shown that, in 2009, no less than 64% of the top managers from the 200 largest Swiss companies were foreigners, whereas this was the case for only 22% of the top managers in France and 27% in Germany (Davoine & Ravasi, 2013).

1.1.3. The “modified male breadwinner” Swiss gender regime & the UNIL “leaky pipeline”

As we already note in previous reports (WP3), from a gender perspective, Switzerland has evolved over the past twenty years towards the widespread adoption of a 'modified male breadwinner' normative model of gender relations (Crompton, 1999; Lewis, 1992).

This 'modified male breadwinner' gender regime is bolstered by a number of structural characteristics of Swiss society, such as the very low levels of childcare provision or the extremely expensive childcare costs, long working hours for full-timers and low male unemployment rate.

A more specific focus on education and academia reveals the implication of such a gender regime in terms of horizontal and vertical segregation and gender pay gap, particularly at the upper reaches of the occupational hierarchy. Although there has been a considerable improvement in women's access to higher education over the past 15 years, the academic occupational hierarchy continues to demonstrate a clear 'glass ceiling'. Women are well-represented amongst doctoral students and make up a significant proportion of temporary research positions, but they are much less likely than their male counterparts to reach permanent professorships (She Figures, 2012). In 1998, women represented only 7% of full professors and since then their number has increased, largely thanks to a number of federal equal opportunity programs developed since 2000 (Fassa & Kradolfer, 2013). By 2006, their number had doubled (14%) and they represented around 20% of full professors (Fassa, Kradolfer & Paroz, 2012), with significant variations according to disciplinary field.

1.2. Structure of the report

As we will see in the analyses, all these elements are needed to understand the specific dynamics and career choices of young academics in Switzerland. The present report is structured as follows. In the next section (section 2), we will present our sample of interviewees and our 'case study' methodology. Then, we will present the results of our analysis of the gendered dynamics that shape the careers of our interviewees who have 'left' the academic career and those who have 'moved' to another university (section 3), who are newly tenured (section 4) or who are still 'post-docs' (section 5). After a discussion of these different results (section 6), we will present our general conclusions and policy recommendations (section 7).

2. SAMPLE AND METHODOLOGY

2.1. Sample

We selected our interviewees among the lists of post-doctoral students provided by various departments and research centres. Only a few of them had already responded to our online survey. Some categories of interviewees--especially the ones who had 'left' academia or the ones who had 'moved' to another university – were particularly difficult to recruit, most of the time because the information (mail, phone number) provided by our contacts was no longer valid. They have thus been recruited through a word-of-

mouth process.

The interviews were led by one of the members of our team. Interviews with people still hired by the UNIL were mostly face-to-face. They took place on campus, in the interviewees' offices or at one of the campus meeting points (the cafeteria or even on benches in front of the university buildings). For the interviewees who had "moved" to another university or who had "left" academia, we often used Skype because most of them didn't live in Lausanne any more. All the interviews were transcribed *in extenso*. The most common language of the interviews was French – only a few were in English.

Our aim was to collect the points of view from a wide-ranging post-doc population, with regard to their sex, their disciplinary field and the position they occupied at the time of the interview. The only thing that we didn't control for in the interview recruitment drive was nationality. However, reflecting on the unequal levels of internationalization among the different academic disciplines, SSH post-docs are more likely to be Swiss, whereas FBM post-docs are more likely to have been internationally recruited (see Table 2).

Table 2. Interviewee sample (row %)

Variables & categories		FBM	SSH	Tot. (N)
Nationality	Swiss	16.7	83.3	18
	Foreign	77.3	22.7	22
Sex	Female	47.6	52.4	19
	Male	52.6	47.4	19
Prof. Status	Fixed-Term Post-Doc Position	52.9	47.1	17
	Permanent or Tenure Track Academic Position	43.8	56.3	16
	Working Outside Academia	57.1	42.9	7
Total		50	50	40

2.2. Methodology and analytical framework

The (semi-structured) interviews were carried out from a 'life story' or biographical perspective (Bertaux & Kohli, 1984). We invited the interviewees to speak about their academic profile, employment and family trajectories in order to better understand their vocational aspirations and choices, their expectations and their representation of academic careers. Because our main focus was the analysis of gender inequalities at the early stages of academic careers, we also asked questions about their personal experiences of gender relations at work, and about their vision of work-life balance.

In this report, we focused on the way our interviewees talked about academic careers in general, and their own career aspirations in particular. Our main aim was to analyse their

evaluations and representations of academic careers in order to understand how they might shape their decisions to continue working within academia, or to look for jobs elsewhere.

According to the guidelines, the main aim of the WP6 is to 'map' the different 'styles' of careers that lead to each of four types of destination ('mover', 'leaver', 'newly tenured' or 'post-doc'). Thus, we found it relevant to focus on some typical 'cases' rather than using only quotations of each interviews. As many scholars already underlined (Ragin & Becker, 1992; Passeron & Revel, 2005), thinking about singular cases isn't incompatible with the purpose of providing a global understanding of any social phenomenon. It is firstly a way to understand 'deep' and 'profound' 'processes', in order to not 'relegate' the dynamics of the analysed social phenomenon 'to a simple determinism' (Liebersohn, 1991: 318). Indeed, as we will see through our analysis, the 'map' of the young academics' career paths in the Swiss context can't be reduced to a binary process, where women would be ejected outside the academic 'pipeline' and where men would follow, step by step, the road leading to stable academic positions without any doubts. The analysis of the several cases led us to show that a more complex framework is needed to understand the gendered differentiation of young academics' professional pathways.

According to scholars who work on the gendered condition of access to occupational groups among several national gender regimes (Le Feuvre, 2005; Lapeyre, 2006), the gender relationship and the balance of powers within the private sphere are key factors to understand the conditions of (im)possibility specific to women's careers within such professional spaces. Thus, we have particularly focused our analysis of gender-roles within the personal sphere. Our goal was to draw a 'scientific mosaic' (Becker, 1971: 63-74) of the more common conjugal configurations we observed (breadwinner/homemaker model, dual-career model, single career/carer model, etc..), to analyse how they shape and/or reflect the careers of the men and women we interviewed. More precisely, we tried to gather information that indicated if the gender division of labour was (1) unbalanced and favourable to male commitment to the work sphere ('male breadwinner'); was (2) unbalanced and favourable to female commitment into the work sphere ('inverted'); or (3) was balanced ('egalitarian').

The analysis will be structured as follows. For each of the four 'destinations', we will first present the main trends in a short preliminary introduction. Then we present three or four cases that illustrate or nuance these main trends.

All the names used in this report are fictitious. These fictitious names have been chosen in order to reflect some of the socio-demographic characteristics of our subjects. Some details of the life stories reported here have been changed to guarantee the anonymity of the interviewees.

3. MOVERS/LEAVERS

We will first analyse the career dynamics of our *mover/leaver* interviewees in order to point out their objective and subjective reasons to move away from the UNIL. The *movers* are our interviewees who have been hired in an academic position after their post-doc at the UNIL. They can occupy tenured or non-tenured positions. The *leavers* are the ones who move away from the UNIL but who occupy a non-academic position at the time of the interview. As we will show, the processes that lead UNIL's post-docs to *move* to another academic institution or to definitely *leave* their academic career are strongly

different – even if comparative analysis of the two profiles is helpful for bringing to light some of the key characteristics of the Swiss academic pipeline. This is why we choose to present our *mover* and *leaver* cases separately.

3.1. Two ways of moving away from the UNIL

In order to fully understand these two ways of moving away from the UNIL, two additional pieces of information about Swiss context are needed. First, since 2007, members of the *Corps Intermediaire* (i.e. the institutional body to which most of our interviewees belong) who occupy fixed-term positions at the UNIL can only work for up to 60 months in succession on the same job description⁷. Because of this internal rule, staying for more than a 5 year fixed-term position is not an option for post-docs: if they want to pursue an academic career after five years at the UNIL, they have to move to another university (in Switzerland or abroad). If they have been employed at the UNIL during their thesis (as *assistant diplômé* most of the time), they can't be hired as a post-doc directly after their PhD defence: they have to move away from the UNIL for at least one full year before being allowed to be hired for a new five year period.

Then, because Switzerland is a 'small country' surrounded by influential neighbours (France, Germany, and Italy) with whom Switzerland shares languages, the Swiss academic market is 'particularly exposed' to the internationalization of national higher education systems observed in many countries since the 1980s (Rossier, Beetschen, Mach, et al., 2015). This internationalization is especially high among post-docs: in 2011, 63% of them were foreigners, compared with 43% of the PhD students and 51% of the assistant professors (Dubach, 2011). As noted above, the international attractiveness of post-doctoral positions in Switzerland is also due to the relatively high wages and the numerous fixed-term research positions available.

It thus follows that moving away from the Unil is often more an obligation than a choice: most of our interviewees moved because they had to, in accordance with the UNIL administrative rules. Before moving away from the UNIL, many of our movers / leavers had already moved to Switzerland to get a post-doc position and the main ways of moving from the UNIL to another academic institution were strongly shaped by the geographical mobility of our interviewees before their hiring at the UNIL.

Dealing with mobility issues also had strong family implications for post-docs—especially if the partner is also involved in an academic career, as is the case for many women. Thus, as we will see, gender relationships deeply shape the ways of moving from the UNIL to other academic institutions. However, because national origin is also a factor in distinguishing between different kinds of mobility patterns, we decided to present our cases according to the geographical origin of our interviewees. As we will see, gender power relations appeared to be a first step in the cumulative advantages process (Merton, 1968) that enables some of our interviewees to gather the prerequisite assets to get tenured—and international mobility is one of these.

⁷ Source : <http://www.unil.ch/srh/files/live/sites/srh/files/Informations%20administratives/Résumé%20Fonctions%202015.xls> [retrieved 11.02.2015].

3.1.1. Moving away in order to return home? The case of foreign post-docs in Switzerland

Most of the post-docs we interviewed who were not originally from Switzerland had defended their PhDs in France (17%), the US (8.5%) or Italy (7.9%)⁸. Reflecting the global trends of academic mobility (Terzi, 2015), our *movers* mostly come from Europe and North America and—above all—are currently working within this geographical area. Thus, North to North mobility is the most frequent pattern of migration among our interviewees. Some of them come from the global South to Switzerland – but few of them plan to go back to a Southern country.

For these non-Swiss post-docs, there are three options after their post-doctoral years in Lausanne: stay in Switzerland, move to another northern country (often in Europe) or go back to the country that they came from. The analysis of our interviews shows that selection between these three options is often driven by the chances of getting a permanent position in the country where they defended their PhDs.

Within the Swiss academic labour market, the chance of getting a tenured position is small; thus, staying in Switzerland is often presented as a very challenging option for those wishing to pursue an academic career. This growing precariousness of academic positions has been observed in Switzerland as in many other countries (Enders & Musselin, 2008). Nevertheless, the extent of this phenomenon strongly differs according to the national academic labour markets. In France, where academics are employed as civil servants, this phenomenon is relatively weak. The majority of those who survive the years of intense competition that follow the public defence of their PhDs can expect to progress relatively quickly onto a permanent tenured position, first as Senior Lecturers (in less than 5 years after the PhD), then as full professors (within 12 years) (Bideault & Rossi, 2004). The Italian academic market has, by contrast, been strongly hit by this precarisation process. Indeed, in 2013, 'non-permanent positions account for 37% of the teaching and research staff in Italian universities; a figure that rises to 50% if Ph.D. students are included in the calculations' (Bozzon, Donà, Villa, et al., 2015: 36–37). Due to the political decision to cut higher education budgets and not replace 50% of the tenured academic staff who reach retirement age, the number of fixed-term positions 'has increased by a staggering 71.2%' since 2008 (Idem.). Thus, chances to reach stable positions became pretty thin for young Italian academics. This is also the case in the US, where the proportion of the academic labour force engaged on fixed-term contracts increased from 43% in 1975 to 64% in 2003 (Ehrenberg, 2006).

In such conditions, going back to France often represents the better option for French post-docs to be quickly tenured. Our interviewees from other countries are often less likely to go back to their home country and they seem more inclined to move from Switzerland to other European countries. The cases of Mathias, Julia and Sophia will illustrate these two kinds of "non-Swiss mover" patterns. These three cases also highlight how gender relations and the balance of power within a partnership influence the mobility of UNIL post-docs.

Mathias is 36 years old and a specialist of plant biology. He has two kids (6 and 9 years old) and had been Senior Lecturer in France for 4 years at the time of the interview. Before his hiring in Lausanne as *premier assistant* in 2005, he completed his PhD between the US and France. To him, international mobility during these first steps of the

⁸ Source : Results of the GARCIA web survey.

career has been an obvious requirement. He says, 'I had always planned to do a post-doc abroad'.⁹ He chose to come to the UNIL for two main reasons. First, the Swiss working conditions and the local scientific environment seemed to him particularly appealing. Second, from a more personal and family perspective, he and his partner chose to come to Switzerland (rather than Canada, where Mathias also had the offer of a post-doc position) because it wasn't too far from France. Indeed, because they planned to have a child during these post-docs years, they wanted to be near their family in case they needed help and support. Then he came to live in Switzerland with his partner, with whom he had his first child during the second year of his contract. They easily found a house to rent close to the UNIL (a half hour drive away), which is relatively rare among our interviewees who come to Lausanne for their post-docs.

The case of Mathias is representative of many of our French interviewees, either from FBM or SSP. For French post-docs, the decision to come to Switzerland often seems to be for a good opportunity to get international experience in a buoyant academic environment without too large of implications on personal and familial levels, because Lausanne is close to France. Even though he seems to be relatively happy with his Swiss experience, having an academic career in Switzerland has never been an option for him. He describes the Swiss system as 'too competitive' and the outcome of the struggle for reaching tenure track positions 'too uncertain' within the UNIL context. His plan was to improve his academic record through the hiring at the UNIL in order to apply for a stable position in France, where this kind of position is more quickly reachable from his point of view (especially for people already well-integrated in national academic networks, as Mathias is). He applied four times for a Senior Lectureship position (*Maître de Conférence* – MCF) in France, including twice during his post-docs years in Lausanne. After the end of his contract at the UNIL, he was recruited for a post-doctoral position in France, and one year after the end of contract in Lausanne, he was recruited by a French University for an MCF position. Doing a post-doc in Switzerland may appear to be a good strategy for young French academics to accumulate academic symbolic capital while being potentially available in case opportunities occur in the French academic market. 'My time in Switzerland leads me to be in a stimulating [scientific] environment', he notes. To him, 'without this, I could have never had the CV to be recruited

The case of Mathias is also an illustration of what can be defined as a male breadwinner mobility pattern. More precisely, Mathias' case illustrates how being a male breadwinner can generate a "cumulative advantage" (Merton, 1968) process during these early stages of an academic career. Indeed, even if he came to Switzerland partly for family reasons (in the perspective of having children not so far from France), this first mobility experience was possible because his partner (who is less qualified than Mathias and who doesn't work in academia) didn't have a specific career plan. When he came back to France, his partner had to quit her (part-time) job, and she was unemployed for several months. She now works in the private sector. Thus, in the case of Mathias, as for many of our male 'movers', accumulating academic capital by moving to Switzerland and thus improving his chances to be recruited for a permanent position (in France or elsewhere) is facilitated by occupying a male breadwinner role. Moreover, from his point of view, the 'cost' of having children during this crucial sequence of his academic career was limited by the specific gender role he occupied within the couple. Because his partner worked part-time and followed him on his several moves, the birth of his two children during his

⁹ Except where indicated, all the quotations used in our case analysis (part 2, 3 & 4) are taken from our interviews.

post-doc didn't change his employment pattern or his investment in his work.

Julia, one of our other European mover cases, was a junior group leader (tenured) in a German university at the time of the interview. She is 35 years old and has two children (both under 5 years old). She is a specialist in plant biology. She has had a more 'international' career than Mathias, which is often the case among our FBM interviewees. After getting her master's degree in Italy, she was awarded her PhD in Austria. She spent four years in Switzerland in a post-doctoral position. During her Swiss experience, she applied for several grants and tenure-track positions, and then she was recruited to her current position.

Unlike Mathias, she didn't mention any desire to come back to her home country. Her main objective was to find a 'decent' position in academia (*i.e.* a tenured one), which would have been difficult if she had wanted to go back to Italy. During her post-doc at the UNIL, she tried to get more prestigious grants and a maximum number of articles published in the highest-ranking journals to stay competitive on the international academic market. She said, 'You have to prove that you are able to get funding' to be hired. The kind of managerial discourse Julia has developed is relatively common among our FBM interviewees, especially for the movers.

Julia's case is also relevant for analysing the conditions for women to rapidly reach a tenure-track position after a post-doc. As is often the case among women who embrace an academic career (Le Feuvre, 2009; Bataille, 2016), Julia's partner also has a PhD, and he is also involved in an academic career. These dual career family configurations often constitute a strong obstacle for women's careers. They tend to 'constrain' geographic mobility and, thus, to limit 'women's ability to accept and retain professorships' (Wolfinger, Mason & Goulden, 2008: 391). In such configurations, 'if someone gives up, most likely it's the woman who will give up', admits Julia. However, this wasn't the case for her. One of the key factors was the egalitarian power balance within Julia's relationship. For instance, Julia and her husband did not consider having a career be a prerogative of the male. They both decided during their PhD programs that one of them would follow whichever was the 1st to get offered a 'decent position'. Then, when Julia had a post-doctoral position in Lausanne, her husband came join her one year later at UNIL thanks to a Marie Curie Fellowship. Again, once she was recruited for her tenure-track position, he also moved with her to Germany. After this second move, he left his academic career to work in industry because he couldn't find an academic position near Julia's university.

Stories like Julia's are rare. Nevertheless, her case is a good example for understanding the circumstances under which women can overcome some of the obstacles they often face in order to stay in the academic pipeline.

Sophia's case illustrates one other kind of feminine pathway of moving: that of *moving alone*. Sophia is 36 and comes from Latin America. After a PhD in Italy, she found on the Internet a call a post-doctoral position at the UNIL. She has also considered a career in industry. However, such an option wasn't her 'first choice'. She spent five years in the UNIL STEM department. She describes her years in Lausanne as 'very stressful' because she had to be 'very organized' in order to publish the most she could. Nevertheless, she was able to deal with this amount of stress because of the atmosphere at her workplace and her 'very supportive' post-doc advisor. After her five years in Lausanne, she applied for an assistant professor position in another Swiss university. However, this position didn't offer tenure-track opportunities. At the time of the interview, she had almost

reached the end of this second post-doctoral engagement, and she was looking for new academic job opportunities in Switzerland or abroad. Although Sophia says that the end of her current engagement placed her in a 'crappy' situation, she nevertheless found her situation 'adjusted' to her level of qualification and expertise.

Compared with Julia and Mathias' cases, Sophia illustrates another pattern of moving away: that of moving alone. When she came to Switzerland, her former boyfriend who she met during her PhD in Italy came with her. He was an engineer and couldn't find a job near Lausanne. He went back to Italy and their relationship ended. Sophia was single at the time of the interview and doesn't want to be in a long distance relationship as many of her colleagues do. We came across several cases similar to Sophia's, especially among our female interviewees. This reflects how sticking to their own objectives has been a solution for some of our women interviewees who wanted to stay on an academic track.

3.1.2. Moving because you have to: the case of Swiss post-docs

For our interviewees who defended their thesis in Switzerland and who spent their first post-doctoral years in the same country, going abroad and getting international mobility experience is often needed to reach a tenure-track position in a Swiss university. This is particularly the case in FBM, where international mobility is more often required than in SSH. Nevertheless, our Swiss SSH interviewees often mentioned international mobility during post-doctoral years as a prerequisite to being competitive on the Swiss academic market. It is important to stress that many support measures are available to help young Swiss scholars to get this international mobility experience. Most of these are provided by the Swiss National Science Foundation. The SNSF offers different kinds of fellowships to allow young Swiss scholars to spend a year or more in foreign universities as visiting scholars. Indeed, many of our Swiss movers have benefited from these fellowships at least once in their career.

Thus, the better option to stay on track in an academic career for our Swiss movers—as we will see with Simon or Matteo, our two cases within this subsection—is to go abroad (and if possible, to go to a northern and English-speaking country). As in Mathias and Julia's cases, the mobility of our Swiss movers was strongly shaped by the gender role models at play within their personal relationships.

Simon is 39 years old and is an assistant professor at a northern European university. He is a sociologist. Despite holding a stable and prestigious position, he had a relatively atypical trajectory. After his PhD (defended at UNIL), he worked part time as a professor in an Applied Science University for several years. He then turned his back on a career at the UNIL for a first time because the stable positions within Swiss universities seemed to him "too difficult" to reach. Having a stable position in one of the many Applied Science Universities (*Haute Ecole Spécialisée*) was relatively less prestigious and less competitive than having a professorial position in one of the cantonal universities. Our Swiss interviewees often opted for such career choices, which are more stable and potentially less precarious than the first steps of the academic career within Swiss universities.

Along with this (part-time) job, he was been hired as a part-time research assistant at the UNIL. The professor who hired him convinced him to catch up on the academic pathway. This 'mentor' or 'tutor' (in Simon's words) advised him on some strategies in order to help him reach tenure-track position. He then published several papers (alone or with

this professor) in key international journals in his field, which constituted an excellent academic record during his post-doctoral period at the UNIL.

Nevertheless, to him, the (rare) academically stable positions in Switzerland (assistant professor or professor) were still out of his reach (his CV wasn't yet enough for Swiss recruitment). During his PhD, he had been hosted for one year in a Norwegian university, thanks to one of the SNF fellowships. At the end of his five-year contract at UNIL, the Norwegian team where he had been hosted proposed he apply for an associate professor position in their university. He applied for this position, a little 'on a spur of the moment', he says, and left Switzerland in 2010. This decision paid off in the long run: at the time of the interview, he was about to be recruited to a Swiss university as an associate professor. He came back to Switzerland at the end of 2015, and had therefore been able to reach a tenured professorship relatively quickly (before turning 40) in the Swiss context.

Simon's moves are particularly interesting to analyse from a gender perspective. When he left Switzerland in 2010, he and his former partner decided to move together. Although she was also highly committed to her own career, she nevertheless followed him and put aside her job. After some time, she decided to come back to Switzerland and ended her relationship with Simon. At the time of the interview, Simon had a new partner who planned to follow him to Switzerland. She was older than him and less qualified (and less committed to her career than his former girlfriend). In such conditions, moving abroad seemed easier to Simon than the first time. Although he felt 'uncomfortable' with this idea, he notes that being a male with a partner who doesn't have strong career priorities (*i.e.* who is a *breadwinner*) is an asset in order to move twice like he did.

Matteo's case, our second Swiss mover, was also really interesting from this point of view. Indeed, although this environmental scientist had a promising early career, he seriously thought about leaving the academic track at the time of the interview. Indeed, because he refuses to go abroad for family reasons, his chances of being recruited at a Swiss university have been and still are highly compromised. Matteo is Italian, but he defended his thesis at a Swiss university. He met his future wife during this period. She also completed a PhD in science, but because she wanted to stay in Switzerland, she decided to leave the academia and became a manager in a private company. This decision affected Matteo's choices: in order to stay with his partner (with whom he had a child one year after their thesis defences), he also decided to not go abroad for his various post-doc positions. He said, 'I knew that this decision would make things more complicated [for his career], but this was what I chose to do'.

The year after he defended his PhD, Matteo was recruited at the UNIL as *premier assistant* by a young professor. At this time, his post-doctoral supervisor was just about to receive an ERC grant. Matteo was able to work in really good conditions during these Lausanne years, all the more because he and his boss had excellent working and personal relations. From a scientific perspective, Matteo says that he would not find better conditions in other universities to develop his research. At the end of his hiring in Lausanne, he had published two papers in the highest-ranked journals of his field. Then, he received one of the most prestigious SNF grants. This allowed him to hire his own team and work in a German-speaking Swiss university for four years. At the time of the interview, Matteo was coming to the end of this grant. Because he is now almost 40 years old with very little chances of being tenured one day, he was seriously thinking

about leaving academia in order to work in industry or in research management.

One can thus conclude that Matteo made several choices in order to preserve his family life: besides his will to stay in Switzerland, he also chose to not work during weekends during his post-doc positions in order to spend more time with his wife and kids. Even if examples of men such as Matteo are rare, this shows how constraints that usually impact women's careers are strongly linked to the nature of gender arrangements within couples.

3.2. Gendered ways of leaving an academic career in the Swiss context¹⁰

In our WP5 report, we underlined that the level of satisfaction with the employment conditions among Swiss post-docs was lower than among their foreigner counterparts. This low satisfaction may lead some of them to leave their academic careers in order to get a management position within a firm or in a public administration. Of course, some departures are involuntary and may also lead to a spell of unemployment. However, almost all of our interviewees (men and women alike) mention the relative precariousness of an academic career at some point in the interview. The accounts provided by those who left their academic career track were particularly shaped by their gendered expectations for the future. We will focus on the cases of four of our interviewees (Maria, Jennifer, Stefano and Miguel), who provide an interesting perspective on the role of gender norms supported by the Swiss national gender regime in decisions to leave an academic career.

3.2.1. A typically female account of leaving the academy: “Not enough time and energy” to succeed in “both spheres” (academia and family)

In this subsection we will present the cases of Maria and Jennifer. At the time of the interview, one (Maria) was working as a part-time secondary school teacher. The other (Jennifer) was currently unemployed and training to be a Tai-Chi teacher. Both of them justify their decisions to not pursue an academic career with reference to the difficulties they experienced in finding the right balance between their work commitment and their family duties during their post-doctoral years. In their narratives, the university and their families appear to be equally *greedy* institutions (Coser, 1974). Their accounts of these difficulties echo those of a number of women working in the Swiss context, particularly those with a Swiss partner who is working full-time. The cases of Maria and Jennifer illustrate how gender-roles' repartition within a couple is fundamental to understanding the leaky pipeline phenomenon: unlike Julia or Sophia, they both were in a relationship with a *breadwinner* partner. As we will see, such conjugal configurations tend to lead women to exit academic careers.

Maria is one of our oldest interviewees (48 years old). She is Swiss and has two children, aged 15 and 12 years at the time of the interview. After obtaining a PhD in life sciences, she was employed for almost 15 years in a series of fixed-term research jobs at the UNIL. In 2010, she decided to quit academia in order to retrain as a secondary school teacher. She claims that her family duties played a decisive role in this decision. Being married to

¹⁰ This sub-section is based on a joint article currently under review, co-authored with N. Le Feuvre and S. Kradolfer.

an engineer who works in Switzerland presented major obstacles to the pursuit of her own academic career, since it reduced the range of geographical locations open to her in an increasingly competitive academic labour market. The question of geographical mobility and location had been an issue for Maria for a long time. Immediately after her PhD, she took up a post-doc position in the US. However, because she didn't want to be separated from her husband for too long, she decided to come back to Switzerland after just 18 months.

With hindsight, she believes that coming back 'too soon' compromised her chances of leading a successful academic career, since she didn't have enough time to exploit the data she collected during her US stay. Thus, she didn't publish anything as a first author during these crucial years after the defence of her PhD. However, on her return to Switzerland, Maria was offered a relatively long 5-year post-doc engagement in Lausanne, during which time she had her two children. In 2005, she reduced her working hours (from 100% to 80%), because the crèche opening hours didn't fit in with her previous schedule and because her husband had started to work very long hours. She claims that reducing her hours had almost no effect on her scientific output. Nevertheless, even when she was working full-time, she claims that her family situation didn't enable her to be committed and productive enough to build up the kind of portfolio she saw as necessary for getting a permanent academic position. 'If a woman has a family' she said, 'it can take a large amount of her time, and then she may have not enough energy to dedicate to an academic career'.

Even though she is younger than Maria (34 years old), **Jennifer** (who is Swiss and has two children) also presented her decision to 'drop out' of the academic career track as a consequence of tensions between her work and private lives. After defending a PhD in the social sciences at the UNIL, during which time she had two children, Jennifer obtained a grant for a post-doc in Berlin. For her husband, who was already a manager with a private Swiss firm, the option of 'living abroad just for one year' wasn't possible. Furthermore, the couple had managed to secure a crèche place for each of their young children (aged 1 and 3 years at the time) and this was considered to put them in an extremely privileged position, given the very limited childcare services generally available in the Swiss context. In such circumstances, Jennifer decided to move to Berlin by herself, returning to Switzerland to visit her husband and children once every two weeks: 'I was already exhausted before I left [after finishing her thesis], but this situation, doing round-trips, totally finished me off', she said. Thus, after two years as a post-doc in Berlin, she experienced a 'burn out'. She was put on sick leave for several months, because she couldn't 'open [her] laptop' or 'get out of the bed' in the morning. Before she resigned from her initial post-doc because of her health problems, she had the opportunity to apply for a tenured position that had since become available in her home university. According to Jennifer, this promising academic career opportunity came 'too late', because her post-doctoral experience had 'completely blunted (her) will to pursue an academic career'. Despite support and encouragement from her colleagues, she didn't apply for this tenure track position. Instead, she applied for a part-time (40% of full time) post-doc position at the same university. Even at this reduced part-time level, she found her workload too heavy to handle with her 'two children and full-time husband'. She finally decided to quit this new position after just a few months. At the time of the interview, Jennifer was registered as unemployed, and she is now training to become a Tai-Chi teacher. She is really enjoying this perspective: 'I was practising Tai-chi for years; I had never seen this activity from a professional point view; this was just

something I really enjoyed for a long time'.

Like in Maria's case, Jennifer's decision to leave appears to be a consequence of her difficulties to articulate her professional career and her family duties. Nevertheless, Jennifer points out that she also left because she didn't have enough 'satisfaction' in her work. Like many of our interviewees, she was engaged part-time (40%) at the UNIL, and this was 'clearly not enough' to complete the managing tasks that she was supposed to do on time. Fortunately, she negotiated so that her overtime work hours were paid. However, she admits that this is not usually the case. In such a context, the commitment needed at work and the sacrifices required are too big compared with the employment conditions.

3.2.2. A typically male account of leaving the academy: Fewer “career perspectives” and “less stability” than in other segments of the Swiss labour market

The narratives of men who leave the academic labour market are radically different from those of their female counterparts. The two men we will study in this section, Miguel and Stefano, had been working outside academia for a number of years at the time of the interview. Miguel is a manager in a biomedical firm. Stefano is working for the Swiss federal administration in Bern. For both of them, the decision to leave the academy is described as having been motivated by the relatively poor employment conditions offered to PhD graduates within Swiss universities in comparison to other sectors of the national labour market. Their narratives suggest that the decision to leave is related to a desire to maintain a normative masculine identity that they considered to be threatened by the conditions associated with the early stages of an academic career.

Miguel, who was born in Latin America, came to Switzerland after two post-doctoral experiences in two other European countries, mainly because his partner was already well settled in Switzerland. At the time of the interview, he was 30 years old, in a relationship with a Swiss lawyer and had no children. He decided to quit his academic career path a year and a half after joining the UNIL. His decision was motivated by the fact that, over time, he came “with, time [he] came[s] to realize, '[he] didn't really like the job of group leader in academia that much'. From his point of view, the job required too much commitment considering the very limited medium-term career perspectives it offered. 'I didn't want to end up being over forty and still with a fixed-term contract' he said. To him, the lack of 'career perspectives' in the academy is due to a demographic imbalance between 'the high number of PhDs' and the limited number of permanent positions. This means that competition within his particular research field is very high. Given the limited career perspectives and job security in the academy, Miguel started to think about looking for a job in industry during his first years in Switzerland. He believes that one of the main disadvantages of being an academic is the fact that work tends to 'spill over' to other life spheres. Unlike his female counterparts, Miguel is not concerned with the work-life balance implications of this overlap, but rather with issues of recognition and reward. He believes that academic institutions expect people to work more than their official employment contract requires, but somewhat paradoxically, those who meet those expectations tend to be not 'completely appreciated as workers. It was therefore in a quest for more recognition that he decided to quit academia for industry.

Stefano is Swiss. He is 35, has one child, and his partner was expecting a second baby at the time of the interview. After his PhD defence in Switzerland, he spent two years as a post-doc at a prestigious university in the US. When he came back to Switzerland, he immediately had the opportunity to apply for a managerial position with the Swiss Federal Administration. His first child was born during his first year in this job. Despite being recruited to this administrative position, Stefano tried to keep a presence in academia; he taught some lectures at his home university and continued to publish articles with his PhD supervisor. Although he sometimes misses the intellectual stimulation of academic work, Stefano doesn't have any regrets about his choice to quit academia – notably because his current job provides him with a 'better salary' and, above all, 'more stability'. This is important because Stefano is the main earner of his household; his partner works as a self-employed designer and has an irregular income. This explains why he was under pressure to find a stable job relatively quickly after the end of his PhD, especially 'because of the imminent birth of (his) first child'.

Stefano mentioned work-life balance issues, but did so from a very different perspective than that developed by his female counterparts: Stefano says that, in his current job, he would happily accept working longer hours, even outside of regular working hours, if this could provide him with more 'intellectual stimulation'. The 'elastic' nature of academic employment conditions and the demanding workload are clearly not a problem for him. His concern was to avoid accumulating a series of (relatively) poorly paid, fixed-term academic contracts, with no guarantee of ever reaching a permanent academic position. His (projected) role as a main *breadwinner* played a major role in rendering the academic career path ultimately unattractive in comparison with the alternative career opportunities on offer in the Swiss labour market.

4. POST-DOCS

In this section, we will examine some of our post-docs' cases. This will be an occasion to further explore how the processes that shape careers can differ for foreign and Swiss young academics. We will see that for some of our foreign post-docs, coming to Switzerland for their post-doctoral years has put them in a potentially highly vulnerable situation. This is especially the case for our STEM interviewees, many of whom are foreigners, often from outside Europe. Swiss post-docs are more frequent in SSH.

The Swiss post-docs that we interviewed are often in an uncomfortable situation – especially if they haven't moved from Switzerland since their PhD defences. Indeed, since mobility is a fundamental resource that post-docs hope to reach a tenured position in the Swiss academy, surviving by staying at the UNIL may lead some of them to the margins of the pool of likely candidates for tenured positions.

As we will see, work-life balance issues may increase the difficulties that our interviewees face. This is especially the case for most of the women post-docs that we met.

4.1. The non-Swiss post-docs: a potentially highly vulnerable population

As was the case for Mathias, Julia and Sophia, the non-Swiss interviewees hired for post-doctoral positions at the UNIL often present the move to Switzerland as a good

opportunity. On the one hand, the UNIL is often presented as an internationally renowned research institution. In addition, the employment and working conditions (especially salaries) offered to post-docs in Switzerland favour comparably with similar positions in many other countries. Indeed, according to a study by the European Commission in 2006¹¹, junior and senior researchers in Switzerland receive some of the highest wages in Europe. Last but not least, the number of post-docs available is high because the Swiss Confederation strongly invests in R&D activities.

Nevertheless, once they arrive in Switzerland, some of our foreign interviewees have discovered some unexpected aspects of living in this country (such as the lack of a childcare services, the housing shortage or the regulation of foreign workers). Although most of them declare being happy with their living conditions, such inconveniences may considerably impact their years spent in Lausanne – and through this, shape their chances of remaining on the academic track. As we will see through the cases of Floriane at Kathy – both hired in the FBM department – gender issues may also increase the difficulties facing our foreign UNIL post-docs.

Floriane is French and 30 years old. She was hired as *Senior SNF Researcher* by a professor in the FBM department. She has two children. The elder child was born during last year of her PhD, the 2nd during her second year of working in Lausanne. 'To me, it's sounded like the ideal post-doc,' she says. She met her post-doc advisor during her doctoral studies. Once she had defended her PhD, she sent him a letter to find out if he would be interested in hiring her. Several reasons underpinned her choice. First, doing a post-doc in France was 'not an option' because 'it wouldn't have been worth anything on my CV'. Second, she liked her boss and his way of working. Third, working in a French-speaking part of the country appealed to her. Thus, once hired, she came to live near the Swiss border with her partner and their first child.

Her first year in Lausanne went fine. She liked the campus infrastructures and the 'dynamic' of the lab. The only thing that disappointed her was the job brief. She thought that she would have to do more teaching than she did. She really enjoys teaching because it brings more immediate satisfaction than research tasks. She only learnt about her limited teaching tasks once she had already been hired at the UNIL. This kind of misunderstanding about the concrete contents of their employment contract is common among our UNIL post-doc interviewees. Many of them had no awareness of the concrete tasks that they would have to do when they were hired.

Nevertheless, once she had her second child, everything became more complicated ('It was really, really not the good time' to be pregnant, she says). Although her boss was a 'really nice guy', she thought that this second child 'deeply pissed him off'. He was waiting for the results of Floriane's experiments, but because of her pregnancy and her maternity leave, her research was delayed. 'He was thinking that I would work during my maternity leave. The worst thing is that I wasn't against the idea. I twice tried to do that, but it didn't work, it was impossible. I was too tired'. After her maternity leave, she then had great difficulty finding childcare for her son ('I turned over every stone in the country' she says). She finally found a solution, but her commitment to her research had been deeply limited during her child's first year. Floriane underlines that this situation has been especially difficult to manage because neither her nor her partner have family

¹¹For further information, see:
http://www.eurosfair.pr.d.fr/7pc/doc/mobility/NI_13_PCNM-salaires-chercheurs-europe.pdf
[accessed 04.12.2015].

members in Switzerland or in nearby France to help them.

At the same time, her partner, who is an engineer, couldn't find a job in his field in Switzerland. Thus, they decided that he had to go back to France with their eldest daughter ('I don't want to pressure him to quit his job [...] he also has the right to work', she says). For the last year, he has spent four days a week in France, coming back to Switzerland every weekend with their daughter.

For all these reasons, Floriane is not 'very proud' of her research achievements during the first years of her post-doc. She feels really 'handicapped' and 'constrained' by her family situation. She has now reached a point where she doubts that the 'sacrifice' of her family life is worth the effort. She is seriously considering returning to France to look for a teaching position in a secondary school. Floriane's case illustrates the severe work-life balance difficulties that many foreign women face in the Swiss context. One must also note that foreigners are a vulnerable population from this point of view, as they can't count on the material and emotional support of their relatives, who often live far away from Lausanne.

Kathy is South African. She is 30 and has been working at the UNIL for three years. After her PhD, she came to Switzerland because she followed her husband, who is 'French and, wanted to go somewhere French-speaking'. Thus, they applied to many labs and departments that matched their research interests, and they both were recruited as UNIL post-docs.

Kathy's case is interesting because, as a non-European citizen and a non-French speaker, she has faced specific difficulties that have worsened the already vulnerable situation of a foreign post-doc. For instance, as a non-European, she only has the right to stay in Switzerland during the duration of her (five year) contract. If you are 'non-European foreigners', she says, 'you're kicked out as soon as one month after the end of your contract – and that's after having contributed to the Swiss social security system for the entire five years of employment'. She thinks that because she is married to a European, she will be able to overcome this rule. Nevertheless, such a situation has been reported several times during our interviews with foreigners.

One of her other major sources of disappointment has been the lack of clear specification regarding her teaching tasks. She says that she never knew that she would have to teach before her first month on the job (but she probably misread her job contract, or *cahier des charges* before starting work, she admits). Nevertheless, as with many of our interviewees, Kathy underlined the lack of clarity surrounding the attribution of such tasks ('it's really variable amongst the post-docs – I know some post-docs who spend like many hours, teaching and others that spend next to no time', she says). Because she doesn't speak French very well, her initial teaching load (especially at the undergraduate level) has been reduced. She also points out that, although she is supposed to work part-time, in reality, she works full-time.

For all these reasons, she often feels like like an 'exploited temporary worker'. Because of this – and because she finds the struggle required to get a professor position in Switzerland 'indecent' – she is 'strongly consider[ing] leaving' her academic career right now. She is thinking about finding a job in research management in order to limit the 'waste of talent' due to the post-doc bubble and the lack of stable academic positions. She also mentions that she wants children, and that project appears to be 'really unsustainable' if she were still to be in an unstable position. Thus, although her

willingness to leave academia are linked with her gender and work-life balance issues, her choice is also motivated by the experiences during first steps of her academic career. Thus, Kathy's case shows that women may also be put off pursuing an academia career by the poor employment conditions offered to post-docs in the Swiss context.

4.2. The Swiss post-docs: exceptions in an uncomfortable situation

Swiss post-docs are less numerous than foreigners amongst our interviewees. The few Swiss post-docs had often already moved abroad for at least 1 year since their PhD defence. Thus, the case we will present in this subsection – involving Thomas, who has no international mobility experience – is quite rare. His case nevertheless illustrates the fact that some Swiss post-docs manage to circumvent UNIL's internal rules on mobility. However, they often become highly dependent on the professor who hired them – and have, in fact, very little leeway in their future choices if they choose not to move.

Thomas is 36 and is Swiss (from the German-speaking part of the country). He defended his sociology PhD in 2012. He was directly hired for a post-doctoral position in a federal research centre at the UNIL because of his language skills (he speaks the three official languages of Switzerland) and his good knowledge of the Federal social policies. Since there is a strong lack of communication between the different cultural and linguistic areas of Switzerland, profiles like Thomas are deeply appreciated in federal institutions. Because this kind of profile is quite rare, the professor at the head of his host research centre has been able to negotiate with the UNIL's administration to keep Thomas even though he had been only hired for a five-year period.

Thomas' research centre is partly funded by the university and the Swiss confederation. Researchers at the centre have to find a third source of funding to finance their research and their salaries. Thus, since he has been hired, Thomas' work has been mainly dedicated to searching for new funds. He doesn't feel very happy with this situation. To him, he has too many 'administrative tasks'. He also deplores the fact that he doesn't have enough opportunities to teach. His situation doesn't allow him to 'reinforce his CV in an academic career perspective'. He thus feels somehow 'exploited' and insufficiently valued by the professor who hired him – and the relationship with him is becoming more conflictual. Thomas is now considering a move to a foreign university with a SNF grant, but he fears that his boss will not support him in this process.

Because his hiring required circumventing the official UNIL rules, Thomas says that he is not in a position to negotiate his employment conditions. This initial choice of staying made him highly dependent on the professor at the head of the centre, and this dependency has in turn limited his career options, even if staying on the academic path was still his first objective at the time of the interview.

The choice of staying at the UNIL after his PhD is also motivated by personal considerations. Thomas is single and doesn't have any children, but his mother has been sick for several years, and he and his brothers are the only relatives who can take care of her. Thus, he has never seriously considered moving outside of Europe. This case illustrates that providing care for relatives (and not only for children or partners) must also be taken into account when analysing mobility choices.

5. NEWLY TENURED

In this section, we will present the pathways that seem to lead some of our interviewees to a tenured position within the UNIL.

We distinguished two ideal type profiles of newly tenured post-docs. The first is the *rising star* type, which mostly refers to newly tenured people who are relatively young, who had early mobility experiences to a North American or British university, and who have published several articles, often in the most renowned international journals in their field. These *rising stars* are those who have accumulated a large amount of the standardised international excellence assets. In their case, reaching a tenured position appears as a normal step on the track they have been following. This type of pathway is one that perfectly fits with the goal of promoting 'talented individuals' promoted in the UNIL 'international strategy' plan (UNIL 2009).

The second type is the *tactician*. According to Michel de Certeau (1984), tacticians are individuals who do not rule and may seem weak or dominated when looking at their place in the hierarchy. However, according to de Certeau's words, some of these relatively 'dominated' individuals may develop 'a sense of the opportunities afforded by a particular occasion' (i.e. a 'tactical' sense) to 'take on the power that dominates production' (Certeau (de), 1984: 36). In our case, this type refers to our interviewees who don't necessarily meet the international excellence criteria. They often follow a non-linear career and are a little older than the rising stars. Their mobility experience was usually limited to neighbouring countries (Switzerland, France, Italy or Germany). Nevertheless, they have managed to be recruited to a tenured position, because their profile corresponds to a special teaching or (less frequently) research need of the university. Additionally, this could be because they took advantage of the specificities of their profile in these particular local contexts.

Rising stars are more likely to be male *breadwinners*. Being in a relationship with someone who is not career-minded is often a prerequisite for them to achieve their successive moves between countries and/or institutions. For the same reasons, *tacticians* are more likely to be women. Nevertheless, as we will see, such a distinction (*rising stars* vs. *tacticians*) does not always cut neatly across gender lines. Once again, conjugal configurations and gender role distribution in the personal sphere appear to be the key factors in understanding the gendered nature of the tenure process.

Because international careers are more frequent in FBM, *rising stars* are more likely to be found in these fields; likewise, *tacticians* are more likely to be from the SSP department. Nevertheless, the international excellence standard is today shaping most of the recruitment policies in every UNIL department. Thus, part of our newly tenured interviewees in SSP also have a profile that is close to that of the *rising star*. Furthermore, all our cases of newly tenured interviewees have benefitted from the support of a mentor throughout the tenure process. In the narratives of almost all of our recently tenured interviewees, we can find a mention of one or several older researchers who participated in elaborating different kinds of strategies that led our interviewees to a tenured position.

5.1. Following the international excellence pathway: The ‘rising stars’

Our two cases in this subsection will illustrate the two main ways of following a *rising star* pathway among our interviewees. The case of Jonas illustrates how to become a main *breadwinner* and how it may be helpful to follow this kind of trajectory. The case of Ingrid is an example of a more feminine version of this career path.

Jonas is 34 and has been freshly recruited to an ‘assistant professor’ position at the UNIL. He had previously defended his biology thesis in Switzerland in 2010 and did two post-docs (including one at a US university). He describes his post-doc years as ‘very stressful’, especially because he only had short-term funding (for one or two years at a time). Thus, he often had to find new sources of funding. After his experience in the US (where he and his partner spent two years), he decided to be a candidate for one of the SNF grants available for young scholars to hire their own team in a Swiss university for four years. Once he received the grant, he came back to Switzerland with his partner and started to work at the UNIL.

During his years at the UNIL, where he was hosted as a (non-tenured) assistant professor, he ‘work[ed] a lot’ and was under hard ‘pressure’ (‘I definitely don’t have a 9 to 5 job’). Nevertheless, he benefited from the strategic advice of his PhD advisor (a man) and his former US post-doctoral supervisor (a woman). They both helped him to elaborate a ‘publication strategy’. According to him, there are two main kinds of strategies: publishing only a few ‘big stories’ in the most renowned journals, or publishing a lot in many kinds of journals in order to keep your colleagues aware of what you are working on and how you are ‘taking science forward’. Following the advice of his post-doctoral supervisor (who was a ‘really good mentor’ to him), he chose the second strategy, which seemed less ‘frustrating’ to him. He nevertheless published a paper in *Nature* at the end of his PhD, which he says has been really ‘helpful’ for his career.

During his post-doctoral years in Lausanne, he also had real pleasure in supervising his students—but not as much as he wanted to. He even began supervising his first thesis during this period. His strong commitment in these several activities (research, fund-raising and teaching) paid off; at the time of the interview, he had just been recruited to a tenure track position at the UNIL as an assistant professor.

From a gender perspective, it appears to be clear that the *rising star* career of Jonas would have been more difficult to achieve had his partner not relinquished her own academic career. Indeed, when they moved to the US, Jonas and his partner (who is also a PhD in biology) were both hired for a post-doctoral position at the same university. When they decided to come back to Switzerland (‘we wanted to come back to Switzerland; it was kind of our aim’, he says), she didn’t apply for an academic position because she wanted to quickly get a ‘decent’ position (she didn’t want to wait ‘twenty or thirty years’ to have a job, he notes in a humorous tone). She has been recruited by a company near Bern, in the German-speaking part of Switzerland. Since this recruitment, Jonas commutes between Lausanne and Bern. Thus, Jonas’s partner seems to have primarily left an academic career for reasons similar to those of our ‘male’ leavers. Nevertheless, she was pregnant at the time of the interview, and was about to leave her job in Bern to come to Lausanne to join Jonas in order to facilitate their family life. Thus, although Jonas and his partner were in a *dual career* configuration in the years after their PhDs, the couple progressively moved closer to a *male breadwinner* model, especially since they came back to Switzerland and planned to have a child. Their cases illustrates two important things: first, as we have already noted in Mathias’s case, to be a

main *breadwinner* is a major asset to be as mobile as a *rising star*; second, Jonas's story shows how the Swiss gender regime strongly limits the possibilities of developing a *dual career* strategy in the academic labour market.

Ingrid (who is 38) describes herself as a 'very lucky' person. When we first contacted her, this social psychologist didn't want to answer our questions because she hadn't felt 'discriminated' during the early stages of her career and because she doesn't define herself as the 'ideal type' of the 'precarious young academic'. Indeed, her career progression has not experienced any apparent obstacle. In a tenure-track position for the last four years, she has just been tenured as *Maitre d'enseignement et de Recherche* (MER, equivalent to Senior Lecturer) at the time of the interview. After her PhD defence at a Swiss university in 2009, and thanks to an SNF grant, she did two post-docs at two famous British universities between 2010 and 2014. She also had several study visits to North America during this period to do fieldwork. During her four years in the tenure process, she won a grant from the SNF to do several study visits to different research centres. To her, mobility 'wasn't a problem' because she 'like[s] to travel'. Her experiences of mobility led her to develop a large network and had a strong, positive impact on her evaluation for being tenured once her four-year period ended.

Ingrid said that her relatively successful career is partly due to the advice of her different mentors. During her thesis, Ingrid had several communication difficulties with her initial PhD advisor. Thus, she tried to get more feedback on her work by meeting several professors and specialists in her field. One of them, a Swiss professor from another university, pushed her to take part in the scientific debates on the English literature of her field. Retrospectively, this advice represented a turning point in Ingrid's career. She finished her thesis under the formal supervision of this second professor, working and interacting with many international scholars she had met through the academic network of her new PhD advisor. She published most of her work in English, in the top-ranked journal within her field, and garnished a growing international visibility. Because she suffered from not having enough support during the first years of her PhD (meeting her mentors 'saved' her, she says), she is now part of several Swiss mentoring programs to help young female scholars make better choices for their careers.

Concerning her many mobility experiences, she says that travelling often was not a problem, especially because, until recently, she didn't want to have children. Having children has 'never been an obstacle' for her, although she says that she knows this is the case for 'many women'. She is in a relationship with an academic who also occupies a tenured position, but she doesn't mention him during the interview, even when asked about her family life. Thus, she is not in an inverted gender configuration (as Julia) or a single women position (as Sophia); Ingrid seems to manifest a relative distance from the normative requirements of the Swiss gender regime. Such distance appears to be a key ingredient to understand how some women, like Ingrid, may also follow this 'rising star' career pattern.

5.2. Seize an opportunity: The 'tacticians'

In this last subsection dedicated to our case presentation, we will focus on two examples that illustrate the 'tactician' access pathway to a tenured position (Claire and Sylvain). As we will see, tacticians are often close to the profile of the 'good citizen' as defined by Christine Musselin (2009, 136–137). In other words, these are the academics who are

recruited because of their ability to be good teachers and be involved in the local life of the institution rather than their performance in research. Nevertheless, tacticians may also be tenured because their profile fits with some specific needs in terms of research.

Claire is 45 and specialised in social work. She was recruited as an assistant professor on a tenure-track position in 2013. Even if she reaches a tenure position, she has followed a particularly non-linear pathway compared to the standard academic career. She defended her thesis in 2008, when she was 38. Before this, she worked for 13 years as the head of a social centre. At the end of earning her master's in social sciences, she didn't want to embrace an academic career. She chose to work in a social centre because she 'wanted to work [in] the field' rather than have only a theoretical approach to social problems. Nevertheless, during her years as the head of the social centre, she dedicated a little time from her job to research. 'It is only in a second time that [she] ha[s] thought about doing a PhD.', she says. Indeed, research activities seem to have been more appealing to her, until she began a PhD in the early 2000s. During the last years of her thesis, she had twins. Thus, she took two years off to take care of them and to try to complete her PhD work. Since her PhD, for the past two years, she has been a manager on a research project at her former institution because her PhD gave her a taste of performing research. Being hired for this position gave her an opportunity to enhance her research report by publishing papers with her colleagues. She also had her third child during this period. When she learned that a new assistant professor tenure-track position was advertised in her field at the UNIL, she hesitated to apply at first. She finally did, however, and has been recruited.

When she speaks about her competitors in this job (two men), she says that they had the profile of the young academic who 'absolutely wanted to become professor' (*i.e.* who seems close to our *rising star* profile). For this position, however, the university selection committee was mainly searching for someone to teach the large amount of students who chose social work training at the university. They were looking for someone who had an in-depth knowledge of the local field and who could familiarise students with research and future professional choices on this basis. Her extensive experience in the local field made the difference. 'I think I would never have been recruited in any other university' than Lausanne, she says. Because her profile matched some specific needs of the university, however, she has been able to take advantage of her weakness regarding the academic standard and position herself in this niche.

During her tenure-track years, she published many papers and received one grant for a scientific project from the SNF (the latter was a 'major recognition' of her work, she says). She is now about to be tenured. With her three children, reaching such a status hasn't been easy due to the institutional culture of the university. For instance, because she wanted to spend as much time as possible with her child, she often declined invitations to meet after six pm—and felt uncomfortable with it. She deplores that 'at the university', there are very few spaces to exist as a mother or as a parent ('nobody talks about that', she says).

Although Claire was able to address the challenges of the tenure-track process, it was also because of her particular way of dealing with work-life balance issues. Indeed, Claire is in a relationship with a top manager of a Swiss company who works more than full-time and who isn't available to share many family duties. Mainly because her husband earns a good salary, Claire took the option to hire a full-time child-minder to help take care of their three children during the week. Even if she is subsequently absolved of

many daily tasks, this family arrangement nevertheless shapes her level of commitment to work to some extent. For instance, she has chosen to not go to conferences outside Europe because it would be ‘too difficult to manage’ with her family.

One must note that, in her narrative, Claire also mentions ‘mentors’. She particularly notes that some ‘women who did careers’ have ‘inspired’ her. Claire’s case also shows that having positive examples of feminine careers may impact women’s professional ambitions, as it has been shown in the case of young female science graduates (Duru-Bellat 2004).

Sylvain is our second *tactician* case. He is a specialist of psychology and is 46 years old. He has two children (8 and 13). At the time of our interview, he has just been tenured as MER, having been MA for four years. Sylvain’s pathway is particularly sinuous. He defended his PhD. in France in 2004. Two years afterwards, he was recruited by a French university for a tenured position (as *Maître de conférence*) by one of his former thesis co-advisors. In 2008, his former thesis co-advisor was recruited at the UNIL. Because he has had to manage several big research projects, he proposed Sylvain to apply for an MA position in order to help him deal with challenging projects. Thus, Sylvain chose to accept his proposition. To facilitate his recruitment at the UNIL, a call for candidates with a profile fitting perfectly with Sylvain’s was published—and he was thereby recruited. The scenario of Sylvain’s recruitment to a tenure-track position is relatively similar to that of Claire. It was because of the institution’s special needs for a particular topic that he was recruited.

After his recruitment, Sylvain was assigned to non-active status on his position in France and began the ‘most significant four years’ of his professional life. During those years, he worked at ‘140%’. The professor who recruited him pushed Sylvain to a ‘risky’ publication’s strategy in order to be sure that he could be tenured after his four years. He pushed him to propose a paper in two of the most prestigious journals of his field. Without this pressure, Sylvain admits that he would have never tried to publish in these journals. He would have submitted them to minor journals in order to be published quicker. Nevertheless, since he has been recruited, ‘it’s work’, he notes. One of the most stunning things about Sylvain’s case is the omnipresence of his thesis advisor, who drove Sylvain to negotiate every turning point of his career. He constitutes one other example of the impact that having a mentor has on the progression of an academic career.

From a gender perspective, Sylvain’s case is a little less typical. Indeed, Sylvain had moved alone to join his former professor at Lausanne. His partner, who is a teacher at a secondary school, didn’t follow him— neither did his two girls. He has decided for the first time to commute between the house where he used to live with his family (in the east of France) and Lausanne. However, partly because of the heavy work load at the UNIL, such organisation has been complicated to manage and has made his ‘familial environment’ particularly ‘unstable’. At the time of the interview, he is about to divorce his wife. Sylvain’s case is somehow paradoxical when looking at the impact of the power balance within his relationship on his mobility and career. Sylvain says that if he has been able to come to work in Lausanne, it has been because his wife could take care of their girls (‘If my wife wasn’t able to be there for my girls, I would never [have] been there’, he admits). Nevertheless, she didn’t follow him. This decision provoked his divorce and the relative ‘[in]stability’ in his personal life. Thus, his case illustrates the need to carefully analyse the interaction between gender configuration and the progression of a career in order to take into account the situation’s plurality.

6. DISCUSSION

In this sixth section we will first present a synthesis of the key findings of our case analysis. Then we will discuss the implications of the findings regarding the main interrelated mechanisms generally operating in the leaky pipeline phenomenon.

6.1. Main Findings

6.1.1. All movers?

It is fundamental to bear in mind that most of our interviewees had already moved at least once before their engagement at the UNIL. If that is not the case (as for our Swiss post-docs), moving away from the UNIL or Switzerland is seen as an almost unavoidable step for their future careers because of the UNIL internal rules and the limited size of the Swiss academic market. Thus 'moving' issues concern all of our interviewees, regardless of whether they are Swiss or not, male or female, in FBM or SSP.

Moreover, the logic that underpins their future career strategy often reflects their former mobility experiences. If they defended their PhD outside Switzerland, they may often try to go back to their home country – especially if they come from a country where tenure-track positions are more accessible than in Switzerland. If not, moving on to another country (most of the time another European country) is the other option.

The mobility logic of Swiss PhDs is not the same. In their case, moving away is almost a prerequisite if they hope some day to be tenured in Switzerland; they move 'because they have to' – and their career strategies are strongly shaped by this formal obligation.

6.1.2. Breadwinner, dual career or single: Three ways of moving

Since a large number of our interviewees can be considered 'movers' in some way, it is necessary to provide a more in-depth analysis of the mobility pathways in order to understand the tensions and constraints that shape their mobility choices. Among all the cases that we presented here, three main ways of moving emerge: one is typically masculine, the two others are more feminine.

The most common pathway for men is that of the 'breadwinner', who moves with his whole family (partner and child). In this case, moving is facilitated by the fact that the partner (who is less qualified and/or less committed to her career) can easily change jobs when the 'breadwinner' finds a new opportunity elsewhere. Among our male interviewees, this 'breadwinner' pathway is the main way of moving. Since this kind of gender configuration fits well with the Swiss gender regime, our interviewees who followed such a pathway didn't experience any particular tension in terms of work-life balance during their years at the UNIL.

The 'dual career' is another type of pathway. In this case, our interviewees also moved with their whole family, but their partners were less flexible than in the first case – and our interviewees had to take into account their professional wishes and goals. People who followed such a pathway (they are mostly women) sometimes encountered strong tensions in the Swiss context because, as we mentioned in our introduction, the national

gender regime does not facilitate such egalitarian conjugal configurations.

The last option is the 'moving alone' pathway. This one is also mostly feminine. People who followed such a pathway often experienced tensions between their professional and private lives and chose to privilege their professional commitment. They can move easily and relatively often, and by doing so they gather an important asset from the perspective of future tenure.

6.1.3. Career building or trying to conciliate: Two pathways of leaving

If moving is not an option, the Swiss labour market offers appealing professional alternatives to our interviewees. Our Swiss interviewees are especially attracted to such a 'leaving' pathway, because reaching a stable academic position in a Swiss university is a particularly long and precarious undertaking.

According to our analysis, it is pretty clear that options for leaving are strongly shaped by gender. We thus identify here two main way of leaving.

The first one (the more masculine) is that of people who leave the academic pathway because of the lack of reliable and predictable career prospects. In this type of leaving, an academic career appears too uncertain compared with potential careers in local administrations or with one of the many (inter)national companies established in Switzerland. In some ways, leaving the academic pathway appears here for some men as a better way to insure their breadwinner status. In such cases, they generally leave early in their career, after one or two post-doctoral engagements.

The second type (more feminine) includes people who leave the academic pathway because an academic career adversely affects work-life balance. Those who leave for this reason often try initially to achieve a balance between their professional and personal lives. They often quit the academic pathway after having experienced difficulties in maintaining a balanced investment at work – and often after having occupied many precarious and part-time positions in the process. They then choose a professional occupation where work-life balance seems to be easier to manage or an occupation where personal life seems more easily preserved than in academia.

6.1.4. Rising stars and tacticians: Two ways of being tenured

When they do not leave, some of the UNIL's post-docs may reach a tenure-track position. In this last process, we identified two main paths to tenure. Although they differ in many aspects, as we will see, people who advance in these ways have been encouraged or advised by one or more mentors.

The first is the *rising star*. People who have been tenured in this way are those who best fit the criteria of excellence promoted by the UNIL. They have often experienced one or several international moves (especially to a US or a British university). They have published many articles, whenever possible in the high-ranked journals of their field. They also are relatively young (around 35 years old) and are mostly men. Such a profile is more common in FBM than in SSP. Nevertheless, more and more newly tenured professors in SSP have followed this kind of path.

The second is the tactician. People on this pathway are a little older and have less

international experience than the ones in the previous case. They often have been recruited because they manage to take advantage of their specific skills to meet some of the needs of the university, mainly in term of teaching and administration or management.

6.2. Final discussion

On the basis of these findings, we will discuss the four interrelated mechanisms generally seen as impediments to women's academic careers (*i.e.* the leaky pipeline phenomenon).

6.2.1. *The masculine habitus of the scientific field*

Research on the academic and scientific professions conducted from a gender perspective have shown for a long time that the culture of scientific institutions is structured around the masculine norm of the 'body and soul' commitment to work (Beaufaÿs & Kraus, 2005). Because their representations and practices (*i.e.* their *habitus*) often didn't match with these norms, women would be marginalized in such professional environments because they were seen as lacking the 'right stuff' of promising scientific researchers (Stengers, 2010).

In our analysis, we saw that this 'masculine' norm of devotion to scientific work is still predominant. Most of our interviewees declared that they worked more than full time and were not too critical about this. They generally considered this to be part of the game and were willing to play it this way.

Our analysis nevertheless shows that men and women share this professional ethos. And one must note that, in most of the cases, women seem not to be seen as *a priori* unable to have the 'right stuff'. A large number of our women interviewees do not seem to see themselves as unable to conform to such a norm. One of the striking findings of our case analysis is that the women post-docs use many strategies to fulfil this norm as nearly as possible. They do so even if such strategies might put them in a very vulnerable situation because of the gender power balance in their couple or the Swiss 'breadwinner' gender regime.

6.2.2. *The 'Matilda effect'*

The limited feminization of the upper grades of the academic hierarchy has been analysed as a consequence of the 'Matilda effect' (Rossiter, 1993). The idea underpinning this frame of analysis can be summed up as follows: small differences at the beginning of one's career may have big consequences for long-term professional achievement. In other words, because they lack the tacit prerequisites needed to launch a successful academic career, women's careers are often characterized by a dynamic of 'cumulative disadvantages' that leads them to leave the academic track or to occupy an intermediary or subordinate position in the academic hierarchy.

Such an analytical frame is highly relevant in our case. In the Swiss academic context, being mobile clearly appears to be one of the main assets for improving one's chances of achieving a stable academic career. By contrast, the pathways followed by those who do

not or cannot move are longer, more chaotic and more contingent because they are more dependent on the occasional and local needs of the departments. And as we saw, mobility is strongly linked to gender issues and the balance of power within couples. Thus, since women (and especially Swiss women, who often are in an unbalanced conjugal situation) are potentially less mobile than men, they are more likely to be hired to less prestigious and more precarious positions. And once hired to such positions, their chances of achieving professional stability in the academy diminish considerably.

Since international mobility is particularly valued in FBM, such a scenario is more frequent among women. Nevertheless, the standard career pattern in SSP seems to approximate more and more the standard in FBM. Thus, we think that the difference between the two is likely to disappear.

6.2.3. The co-optation logic

One other possible factor in the inequalities in career outcomes between men and women is the weaker integration of women within professional and interpersonal networks – or, in other words, their lack of 'social capital' (Backouche, Godechot & Naudier, 2009).

Through the presentation of our four 'newly tenured' interviewees, we saw that having a mentor is one of the key assets for reaching tenure. Even though our interviewees rarely mentioned in their narratives that they have been co-opted, such an observation leads to the conclusion that the co-optation logic is fundamental to understanding how tenure is achieved. Indeed, since having a mentor (and benefit of his or her social capital) seems to increase the chances of being one day tenured, one can think that the co-optation logic is working within this process.

Some of our women interviewees seem not have benefited from such a co-optation logic. They thus are more likely to be pushed aside from the pool of high-potential candidates. But one must also note that not every woman seems to have been sidelined by such processes. And the ones who benefit from such a transfer of social capital are deeply aware of this issue. Thus, some of them are involved in one of the many mentoring programs for women organized at the UNIL.

6.2.4. The work-family balance

Because the sacrifice of part of one's private life to work is often considered normal among academics (Currie, Harris & Thiele, 2000), universities are often seen as 'greedy institutions' (Coser, 1974). Nevertheless, such sacrifices are experienced differently depending on gender (Misra, Lundquist & Templer, 2012). Women working in research institutions are more likely to declare that they experience temporal and mental tensions between their commitments to their work and to their family life (Marry & Jonas, 2005). And these tensions may lead some of them to leave the academic track.

Among our interviewees this trend is obvious, especially among our Swiss women interviewees. Nevertheless, the intensity of such tensions wasn't uniform among all our cases. Thus it is important to underline two main points in order to take account of such variations. First, at an individual and micro level, the intensity of the tension around work-life balance strongly depends on gender-role arrangement with the partner. When

their gender-role repartition is egalitarian or inverted, women are less likely to experience work-life balance issues as a source of tension. Second, at a more structural and macro level, our cases show that taking into account national gender regimes is fundamental to analysing work-life balance issues. Indeed, we saw that 'egalitarian' or 'inverted' configurations are pretty difficult to maintain because of the structural organization of the work-life balance in Switzerland (and especially the lack of childcare facilities). Thus, one must also note that the Swiss national gender regime is a source of tension between work commitment and family care duties per se, no matter the conjugal configuration.

After these several comments, we would underline that if masculine-based standards are always ruling the academic field, the line separating the club of promising young scientists from the others doesn't cut neatly along the gender line. We observed multiple kinds of configurations where women entered the club of the happy few promising ones. Our analysis pleads for a multidimensional approach (involving the analysis of personal life, institutional rules and national gender regimes) to understand as precisely as possible the reproduction of gender inequalities – but also to draw the conditions of possibility of their overcoming.

7. CONCLUSION AND RECOMMENDATIONS

To conclude this report on Switzerland, we will try to articulate our main qualitative findings with the conclusion of our quantitative analysis.

The interpretive analysis of our quantitative data led to two main findings:

- The Swiss gender regime is a barrier to women's careers in Switzerland.
- Post-docs are a constantly growing population in the Swiss context, but since there is a lack of information, it is difficult to establish an accurate picture of their population.

Thus, in our 6.1 report, we pointed out the lack of childcare facilities and the high rate of part-time work among academic women. These two factors are fundamental to explaining the pretty thick glass ceiling within Swiss universities. Our interview analysis reinforces this conclusion. With our several cases, we showed how this gender regime deeply shapes the everyday life of our interviewees. Even though they may have egalitarian practices in their private lives, living in Switzerland may lead them to adopt an unbalanced gender-role repartition. Family arrangements also evolve over time. The longitudinal approach in our interview analysis showed that coming to Switzerland may have increased the vulnerability of foreign women post-docs.

To sum up, we would say that three main characteristics define the Swiss 'academic pipeline'. First, it's a pipeline that picks up a very international flux of students. Second, this pipeline has a really narrow bottleneck (*i.e.* the chances of being stabilized are really thin), especially for women owing to the Swiss gender regime. Third, this specific pipeline 'leaks' in a potentially highly buoyant extra-academic labour market.

This last remarks lead us to formulate three recommendations:

- Limit the potential vulnerability of the (many) foreigners that come to Switzerland for their post-doc by improving the integration of foreigners,

making them aware of their rights and duties in terms of labour law and coaching them more systematically through the administrative routines (work permit, health insurance, pension contribution, etc.).

- Limit the effect of the unequal Swiss gender regime on women's careers in academia by improving the childcare facilities in universities (to counterbalance the global lack of childcare offered within the Swiss context) and by proposing more systematic full-time hiring.
- Limit the growth of the Swiss post-doc bubble by creating more stable intermediary positions (like those of MER, which are pretty rare in FBM) and by increasing awareness among all the post-docs (*i.e.* men AND women, Swiss AND foreigners) about possible careers in Switzerland outside academia in order to reduce the queue phenomenon.

REFERENCES

- Backouche, Isabelle, Godechot, Olivier and Naudier, Delphine (2009). 'Un plafond à caissons: les femmes à l'EHESS', *Sociologie du travail* 51(2), p. 253–274.
- Bataille, Pierre (2016). 'Quand le genre rattrape l'excellence. Une comparaison des parcours de formation et d'insertion des normaliens et normaliennes (1981-1987)', in H. Buisson-Fenet, C. Imdorf, and M.-P. Moreau (eds) *Ecole des filles, école des femmes*, p. forthcoming. Bruxelles: De Boeck.
- Bataille, Pierre and Goastellec, Gaelle (2015). 'University of Lausanne', Garcia report. in F. Steinhorsdottir, T.-M. Heijstra, T. Einarsdottir, et al. (eds) *Deliverable D5.2, Report on gender biases in management methods and decision-making*, pp. 168–199. University of Trento.
- Beaufaÿs, Sandra and Kraiss, Beate (2005). 'Femmes dans les carrières scientifiques en Allemagne: les mécanismes cachés du pouvoir', *Travail, genre et sociétés* (14), 49–68.
- Becker, Howard Saul (1971). *Sociological work*. Chicago : Transaction publishers.
- Bertaux, Daniel and Kohli, Martin (1984) 'The life story approach: A continental view', *Annual review of sociology*, 215–237.
- Bideault, Marc and Rossi, Pasquin (2004). *Personnels (les) enseignants de l'enseignement supérieur, 2003-2004*. Paris: MEN.
- Bozzon, Rosella, Donà, Alessia, Villa, Paola, et al. (2015). 'Background Policy Report on Italy', FP7 GARCIA Project. in N. Le Feuvre (ed.) *Contextualizing women's academic careers: Comparative perspectives on gender, care and employment regimes in seven European countries*, p. 3–60. Trento.
- Certeau (de), Michel (1984). *The Practice of Everyday Life*. Berkeley: University of California Press.
- Coser, Lewis A (1974). *Greedy institutions; patterns of undivided commitment*. New York: Free Press.
- Crompton, Rosemary (ed.) (1999). *The Decline of the Male Breadwinner. Restructuring Gender Relations and Employment. Some implications of the increase in*

- professional qualifications amongst women*. Oxford: Oxford University Press.
- Currie, Jan, Harris, Patricia and Thiele, Bev (2000). 'Sacrifices in greedy universities: are they gendered?', *Gender and Education* 12(3), p. 269–291.
- Davoine, Eric and Ravasi, Claudio (2013). 'The relative stability of national career patterns in European top management careers in the age of globalisation: A comparative study in France/Germany/Great Britain and Switzerland', *European Management Journal* 31(2), p. 152–163.
- Dubach, Philipp (2011) *La relève scientifique dans les universités suisses: indicateurs statistiques concernant les conditions de travail et les perspectives de carrière*. Bern: SEFRI.
- Ehrenberg, Ronald G. (2006). 'The changing nature of the faculty and faculty employment practices', in R. Clark and M. d'Ambrosio (eds) *The New Balancing Act in the Business of Higher Education*, p. 103–117. Cheltenham: Edward Elgar.
- Enders, Jürgen and Musselin, Christine (2008). 'Back to the future? The academic professions in the 21st century', *Higher education to 2030* 1, p. 125–150.
- Fassa, Farinaz and Kradolfer, Sabine (2013). 'The Gendering of Excellence Through Quality Criteria: The case of the Swiss National Science Foundation Professorships in Switzerland', *Tertiary Education and Management* 19(3), p. 189–204.
- Fassa, Farinaz, Kradolfer, Sabine and Paroz, Sophie (2012). 'Enquête au royaume de Matilda. La relève à l'université de Lausanne', *LIVES Working Papers* 11.
- Le Feuvre, Nicky (2015). *Contextualizing Women's Academic Careers in Cross-National Perspective* GARCIA working papers n. 5. University of Trento.
- Le Feuvre, Nicky (2009). 'Exploring women's academic careers in cross-national perspective. Lessons for equal opportunity policies', *Equal Opportunities International* 28(1), p. 9–23.
- Le Feuvre, Nicky (2005). 'La féminisation des professions masculines: enjeux sociaux et approches sociologiques', in G.-C. Y., K. D., and V. A. (eds) *L'inversion du genre : Quand les métiers masculins se conjuguent au féminin... et réciproquement*, p. 307–324. Rennes: Presses universitaires de Rennes.
- François, Pierre and Musselin, Christine (2015). 'Les organisations et leurs marchés du travail', *L'Année sociologique* 65(2), p. 305–332.
- Kamanzi, Pierre Canisius, Guégnard, Christine, Imdorf, Christian, et al. (2014). 'Démocratisation de l'enseignement supérieur et emprise des parcours: comparaison entre la France, la Suisse et le Canada', *Télescope* 20, p. 170–188.
- Kopp, Robert (2014). 'Le modèle universitaire suisse', *Commentaire* (145), 159–166.
- Kradolfer, Sabine (2015). 'Switzerland', GARCIA working papers n. 5. in B. Fusulier and F. Dubois-Shaik (eds) *Academic Careers and Gender Inequality: Leaky Pipeline and Interrelated Phenomena in Seven European Countries*, p. 116–137. University of Trento.
- Lapeyre, Nathalie (2006). *Les Professions face aux enjeux de la féminisation*. Toulouse: Octarès.
- Lewis, Jane (1992). 'Gender and the development of welfare regimes', *Journal of European social policy* 2(3), p. 159–173.
- Lieberson, S. (1991). 'Small N's and Big Conclusions: An Examination of the Reasoning in Comparative Studies Based on a Small Number of Cases', *Social Forces* 70(2), p.

307–320.

- Manpower (2015) *Talent Shortage Survey*. Milwaukee: ManpowerGroup.
- Marry, Catherine and Jonas, Irène (2005). 'Chercheuses entre deux passions', *Travail, genre et sociétés* (14), p. 69–88.
- Merton, Robert K. (1968). 'The Matthew effect in science', *Science* 159(3810), p. 56–63.
- Misra, Joya, Lundquist, Jennifer Hickes and Templer, Abby (2012). 'Gender, Work Time, and Care Responsibilities Among Faculty', *Sociological Forum* 27(2), p. 300–323.
- Musselin, Christine (2009). *The market for academics*. New York: Routledge.
- OFS (2014). *Personnel des hautes écoles [DATAFILE]* Available from: http://www.bfs.admin.ch/bfs/portal/fr/index/infothek/erhebungen__quellen/blank/hpe/01.html. Bern: Office Fédérale de la Statistique.
- Passeron, Jean-Claude and Revel, Jacques (eds) (2005). *Penser par cas*. Paris: Editions de l'EHESS.
- Ragin, Charles and Becker, Howard S. (eds) (1992). *What is a case? Exploring the foundations of social inquiry*. Cambridge: Cambridge University Press.
- Rossier, Thierry, Beetschen, Marion, Mach, André, et al. (2015). 'Internationalisation des élites académiques suisses au XXe siècle : convergences et contrastes', *Cahiers de la recherche sur l'éducation et les savoirs* (14), p. 119–139.
- Rossiter, Margaret W. (1993). 'The Matthew Matilda effect in science', *Social studies of science* 23(2), p. 325–341.
- Schultheis, Franz (2000). 'Chacun sa Chimère: Le Privatdozent, ou l' "illusio" académique faite homme', Musée d'Ethnographie de Neuchâtel. in M.-O. Gonseth (ed.) *La Grande Illusion*, p. 41–55. Neuchâtel.
- She Figures (2012). *She Figures. Gender in Research and Innovation*. Brussels: European Commission, Directorate General for Research and Innovation.
- Stengers, Isabelle (2010). 'L'étoffe du chercheur: une construction genrée ?', in F. Fassa and S. Kradolfer (eds) *Le plafond de fer de l'Université*, p. 25–40. Zurich: Seismo.
- Terzi, Alessandro (2015). 'Global Trends in Brain Drain and Likely Scenario in the Coming Years', in D. Archibugi and A. Filippetti (eds) *The Handbook of Global Science, Technology, and Innovation*. Wiley.
- Theodosiou, Maria, Rennard, Jean-Philippe and Amir-Aslani, Arsia (2012). 'The rise of the professional master's degree: the answer to the postdoc/PhD bubble', *Nature biotechnology* 30(4), p. 367–368.
- Wanner, Philippe (2004). 'Intégration professionnelle des populations d'origine et de nationalité étrangères en Suisse', *Revue européenne des migrations internationales* 20(1), p. 33–45.
- Wolfinger, Nicholas H., Mason, Mary Ann and Goulden, Marc (2008). 'Problems in the pipeline: Gender, marriage, and fertility in the ivory tower', *The Journal of Higher Education* 79(4), p. 388–405.

SLOVENIA

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1. INTRODUCTION

1.1. The societal and institutional/organisational context and the main quantitative facts on leaky pipeline in Slovenia (reference to D6.1)

The data presented in the first section of D6.1 Report clearly demonstrates that higher education in Slovenia has already entered into a phase of mass education. One of the most distinctive characteristic of these developments is the rather high share (60%) of female students among all university students. However, presence of female students is not evenly distributed throughout different SSH/STEM scientific fields. As statistical data for the whole country show, female students greatly outnumber male students in SSH fields at all study levels, particularly in education, health and humanities, while males strongly outnumber their female colleagues in engineering, manufacturing and construction. An exception is the field of agriculture, which is gradually but for sure exposed to feminisation among BSc, MSc and particularly PhD students. This general gender imbalance typical of student population composition is further reinforced in research and teaching staff population, women being at a disadvantage. Namely, the statistical data demonstrates that universities and research institutions in all scientific fields, except in humanities and medical sciences, and lately also in agriculture, employ more men than women. This is further corroborated with statistical survey data on PhD holders' career, which outlined as a scissor-shaped curve, by clearly demonstrating unequal professional trajectories of women and men in science: in typical academic careers, the share of women is decreasing, with each higher step on the academic ladder. Moreover, the disadvantaged position of highly educated females is mirrored in statistical data showing that women significantly prevail among the researchers employed with temporary contract. Therefore, on a general level, statistical indicators and statistical survey data unambiguously demonstrated the existence of leaky pipeline phenomenon in science in Slovenia.

To deeply tackle the presented issue and found out anchored national and organisational structural problems, which have been superficially examined until now in Slovenia, we have done ethnographic research at 2 GARCIA organisations, since the Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU) does not have suitable STEM department to get accurate results and only carries out the research. Because of that, the Department of Agronomy from Biotechnical Faculty, the University of Ljubljana was chosen as a STEM institution. At ZRC SAZU, we choose the Fran Ramovš Institute for the Slovenian Language as test institution.

The mapping of organisational indicators at test SSH/STEM departments, presented in the second part of D6.1 Report, gives an impression that in some individual scientific fields this phenomenon is less strongly expressed. In Fran Ramovš Institute – where men account for a smaller share of employed, the phenomenon of leaky pipeline is not confirmed. The top academic positions as well as permanent research employments are

strongly dominated by women, while among leavers men considerably outnumber their female colleagues. Among those who got promoted, women strongly prevail as well. The situation referring to test STEM department also seems rather atypical (but in line with the picture presented by statistical data) – more in favour of female PhD holders than it is supposed to be in other (similar) STEM departments. However, from WP5.1 Report, in both chosen departments, irrespective of their numerical representation—women still occupy to a much lesser extent the important decision making positions in their organisations than their male colleagues, which put positioning them in a disadvantaged position. The observations, based on statistical data, that university and research departments are still strongly determined by specific masculine academic culture is further corroborated with the findings of other surveys on PhD holders. Hence, our study showed that the leaky pipeline phenomenon needs to be observed from various perspectives in the same organisational units.

1.2. The usefulness of identifying the narratives on “career experiences”, starting from the individual trajectories

Due to on the one hand the presented quantitative data show that Slovenian science is facing the leaky pipeline phenomenon, but on the other hand the SSH and STEM test units nonetheless provide better career opportunities for female PhD holders, what is atypical for the STEM institution, the presented narratives on career experiences show micro politics at work in the test units and deeper problems that the employees are facing. Additionally, the narratives reveal anchored problems of the national scientific system, culture and politics of organisations, their institutions and departments. Moreover, giving the voice to the target people also enabled us to better recognise the way of living and working of the employees, their way of thinking, and above all, the possibility to identify the personal and institutional problems as well as experiences, wishes and ideas of how to resolve some tackled discrepancies.

Besides, ethnographic methods, especially the semi-structured interviews, where the interviewees were given the opportunity of their voices being heard, allow the researchers to inform and educate collectors about the issues which are being researched (e. g. gender equality, gender mainstreaming, leaky pipeline phenomenon, etc.). Thinking and discussing research problems enable both, the researcher and collectors, to deepen their knowledge and to approach the researched issue from different perspectives and points of view.

1.3. Inductive approach/grounded theory

The quantitative research is based on inductive or bottom up approach, starting with the formulation of the necessary methodology and samples. Ensuing conversations inside the research teams and with the leaders of HR offices, who gave us the necessary data, we got in touch with the interviewees in order to carry out semi-structured interviews. After we carried out the interviews and after their transcription into local language, we prepared some summaries in English. Afterwards, we analysed the acquired data, discussed it inside the research team and, finally, prepared the report. According to the findings, we prepared some conclusions about Leaky pipeline phenomenon in Slovenia. In comparison with the already presented theories about the Leaky pipeline

phenomenon in the European scientific environment, we will be able to generate already developed theories as well as include the issues tackled in Slovenia, regarding Leaky pipeline, thus presenting them at the international level.

1.4. The structure of the report

The main context of this structure is built upon the results of 6.1 Quantitative Report on Leaky Pipeline Phenomenon; National and organisational overview and analyses of interviews conducted in WP4 and WP6. Some necessary data were chosen from the 7.2 Report on gender practices in the construction of academic excellence/quality as well.

The report is structured according to guidelines. The report is divided into the introduction, presentation of methodology and samples, presentations of Movers/leavers, the Postdocs, The Newly Tenured, transversal discussion, and finally, the conclusion and recommendation for tackling Leaky pipeline phenomenon at an organisational, institutional and structural level.

2. METHODOLOGY AND SAMPLES

2.1. Stem institutions: Department of Agronomy, Biotechnical Faculty, University of Ljubljana

2.1.1. The collecting process of interviews (WP4 + WP6)

The secretary from the STEM institution (Department for Agronomy, Biotechnical Faculty at the University of Ljubljana) intentionally did not provide contacts for the interviews, referring to the *Personal Data Protection Act*. Therefore, the snow-ball methodology was employed to obtain the below sample (Table 1). The contacts for WP4 were much easier to get by assistance of a PhD assistant and 2 professors, while there were some difficulties to get the contacts for WP6. Many candidates for WP6 refused to participate in interviews because of distrust or bad memories of the faculty staff, despite referring to their colleges – the former associates who gave us their names and phone numbers.

2.1.2. Key aspects of the interview guide

In analyses below, the following key dimensions of the interviews (WP4 + WP6) were reviewed:

- Individual trajectory
- Organisation of work
- Well-being and work-life balance
- Career development (environment, persons, networks and interactions)
- Perspectives on the future

2.1.3. Populations targeted (movers/leavers, D-level PhD holders (Assistants with PhDs and a postdoctoral student with temporary contracts), C-level (Assistants with PhDs, but obtained the academic title of Assistant Professors with permanent contracts)

The final sample is:

- Gender balanced: 10 male (5 + 5) and 10 female interviewees (5 + 5) in both WP4 and WP6 group, respectively.
- Relatively balanced as to the temporary/permanent contract: in WP4 group, there are 5 persons temporarily employed (all employed as D-level) and 5 are permanently employed (2 C-level and 3 D/C-level). In WP6 group, 5 persons are currently permanently employed, 4 are temporarily employed, and 1 is unemployed.
- WP6 group consists of 2 movers and 8 leavers. In WP6 group, all persons obtained D-level position (assistants with PhDs) during their temporary employment at the faculty.
- WP4 group consists of 8 persons employed and paid as D-level – assistants with PhDs (6 of them have already been promoted to C-level – assistant professors. These are labelled as D/C interviewees. 2 are employed and paid as C-level employees (assistant professors)). Only 4 of them have experience as postdoctoral students:¹² 3 former postdoctoral students (F3, F12 and M16) and one current postdoctoral student (M10).
- The majority of collectors (15 out of 20) was recruited by the Department of Agronomy through publicly advertised calls for young researchers¹³ in academic institutions, young researchers from industry (2), and through publicly advertised jobs of the University of Ljubljana for the (teaching) assistants at the Biotechnical Faculty UL (3).
- Age in WP4 and WP6 group: from 31 to 43; mean age: 37.
- Nationality and Ethnicity: all interviewees are Slovenian citizens and ethnic Slovenians.

¹² In Slovenia, a PhD student obtains the postdoctoral status if they are successful in applying for the basic research project at the Slovenian Research Agency. If they obtain the project, there is no selection procedure, and they are themselves the principal investigators of their postdoctoral projects (without a required mentor). The candidate who applies for the postdoctoral project is dependent on internal Department (or Faculty) politics.

¹³ Young researcher programme was introduced in 1985 to prevent Slovenia from lagging behind in scientific and technological development. The main goals have still remained the same: to renew and rejuvenate the research personnel in research institutes and universities, and to educate qualified professional research staff also for industry and other non-academic institutions. Young researchers are employed for a specified period, have salaries, cost-covering scholarship and material expenses, including small equipment. In addition to postgraduate studies, they work on basic and applied research projects or programmes, and within the period of training and education at home, they can also study abroad (from 1 to 12 months). Recently, the Slovenian Research Agency has introduced some novelties: young researchers for business sector, public call for mentors of young researchers instead for applicants, thematically oriented public call by priorities of Government, and possibilities for applicants of young researchers from foreign countries (also for postdoc applicants).

20 interviews were conducted in the time-period of 6 months:

- WP4 group: October 2014-February 2015 (5 months).
- WP6 group: October 2014-March 2015 (6 months).

Table 1: Sample of the interviewees per WP4/WP6, gender, type of contract (T/P) and non/tenured position (D/C) in STEM discipline

WP	I (G-N)	DISCIPLINE	Work contract (T/P)	AGE
4	F1	agrarian economics, rural development	T (D)	32
4	F2	plant biotechnology	P (C)	41
4	F3	microbiology	P (D/C) ex postdoc	38
4	F4	farmland management	T (D)	33
4	F5	agronomy	P (D/C)	42
4	M6	plant protection, phyto-pharmacy	T (D/C)	32
4	M7	agronomy	P (C)	43
4	M8	vegetation ecology, botanics	P (D/C)	37
4	M9	agronomy, environment protection, economics	T (D/C)	34
4	M10	biotechnical sciences	T (D/C) postdoc	33
6	F11	agronomy – medicinal herb	P (50%) +T (40%) (D)	38
6	F12	agronomy – soil science	P (D) ex postdoc	36
6	F13	biotechnology	P (D)	32
6	F14	biotechnical sciences	P (D)	36
6	F15	biotechnology – genetics	T (D)	42
6	M16	genetics	T (D) ex postdoc	33
6	M17	agronomy – plant physiology	P (D)	33
6	M18	soil science	T (D)	36
6	M19	environment protection	T (D)	34
6	M20	environment protection	UNEMPLOYED (D)	31

LEGEND:

I (G-N): gender and number of the interviewee

T = temporary work contract

P = permanent work contract

D = assistant with PhD

C = Assistant professor

2.1.4. Description of samples respecting confidentiality

All interviewees were promised and granted high confidentiality and anonymity. Many of them stressed that anonymity was a precondition to participate in interviews. For the STEM test institution (Department for Agronomy at the Biotechnical Faculty UL), we succeeded to collect the recommended sample and fulfil all necessary data about WP, ID, Academic fields, Sex, Age in 2015, Mother tongue, Nationality / Ethnicity, Educational degree of parents, Profession of parents, Relationship status (in couple/married, single, etc.), Housing (rented or owned), Co-habitation (living in couples, with friends, with

colleagues, with parents, etc.), Children, Partner's occupation, Interviewee's occupation, Interviewee's income (net monthly) and Partner's income (net monthly) (see the exe file attached).

2.1.5. Strengths and limits of samples

Sample is balanced according to gender, temporary/permanent contract, D- and C-level, according to national specificities and WP4 and WP6 requirements (stayers and movers/leavers) described above.

2.2. SSH institution: Fran Ramovš Institute of the Slovenian Language, Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU)

2.2.1. The collecting process of interviews (WP4 + WP6)

At the beginning of the research, the leader of the Human Resource office gave us necessary information about the staff at our test unit Fran Ramovš Institute for the Slovenian Language. Although the Slovenian Personal Data Protection Act prohibits us to access some personal documents, the HR secretary did not make any troubles, as we worked at our institution. Most of interviews in the framework of the WP4 were conducted according to the so-called live approach (face-to-face), and carried out in October 2014 and in March 2015. In the framework of WP6, the collectors were from various institutes at ZRC SAZU and only one was from the chosen test unit due to the lack of available appropriate candidates. Thus, we interviewed one researcher from the Institute of the Slovenian Language (test institute at ZRC SAZU), 3 researchers from the Institute of Philosophy, 3 researchers from the Slovenian Migration Institute, 1 researcher from the Institute of Geography and 1 researcher from the Institute of Archaeology. 2 interviews were done through Skype, as collectors live abroad. The interviews were carried out from December 2014 to April 2015. It should also be noted that we interviewed more female researchers (18) than male ones (2), because it was not possible to get appropriate candidates according to interview's guidelines, since more female researchers are employed at ZRC SAZU than male ones.

2.2.2. Key aspects of the interview guide

According to the Interview Guide for Conducting Interviews in WP4 and WP6, the interview's questions focused both on the everyday life and on biographical life-lines of individuals (in professional and private lives).

We explored the following fields:

- Individual trajectory
- Organisation of work
- Well-being and work-life balance
- Career development (environment, persons, networks and interactions)
- Perspectives on the future

2.2.3. Populations targeted (first movers/leavers, but also postdocs and newly tenured in order to have diverse points of views on the pipe), difficulties encountered ...

In the framework of WP6 we can expose the following sample:

The number of interviewees: 4 movers and 5 leavers:

Gender characteristics: 2 male interviewees (1 mover and 1 leaver); seven female interviewees (3 movers, 4 leavers)

Working position: 6 interviewees had a temporary position, 2 had a permanent position. Seven of them had a Young Researcher status (a special status for PhD studies). 3 leavers had a Research Fellow position (C position), 6 of them were Assistant with PhD or assistant (D position).

In the framework of WP4 we can expose the following sample:

The number of interviewees: 10 interviewees; 3 assistants with PhD (D position – The PhD); seven Research fellows (C position – The New tenured);

Gender characteristics: 1 male interviewee (D position), 9 female interviewees (1 D position, 8 C position);

Working position: all of them work full time; 5 of them are temporary employed (2 of them are Research Fellows); six of them are permanent employed.

Table 2: Sample of the interviewees per WP4/WP6, gender, type of contract (T/P) and non/tenured position (D/C) in SSH discipline

WP	I (G-N)	DISCIPLINE	Work contract (T/P)	AGE
4	F1	Linguistic	T(D)	35
4	M2	Linguistic	T (D)	34
4	F3	Linguistic	P (C)	34
4	F4	Linguistic	P (C)	34
4	F5	Social linguistic	T (C)	40
4	F6	Dialectologist	T (D)	30
4	F7	Linguistic	P (C)	40
4	F8	Linguistic	P (C)	44
4	F9	Linguistic	T (C)	38
4	F10	Dialectologist	P (C)	47
6	F11	Philosophy	T(D)	38
6	M12	Geography	P (C)	44
6	F13	Archaeology	T(D)	37
6	F14	Philosophy	T(D)	35
6	F15	Linguistic	P (C)	46
6	F16	Anthropology	T (C)	40
6	F17	Migration studies	T (D)	39
6	M18	Philosophy	T (D)	36
6	F19	History	T(D)	38

I (G-N): gender and number of the interviewee

T = temporary work contract

P = permanent work contract

D = Assistant, Assistant with PhD

C = Research Fellow

2.2.4. Description of samples respecting confidentiality

All interviewees were promised and granted high confidentiality and anonymity. Many of them stressed that anonymity was a precondition to participate in interviews. Unfortunately, for the SSH institution (ZRC SAZU), we did not succeed to collect the recommended sample and fulfil all necessary data about WP, ID, Academic fields, Sex, Age in 2015, Mother tongue, Nationality / Ethnicity, Educational degree of parents, Profession of parents, Relationship status (in couple/married, single, etc.), Housing (rented or owned), Co-habitation (living in couples, with friends, with colleagues, with parents, etc.), Children, Partner's occupation, Interviewee's occupation, Interviewee's income (net monthly) and Partner's income (net monthly) (see the exe file attached). The reasons are data regarding family, which are very sensitive and interviewees did not want to trust us.

2.2.5. Strengths and limits of samples

Sample is not balanced according to gender and temporary/permanent contract, D- and C-level, because we did not manage to get appropriate candidates, who would give us interviewees.

3. MOVERS/LEAVERS

3.1. STEM institution: Department of Agronomy, Biotechnical Faculty, University of Ljubljana

In this group of collectors, 2 are movers (against their will) to other academic institutions and 8 are leavers (3 free willingly and 5 against their will), now, being self-employed, working in business or industry, 1 person remaining unemployed, but looking for an opportunity in industry or business. This group consists of women and men who are single (M16, M19), married or living in a partnership with a child or children (F11, F12, F13, F15, M17, M18) and married without children (F14, M20).

3.1.1. Understanding their trajectory retrospectively

Both female and male interviewees were recruited by the Department of Agronomy through publicly advertised calls for young researchers in academic institutions or industry. They believe that they were selected for these jobs mostly because of their previous (undergraduate) collaborations with their mentors. This practice of recruitment proves the 'social inbreeding' from the very beginning.

Speaking about their career mentors, they all referred to their PhD mentors.

Both female and male interviewees started PhD studies because of their research interests. They wished to continue researching after they graduated, although they did not have a clear idea about the academic world.

Female interviewees reported good (2) and bad mentorship (3) in their socialisation process. Those who reported bad mentorship were 'left to themselves' (no leadership,

advice, task definition, support, regular discussions, exchange of views, orientation how and what to do), or had poor or hierarchical communication with their mentors. Their mentors did not integrate them into the project and article writing, but they allowed them to attend conferences and spend some time abroad (mobility). Yet, 5 of them labelled their mentors selfish, not because they were bad supervisors, but because they did not help them to survive after the PhD. During their PhD studies, they were promised a continuing academic career, but after they completed their PhD, the information about quitting their contracts was sudden and without any detailed explanation. Interviewees were disappointed, offended, angry, and they still believe their mentors did not provide the necessary support or help them find another job.

2 female interviewees (F12, F15) described their mentors in a positive way as appropriate leaders capable of integrating them into all phases of research activities; however, both mentors were completely without a feeling of their mentees' family duties.

The majority (4 out of 5) of male interviewees were very satisfied with their mentors. Now, 'to work alone' was understood as a value of academic work, or a welcome characteristic of male collectors' mentors, who allowed them or supported them to be autonomous and independent. They were integrated into academic work through proper leadership, article and project writing, and were supported to attend conferences; some stayed abroad for several months during their PhD (mobility). Only 1 male interviewee experienced negative mentorship, stressing similar characteristics about his socialisation to academic culture as female mentees who had to leave: no leadership, top-down communication, no teamwork, but was allowed to attend conferences, and once he stayed abroad for 6 months (mobility). Being already married and with children, at that time he was not understood as a father by his mentor and team.

Both female (2) and male (2) interviewees with children (families) were not supported by their mentors as mothers/fathers, irrespective of positive or negative description of their leadership. They were expected to prefer teamwork, to complete tasks on-time, to be present in their work environment (office, laboratory, classroom, and fieldwork). Yet, they all took maternity/paternity/parental leaves and reported understanding and strong support from their partners/spouses/parents in balancing family and work.

The majority of both female and male interviewees reported positive working climate among associates in their team groups, but these teams were mostly detached from other team groups at the Department. They experienced good relationships with their team members, but extreme competitiveness and sometimes 'rivalry' with other teams at the Department as a consequence of the highest value of scientific excellence – constant fight for prestigious publications and research projects. Fighting for laboratory equipment was also a usual practice. Some also reported rivalry and bad relationships among the heads of the Chairs and leaders of research teams, and as their mentees, they were expected not to communicate with their peers and other associates of their rivals. Yet, none of the collectors reported any gender differences experienced.

Both female and male interviewees shared their small offices with other associates: from 2 to 6 in 1 room. They reported that they were satisfied with equipment.

Both male and female collectors run exercises of mandatory or optional courses of their mentors. They did not experience these duties as a burden, but rather as their mentors having trust in them and as an opportunity to start teaching.

Both female and male interviewees quit their jobs at the faculty immediately or soon after they had completed their PhD studies.

3.1.2. The reasons for moving away from the institution (also the difficulties they encountered and how they managed (or not) to overcome them)

There are 3 groups of reasons for moving away from the institution experienced by both women and men, namely:

The first one pertains to those whose work contracts were not prolonged at the end of the official termination of their status as young researchers (3 female and 3 male collectors). Women reported several additional explanations as to why they lost their jobs: that their mentors did not apply on-time for a project in order to keep them at the faculty, or that they could not apply for a postdoctoral project since that year there was no open call for 1, or that their mentor was simply uninterested in keeping them in the working group. Those who were constantly assured by their mentors during their PhD studies to stay after the PhD as talented researchers or teachers were particularly in shock, angry and disappointed. Men were not so emotional in their descriptions; they simply said that contract termination had been expected, or that they had had a bad relationship with their mentor during their PhD, or that their mentor had preferred other young researchers to stay in the research group. All those collectors had to leave.

Only 1 female interviewee left by her own will, despite promises of her mentor to keep her, but on the condition that she wrote a scientific article for him. She knew that she could not stay because her project application failed. As to her mentor's proposal, she was deeply offended. She refused to be in a precarious position and left the institution. After several failed applications for jobs, she realised she was overqualified and started her own independent business trajectory.

Those who had to leave coped in different ways. Men at first received unemployment benefits (from 3 to 6 months), 1 stayed on his farm (self-employment) and undertook his own business path, 2 others experienced long unemployment (2 and 3 years) before 1 of them got a job. Both are not satisfied and are looking for another opportunity in the industry. Women employed different strategies: 1 got employment in her husband's firm and, after maternity leave, got employed at the Institute and the Faculty again. The other one got a job at the Vocational High School after being 3 months on unemployment benefits, and the third one started her own business as described above.

The second group pertains to those collectors who decided by themselves to move to another institution because of better or desired opportunity (1 female and 2 male collectors). A female collocutor moved to a start-up company, established together with her mentor during her PhD studies, 1 male collocutor moved to a desired job in the National Park, and the third one moved, after the completion of his postdoctoral project, to a company with which he collaborated as a postdoctoral student.

In the last group, there is the single case of a female collocutor whose temporary contract after the prolonged maternity leave for her child with special needs was not prolonged. She was surprised because, before the maternity leave, she had successfully led a European project and was very well integrated into her research team. Being unemployed, she was anxious because of the loan for her apartment and her family. She

was soon invited to work in the other Institute as she proved herself with sound results of the EU project. After a year, she left the institute, finding a better job opportunity in a private company.

3.1.3. Their current situation (professional and private)

The 2 women who started their own businesses (F12 and F13) have their own families with children and are very much engaged in their businesses. Now, they work in R & D and for the profit in the 'real world'. Their job is more intense and stressful compared to the faculty, but now, their work is dependent on their own organisation from the beginning to the end. Difficulties pertain to the loans for co-financing developmental projects (F12) or lower salary (F13) because of price oscillation and not yet consolidated products in the market. They both enjoy great support from their husbands and parents as to the caring for their children. The same applies for a female collocutor who works in a private company (F15): now, there is less work flexibility and everything is organised to increase the company's profit. She also enjoys high support from her mother and partner's parents in caring for their daughter with special needs. The fourth female mover (F11) is now working part-time at the Institute and part-time at the faculty. She enjoys working in such a constellation, having full support from her husband. The last one (F14) is dissatisfied working at the Vocational High School: here is much more administration compared to the faculty, students are less demanding, there is little research underway and much more routinised work. She is missing science.

More satisfied with their current position are both a male (voluntary) leaver to industry (M16) and a self-employed farmer (M17). Their work is now more organised and under their control; the first one (M16, a single man) has a much higher salary compared to the faculty one, while the self-employed farmer is experiencing worse financial conditions. However, the farmer is now more satisfied and optimistic, enjoying his family life (3 children, his wife and parents) despite working for entire days. Another 3 male collectors (M18, a voluntary leaver and 2 involuntary leavers – M19 and M20) are not satisfied with their current positions at all. The voluntary leaver had to move from his desired job at the National park to the Institute where he meets similar or even worse work conditions as he had previously met at the faculty: project work and poorly collaborative working group demotivate him. The 2 others who have experienced long-term unemployment are not satisfied with their current positions either. The first one got a job after 2 years of unemployment. Now, he is living with his parents and looking for another job opportunity more in line with his competences and knowledge. The still unemployed one is losing his self-esteem, is married without children, living in owned apartment, and looking for a job opportunity anywhere in the country. Experiencing 3-year unemployment, he has taken on all domestic tasks.

3.1.4. Their expectations and projects

The interviewees' expectations and projects are in line with their current situations. In general, they all wish to be satisfied in their jobs and financially secured in uncertain circumstances. Men and women who are engaged in business or are self-employed wish to succeed in developing and bringing their own products to the final users-customers. They also wish to neutralise economic risks, price oscillations, in sum, uncertain market conditions, which provoke their constant stress and fear. They also wish to have healthy

children and good relationships with their close family members. Rare are those (e.g. the part-time female collocutor and the single male working in a company) who wish to keep their status quo as to their family and job, or to be involved in academic life again (e.g. the female lecturer at the Vocational High School). The last 3 male collectors who are unsatisfied with their current situations wish to financially survive and to find satisfactory jobs according to their competences, knowledge and interests.

In general, both female and male interviewees agree that all activities, such as scientific writing, project writing, etc., should be organised during the PhD study and not after it. Postdoctoral students should be already capable of writing project applications and well equipped to obtain financial resources. They all emphasised the need for more strategic planning of young researchers' trajectories, either by their mentors themselves or by means of long-term state research policy, which puts too little emphasis on digesting (processing) young researchers in the labour market after they complete their PhD studies. Some also stress that mentors should be better informed about existing offices, which provide information about various calls for projects in the industry. Finally, some also stressed that information about project calls is not enough, but that administrative support in writing demanding project applications is most welcome and necessary.

3.1.5. The 'moving' types of trajectories and experiences (the relation of these trajectories and current situations with the variables 'sex', 'age', 'marital/couple and parental situation')

As said above, the 2 women (F12 and F13) who started their own businesses and have their own families with children are very much engaged in their businesses. Now, they work in the development and for the profit in the 'real world'. Their jobs are more intense and stressful compared to the faculty, but now, their work is dependent on their own organisation from the beginning to the end. Difficulties pertain to the loans for co-financing developmental projects (F12) or lower salary (F13) because of price oscillation and not yet consolidated products in the market. They both enjoy great support from their spouses and parents as to the caring for children. Irrespective of uncertain market conditions, both can be labelled as a '**female optimistic type**': other family members contribute to their reconciliation of family and work and they enjoy the freedom of being their own managers.

The same applies (a '**female optimistic type**') for a female collocutor who works in a private company (F15): now, there is less work flexibility and everything is organised to increase the company's profit. She also enjoys high support from her mother and partner's parents in caring for their daughter with special needs. The next female mover (F11) who works part-time at the Institute and part-time at the faculty is married and has a family, balances her family and work successfully. She enjoys working in such part-time constellation, and can be labelled as a '**female optimistic type**'.

The last one is dissatisfied working at the Vocational High School: here is much more administration compared to the faculty, students are less demanding, there is little research underway and much more routinised work. She can be labelled as a '**female distant type**' or rather a '**female nostalgic type**' since she would like to work in science again.

More satisfied with their current positions are a male leaver to the industry (M16) and a self-employed farmer (M17). Their work is now more organised and under their control; M16 (a single man) has much higher salary compared to the faculty and he is completely engaged in the new working environment. Therefore, he is a **'male engaged type'**. The self-employed farmer is experiencing worse financial conditions. However, the farmer is now more satisfied and optimistic, enjoying his family (3 children, his wife and parents) despite working for an entire day. He belongs to a **'male optimistic type'**. Another 3 male collectors (a voluntary leaver and 2 involuntary leavers) are not satisfied with their current positions at all. The voluntary leaver (M18) had to move from his desired job at the National park to the Research Institute where he meets similar and even worse work conditions as he had previously at the faculty: project work and poorly collaborative working group demotivate him. He also cannot reconcile his work and family life, and would like to work as a self-employed person in the industry. Therefore, he can be labelled as a **'male distant type'**.

2 others who experienced long-term unemployment are not satisfied with their current positions at all. The first one (M19, a single man) got a job after a 2-year unemployment. Now, he is living with his parents and looking for another job opportunity more in line with his competences and knowledge in the industry and not in science. He can be labelled as a **'male distant type'** from science. The still unemployed one is losing his self-esteem, is married without children, living in owned apartment, and looking for a job opportunity anywhere in the country, but in the industry. Experiencing 3-year unemployment, he has taken on all domestic tasks. He can be labelled as a **'male distant type'** from science and a **'male job seeker in uncertainty'**.

3.2. SSH institution: Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU)

The interviews were conducted among 4 movers (3 female researchers and 1 male researcher) and 5 leavers (4 female researchers and 1 male researcher). In the group of movers, 3 female researchers (F11, F15, F19) are employed at the national universities, where they are involved in research projects (1 in a postdoctoral project and 2 in European or national basic research projects), while a male researcher (M18) works at the Research Centre abroad, where he is involved in a research group. None of the movers has a permanent job, but they are employed temporarily for the duration of the projects. In the group of the leavers, 1 female researcher is employed at the Archive (F13), 1 male researcher is self-employed as Montessori pedagogue (M12), 1 female researcher is currently unemployed (F17), but she is planning to open her private institute, and 2 are working abroad. One of them is a free-lance researcher and works in R & D in Africa (F 16), while the other is involved (again) in the postgraduate study (Master's degree) and works as a student.

1 female leaver is single (F13); 2 female movers are divorced and live with their children (F11, F15); 1 male leaver (M12) and 1 female leaver (F17) are married and have children; 1 female leaver is married but without a child (F14); 1 female leaver lives together with her partner but without a child (F16); and 1 male mover (M18) and 1 female mover (F19) have partners, but they do not live with them.

3.2.1. Understanding their trajectory retrospectively

8 out of the 9 interviewed movers/leavers were young researchers (PhD students). During their employment as young researchers, they wrote PhD thesis under the supervision of research mentors from the ZRC SAZU and pedagogical mentors from the Faculties. 1 leaver (F17) was invited to be a member of a research team at the ZRC SAZU because of her previous research and educational experiences, which were necessary in the new Institute's project. During the project activities she wrote her PhD thesis as well.

As presented in the chapter on methodology, the interviewees were from different scientific areas at the ZRC SAZU, but all from the field of humanities.

For all interviewees the most important event in their trajectories was the acquisition of the status of a young researcher in order to obtain a PhD. For 8 out of 9 collectors the status of a young researcher was their first job in the academic and personal career. Many of them were invited to apply for the status by their professors from the Faculties, who worked also at the research Institutes at the ZRC SAZU, or have good working relations with some colleagues from the Institutes. The majority of the interviewees emphasised the importance of their mentor's role during their graduate study. 5 collectors (M12, F14, F18, F19, F15) expressed a positive attitude toward their supervisors, particularly in terms of providing them with substantial knowledge and support, while other interviewees (especially F11, F13) complained about their mentors for leaving them alone, or for not supporting them properly in their decisions to select appropriate PhD subject-matters, etc. However, the majority of them emphasise the lack of supervisor's support pertaining to the career trajectory after completing their PhD studies, and they would probably stay at the institutes if they had more influential supervisors.

Only 1 interviewee (M12) had a permanent position at the ZRC SAZU, while others had temporary positions for the duration of their PhD studies. These insecure positions and temporary project work, which became permanent in Slovenian science, burdened all the interviewees, including those with permanent jobs. In this regard, all interviewees criticised the national project policy.

4 interviewees (F11, F14, F16, M18) left the ZRC SAZU soon after they completed their PhD studies, and went abroad. 2 researchers from this group (F14, M18) maintained good relationships with the previous Institutes, working part-time for them. The third researcher from this group (F16) returned to Slovenia after obtaining a European project abroad. She got employment at the ZRC SAZU without hesitation of the Head of the Institute, but after the end of the project, she was not involved in the research group anymore, because she was not successful again in getting a new project. She left Slovenia. The fourth collocutor from this group (F11) was abroad for 2 years because she got a fellowship for postgraduate students.

Decisions for postgraduate studies were different; however, most of the interviewees mentioned their research interests.

Collocutors also noted some other turning points in their careers. 3 interviewees (F11, F14, F18) mentioned the possibility to study abroad during their PhD studies. Usually they employed the international networks of their mentors or the heads of the institutes. 3 interviewees (F11, F13, F15) pointed out teaching experiences at the national universities. 2 of them realised that teaching was not an appropriate occupation for them (F11, F15). 1 female mover also mentioned that she moved to another city,

where she started teaching at a national university (F11), but that she had some difficulties integrating into a new research team.

3 interviewees experienced unemployment (F11, F14, F17). One of them was unemployed at the time she was giving the interview (F17); 2 of them became unemployed after they left ZRC SAZU, and they did not manage to find new jobs. At the time when the interviews were conducted, 8 out of 9 interviewees did not have permanent jobs.

3.2.2. The reasons for moving away from the institution (also the difficulties they encountered and how they managed (or not) to overcome them)

1 interviewee (F11) voluntarily left the ZRC SAZU immediately after she completed her PhD. She was invited to the national university, where she taught at the Faculty of Humanities. Due to cutbacks in public funding for educational programmes, the percentage of her employment at the Faculty was reduced. After 1 year of unemployment, she got a student's fellowship abroad and, later, she got a postdoctoral project at the same national university. 3 interviewees (F13, F14, M18) got an opportunity to continue research work at the ZRC SAZU for some time-period (1 year or 2 years) after their PhD studies, but only part-time. 1 interviewee (F14) was employed part-time at the ZRC SAZU and another part-time at the Academy abroad (student's fellowship). After finishing both projects, she decided to leave Slovenia and to move abroad permanently. The reasons for that were not only uncertain jobs in Slovenia, but they were also personal. Another interviewee (F13) got an opportunity to be employed part-time at the ZRC SAZU. Due to insecure position and project policy, she accepted the employment in the Archive of Archdiocese.

Only two interviewees (M 12, F15) left the Institution at the ZRC SAZU and their permanent job voluntarily, because they wanted to experience new challenges. The interviewee M12 was not satisfied with the national project policy, while the interviewee F15 criticised the research policy of the selected SSH Institute. In her words, the Institute is not scientifically competitive, giving more emphasis to professional (expert) than scientific work.

4 female interviewees (F13, F16, F17, F19) also said bad interpersonal relationships and internal preferable groups at their institutes are the reasons for leaving. Most of them had low self-confidence and high regard for supervisors and old colleagues. One of them (F13) had health problems constantly (cold, headache), while another one had serious psychical difficulties (F 11). F11 blamed herself for the bad relationship with her mentor, as she had difficulties of choosing an appropriate theme for her PhD thesis and quickly gave up. Another female interviewee (F19) stressed that she, with her personal characteristics (slowness, preciseness), contributed to bad relationships with some colleagues, as such traits were not suitable for teamwork. The interviewee F11 noted that the mentor and the Head of the Institute had their preferable groups of young researchers, who dealt with the same themes as their supervisors. Finally, all of them wanted to stay at the Institutes. Some interviewees also complained about the hierarchy among the older and younger researchers and the employees with permanent and temporary positions. The older researchers with permanent positions had priority in obtaining research hours of the institute's research programme, although their research

results and involvement in the research teams were not adequate and according to the informal institution's criteria. Furthermore, 2 leavers (F16, F17) stressed that they were not successful in meeting the informal criteria related to work on project proposals, and to bring projects to the institution.

All interviewees criticise the Young Researcher programme as inconsiderate regarding the young researchers' trajectories after they complete their PhD studies. 1 female leaver (F17) argued that PhD holders had difficulties to get jobs as they were overqualified. In general, all the interviewees were very happy when they got the status of a Young Researcher and being paid for their PhD studies. Yet, after their PhD studies, many of them realised that their scientific career was finished; no new research projects. However, 1 female interviewee (F14) stressed that the young researchers at her Institute were informed in advance that they could not be provided with a permanent job and that everything was dependent on their successfully obtained research projects. Some PhD holders went abroad and made their own international scientific networks.

3.2.3. Their current situation (professional and private)

3 interviewees (F14, F16, M18) decided to go abroad. 1 male researcher (M18) is employed in a research institution, another female researcher (F14) works as a student, preparing a new Master's degree. The third female researcher (F16) works in R & D as a free-lancer. Female interviewees live with their partners, but without children. One of them wants to have a child in the future (F14), while the second one has not been planning a family yet (F16). The third male researcher (M18) has a female partner, but they live in separate households. All of them have support from their partners, who work in the similar fields.

3 female interviewees moved to another academic institution – national universities; 2 to the University of Ljubljana (F15, F19), and one to the University of Primorska (F11). All of them were invited to the other institutions because of their good experiences and knowledge. The movers to the University of Ljubljana are very satisfied with their new positions and research teams. They are not university teachers, but are involved in research work. The mover to the University of Primorska leads her postdoctoral project, but she complains about the difficulties with her involvement in the incompatible research group. She has 2 children and she is divorced. She pointed out that her former husband assists her in childcare, but otherwise she feels alone. Her parents did not manage to help her with housekeeping and childcare, as they lived far away. The other mover is divorced as well and she lives with 1 child (F15). Her parents helped her with childcare and other family obligations. The third mover, who is employed at the University of Ljubljana, works from home. She has a partner, who lives in another city, and they are together only for the weekends. Working from home is very suitable for her, as she manages to organise her working hours according to project's activities, deadlines and other commitments. She does not plan to have a child as her partner has a daughter from the previous partnership.

1 interviewee is employed in the Archive of archdiocese, where she can continue with her research work started for her PhD thesis. She also attends scientific and international conferences; she publishes articles and teaches at the University of Nova Gorica. She is very satisfied with her new position, has a very favourable superior, who stimulates her

research work and scientific activities. She lives alone, but she is planning a family in the future.

As a self-employed manager, the male leaver (F12) follows completely new challenges in his life. He still incorporates previously obtained knowledge in his contemporary activities. He has a family with 3 children. His contemporary work is more independent and less structured compared to his previous work at the Institute.

The last female collocutor is currently unemployed. She has very bad experience from the Institute where she completed her PhD thesis, actively worked on an educational project, and was preparing different project proposals. At that time she did not have enough time for her family, but she enjoyed her husband's support. Now, she spends more time with her family, does housekeeping, and thinks of opening her own institution as a self-employed manager.

3.2.4. Their expectations and projects

The expectations of all the movers and leavers, who are not self-employed, but work on different projects and are otherwise active, is to get more permanent positions and to have enough time for research. However, the female interviewee who lives abroad (F14) admitted that nowadays the situation is uncertain everywhere. She wants to work at jobs, where she gets necessary financial sources, but also has time to do some research. However, scientific excellence is not relevant for her anymore. The female researcher (F11), who had to move to another city, wants to return to the capital and have enough time to continue with her research work. A female researcher from the archive (F13) wants to publish new inventor, some articles and finish 1 project which she started during her PhD studies. The leaver to Africa wants to find suitable research position there and good networks with different institutions for R & D. She would like to find a permanent employment as a researcher. Slovenia is not her favourite country anymore. The unemployed researcher (F17) wants to open her own Institute, where she would work on her own, but she is afraid of financial uncertainty and insecure future. Furthermore, the male interviewee who works abroad wants to get a position in researching and teaching. Quite similar wishes has the other female mover to the University of Ljubljana (F19), where she is involved only in research work, but would like to teach as well. The other mover to the University of Ljubljana wants to continue with research work, preparing a new dictionary.

The 'moving' types of trajectories and experiences (the relation of these trajectories and current situations with the variables 'sex', 'age', 'marital/couple and parental situation')

As already mentioned above, the main reasons that movers/leavers had left the ZRC SAZU are non-permanent jobs, the project policy, insecure future and, in some cases, poor internal relationships. Only 2 interviewees pointed out that they did not leave the Institute only because of the project policy, but also due to their personal desires to experience scientific work abroad. One of them (F18) would like to be employed part-time at his previous Institute at the ZRC SAZU. He is very aspiring; he wants to deepen his research work and get new experiences in teaching, but he also wants to maintain a good relationship with his female intimate partner. As his private life is not put on the

second place, we can identify him as an '**optimistic type**'. The same applies for other 2 interviewees, who went abroad because of insecure situation at home and due to personal wishes (F14, F16). All 3 interviewees have partners who support them in their research and personal activities, and they are without children. They admit that such a way of life with children would hardly be possible.

We can categorise as the '**optimistic type**' the interviewees who stayed in Slovenia, but left the ZRC SAZU because of its insecure financial situation, project policy and working conditions. As their lives were under constant pressure and working conditions did not provide them with enough time for themselves and their personal challenges, they left the ZRC SAZU when they got a new job opportunity. These are the interviewees F13, M12 and F19. Their life is now more calm, oriented towards their challenges and research desires. The interviewees F19 and F13 put lots of attention to healthy lifestyle, good family relationships, making friends, etc. As the '**ambivalent type**' we can identify 2 interviewees (F11 and F17) who did not manage to reconcile their professional and private lives. One of them is divorced (F11), while the other one has a very compassionate husband. The interviewee F19 is now more peaceful and takes time for herself, while the interviewee F11 is still in constant tension with herself, trying to balance childcare and professional engagements. As an '**engaged type**' we can identify the interviewee F15, who hated work at the selected SSH Institute at the ZRC SAZU because of its traditional and undeveloped research policy, fixed working hours and bad relationship with colleagues. Furthermore, she did not put her family on the second place, but she hated to be with her family all the time and not having enough time for research. She is divorced, but her parents helped her when her son was small.

4. POSTDOCS

4.1. STEM institution: Department of Agronomy, Biotechnical Faculty, University of Ljubljana

Postdoctoral students from the STEM (BF) sample are temporarily employed PhD holders who are officially Assistants with PhDs, either Teaching Assistants or Research Assistants. The difference between the 2 assistant titles pertains to better opportunities for Teaching Assistants to become permanently employed if they succeed to get promoted to the next phase (Assistant Professor) on-time and in accord with the university promotion criteria. Only 1 of the interviewees is currently a postdoctoral student working abroad (M10). It must be also mentioned, however, that 3 male interviewees with temporary contracts have already been promoted to the title of Assistant Professor, but are currently employed and paid as Research Assistants (2) and a Teaching Assistant (1) because of the systemisation of their job positions. Only 1 of the interviewees of this group is currently married with 2 children (M9), while others live in partnerships (without children) and 1 is single (M6).

4.1.1. Understanding their trajectory retrospectively

Similarly as in the group of the movers/leavers, both female and male interviewees from this group were recruited by the Department of Agronomy through publicly advertised

calls for young researchers in academic institutions or the industry (F4). They believe that they were selected for these jobs mostly because of their previous (undergraduate) collaborations with their PhD mentors. Only 1 (M10) was selected and recruited as a young researcher from the other faculty without previous collaboration. This practice of recruitment proves 'social inbreeding' from the very beginning.

Speaking about their career mentors they all referred to their PhD mentors.

Both female and male interviewees started PhD studies because of their research interests. They wished to continue researching after their graduate study, although they did not have a clear idea about the academic world. Except for 1 male interviewee (M9), they all continued studying as young researchers after their B.Sc. The M9 was at first (after his B.Sc. from agronomy) permanently employed in extension service and after a while, he decided to continue his scientific career as a new challenge in his life.

Speaking about their career mentors, they (again) all refer to their PhD mentors who guided them as young researchers. Their descriptions are mostly positive. They report that their mentors properly socialised them step-by-step to the academic world (research group, the Faculty) and research and teaching activities, that they were constantly under their control, but they still enjoyed enough autonomy. Both female and male interviewees attribute positive personal characteristics to their mentors: mentors are described as very attentive persons, always prepared for two-way communication and exchanging ideas with them, in sum, persons who gave them appropriate advice when it was necessary. Mentors were the ones who provided projects for research teams and they as their mentees were expected to implement clearly defined tasks. The only shortcoming stressed by some interviewees was attributed to scientific writing. Some mentors solved the issue by co-writing with the mentees, while others expected from their mentees to learn by example of already written articles. Those mentees who have been abroad because of student exchange or grants emphasise that they missed seminars about scientific or clear writing in Slovenia. In the context of current demands of scientific excellence, scientific writing is recognised as a very important skill obtained during their PhD socialisation.

As a positive side of mentorship all collectors mentioned mentors' support in their decisions about mobility. The mentees spent several months (or even a year for MA studies) at various institutions and faculties abroad through students' exchange or grants or international networks established by their mentors. The majority of collectors also regularly attended scientific conferences as a necessary part of their PhD socialisation.

4.1.2. Their current position

Compared to the first group, this group of interviewees successfully moved from PhD research to a temporary job position as preferred candidates of their mentors, who have provided them with enough projects or teaching opportunities to keep them at the faculty. However, the majority of them have, as researchers (Research Assistants), unsecured jobs, which provokes constant stress and fight for another research project. A more secured position has the only Teaching Assistant (F1) who is meant to become permanent Teaching staff.

As to the organisational culture, they all report good relationships in their research groups led by their mentors, while quite distant relationships with other research groups

at the departmental level. They recognise a kind of internal politics among the Heads of the Chairs or leaders of research programmes. They all recognise the main reason of such 'rivalry' climate among the research groups is the most valued production of scientific articles as the main criterion for obtaining research projects. Some of them stress that the most visible research group can afford better equipment and laboratories to which smaller groups have harder access, and as a consequence, the latter have lower quality of research results, less publications, etc. Among deemphasised activities are also teaching and applicative projects for final users of their knowledge as extensive services, ministries, counties, industry or farmers. All collectors stress time and again that publication record is over-emphasised in scientific excellence.

They all describe their working environment as appropriate. Usually they share office with 1 associate. Talking about equipment they refer to appropriate office equipment, however, some of them would like to have better equipped laboratories or more powerful computers.

In a very competitive and stressful environment, they survive by assistance and support of their parents or partners. The organisation itself provides flexible work time or work from home, but they prefer to work in their offices because of necessary equipment or teaching duties.

All interviewees have been involved in teaching activities since their PhD studies, running demonstrations. Interestingly, despite time-consuming (and for the majority of them non-obligatory) teaching they understand their involvement in teaching as a new challenge, as an introduction to work with students, as an investment in the future. They see teaching as positive experience in their lives.

3 male collectors were aware of poor administrative support at the departmental or faculty level. They believe that the existing administrative office should provide a much better support.

4.1.3. Their reasons why they have been able to stay in the academia/research field, the difficulties they encountered and how they managed (or not) to overcome them

As mentioned above, all collectors successfully passed the first sieve – they were selected by their mentors among other PhD candidates as the appropriate ones to stay at the faculty. After successful and on-time completion of their PhD studies, they proved as appropriate candidates to stay at the faculty. However, they will stay at this positions or move to the next one only if they, together with their mentors, provide enough research projects. The majority of them as Research Assistants are in unsecured job positions because of the systemisation of jobs which is limited to the teaching staff. As researchers they are completely dependent on success regarding their project applications. That is why they are more critical of support offices (e.g. administration offices) at the Faculty, which, according to their views, did not adapt to new, much more demanding scientific national and global trends.

4.1.4. *Their expectations and projects*

According to above descriptions, all interviewees are afraid of uncertain future. They wish to create their own families, having more secured jobs. In this respect, they either expect much better support offices for project applications, redefined criteria for scientific excellence with more reasonable demands (they expressed criticism towards unrealistic pressure to write so many scientific articles in short-termed research projects), or support offices at the faculty level, which would assist them in finding alternative jobs according to their obtained competences. Being satisfied with their career mentors, they still express the need for seminars in which they could learn or improve their knowledge in scientific writing. Finally, the most salient expectation pertains to those among the interviewees who, after their PhD, have either established a start-up company (F1) or preferred to work through applicative projects with extension services and other final users of their knowledge (counties, ministries or industry). They (F4 and M9) even proposed the creation of a new job connecting science and industry. According to them, such a job would be financed from several resources, and they would be much more satisfied conducting applicative science in a 'real environment' than writing prestigious scientific articles.

4.1.5. *The 'postdoc' types of trajectories and experiences (the relation with the variables 'sex', 'age', 'marital/couple status and parental status')*

In this group, 3 possible types of trajectories and experiences are identified: a '**male engaged type**' of 2 collectors (M6 and M10), one of them a single man and the other one a current postdoctoral student, who live in partnerships. They both prefer science and research to anything else in their lives.

2 female collectors (F1 and F4) would like to be in touch with science, but they prefer the other kind of a job. They see themselves either in a start-up company (F1) or in a new kind of job being more connected with final users (F4). Science is important dimension in their future plans, but not the only trajectory. They would work for consumers of their knowledge, somewhat connecting science with a real environment (market, stakeholders and consumers). Finally, they both believe that such a job is more secured as it is dependent on several financial resources. They also believe that such a job would be more acceptable for their partners and a more appropriate basis for creating a family. They may be recognised as a '**female distant type**' from pure academic world or even a '**female alternative type**' who believe in an alternative job to the one they have. The same type, '**male distant type**' or '**male alternative type**', can be attributed to M9, who expressed the desire to connect science and policy. He believes that such a cadre is missing in Slovenia: officials are incapable of transferring scientific results in practice. He would like to occupy such a position as an architect between science and practice.

4.2. **SSH institution: Fran Ramovš Institute of the Slovenian Language, Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU)**

We interviewed 3 Assistants with PhDs (2 female researcher – F1, F6 and 1 male researcher – M2), who work at the Institute of the Slovenian language, but in different sections. One works in the Section of the Terminology (F1), one in the Section of the lexicology (M2) and the third one in the Section of the Dialectology. None of them has

led postdoctoral projects financed by the Slovenian Research institution, or gotten other postdoctoral fellowships from the international scientific institution, or spent more months or years abroad.

Interviewees F1, M2 are married and have 2 children (F1, M2), while the interviewee F6 lives with a partner, but without the child.

4.2.1. Understanding their trajectory retrospectively

The interviewed researchers (F1, M2) were recruited at the ZRC SAZU as Young Researchers. Under the supervision of a research mentor from ZRC SAZU and educational mentor from the Faculty, they successfully finished their PhD studies and got an opportunity to continue with their work at the Institute. Although they finished their postgraduate studies in the times of economic crisis (after 2008), when the situation in Slovenian science worsened a lot, they got a working position. Because some older researchers have retired and since the institution has not faced financial problems yet, many younger researchers have got possibilities to continue with their professional work at the Institute. However, the interviewee M2 exposed that, when he finished his PhD, his colleague also finished his, but the Head of the institution and the leader of the section decided to keep him. All of them believed they were recruited because of their personal characteristics, ability to work in a team (working in groups is the basic form of work at the institution), reliability, the fact that they managed to finish PhD in time, and the possession of important linguistic, terminological or dialectological knowledge needed to work at the Institute.

Furthermore, the interviewees also discussed their mentors, and they stressed that they had reliable research mentors during PhD, with whom they had a good relationship. The mentors provided them with substantial knowledge and support. The female interviewee (F1) described that in her section none of the researchers had a PhD when she got the status of a Young Researcher, so she had mentors from other sections, who correctly performed their supervision roles during the programme. Regarding the postdocs mentors, an interviewee (F1) pointed out that the mentor does not play a strong enough role in one's academic carrier in Slovenia and at the institution. In the Institution of the Slovenian language the huge problem is the intergeneration gap. There are very old researchers (around 60 years old) and younger ones (between 30–40 years old), but there is no middle generation, which should lead the development of the science of the Slovenian language. Thereby, some scientific and technical approaches are outdated. The researchers do not follow the alterations, which happened because of the neoliberalism of science; thus, their main occupation is not to be excellent in the scientific field, to prepare project proposals, to form international networks and attend scientific conferences, but above all, to finish the work on dictionaries, to do it well and in time. However, the huge discrepancy is that the preparation of different dictionaries is not recognised as scientific work in the Slovenian science, and researchers who work on dictionaries do not get scientific points needed to prove scientific excellence and to apply for projects.

Thereby, according to interviewees F1, M2, the researcher has no time to prepare scientific articles during the working hours, but during the holidays, in the afternoon, or during the weekend. However, as scientific publications are becoming important for promotion criteria, the interviewees are aware of the importance of publishing. This is

the reason why they write 1 or 2 articles per year. But they do not publish articles in the journals with the highest word impact factors (SCOPES and WoS). In contrast, the interviewee M6 pointed out that working for the linguistic atlas, where they process vocabulary from the different Slovenian dialects, also gives her the necessary data for the publications. She did not complain about time for research work and writing, but more about colleagues' weak support in writing skills.

4.2.2. Their current position

The collectors work in different sections, where they prepare specific dictionaries. If necessary, colleagues from different sections work together, but according to interviewees, this happens in rare situations. The subscribers of the dictionaries are from different institutions, often from different Faculties and also from different disciplines (law, biotechnology, built construction, etc.). The groups inside the sections are gender balanced; some of them are composed of very young people, which is where good relationships prevailed. Each researcher has a specific task in the preparation steps, where tasks are very clearly divided, and some researcher's autonomy and wishes are taken into consideration. The interviewee M2 works on technical support, technical processing of data, software for dictionaries, etc. In his words, the work is very dynamic and requires a whole team by everybody taking on a task. Thereby, the main scientific criteria of the Institute are the ability to work in a research group, precisions in the preparation of dictionaries, and finishing work according to a schedule. The work is very transparent and the main communicational values are to express personal opinions, stand behind them, as well as the ability to compromise.

However, as the interviewees are aware of the other scientific criteria needed for promotion (publications, study abroad, international networks), the interviewee F1 is not satisfied with her bibliography and was very critical of the working system at the institute. She would like to publish a book, in which she would present her PhD research, but she does not have time to finish it. She has been working on it for 3 years. In her words, the problem is working priorities in the institution, as all efforts of the employee are put into the preparation of a dictionary and not into other important scientific criteria.

The interviewee M6 noted that she gives some lectures at the University of Ljubljana, which based on the conversation with the Head of the institution before the acceptance of the lecture, is not formally permitted at the institution, but as the Head of the institute gives lectures as well, he just advised her to work regularly on the section's obligations. All interviewees also pointed out they have not prepared a project proposal yet, but just commented some projects' parts. The preparation of the projects or decision as to who will be a project manager, are in the hands of the Head of the Institute. Usually, the projects are formed by the Leader of the Section or the Head of the institute, who has enough scientific results and references to be a leader.

4.2.3. Their reasons why they have been able to stay in the academia/research field, the difficulties they encountered and how they managed (or not) to overcome them

The main occupation of the institution is to compile linguistic materials and use them for the creation of basic Slovenian language dictionaries and a linguistic atlas. As these language resources are of national importance for the Slovenian culture, science, education and identity, the institution has a special status and more permanent financing. According to the interviews, the collectors are not very engaged in the financial occupations of the institution. All leading decisions and financial management are in the hands of the Head of the institution and their two assistants/deputies (1 male and 1 female researcher). The basic research programme, which provides basic thematic and financial sources, is led by a male researcher too. Thus, other researchers do not prepare projects by themselves, but rather they just make sure that their work on dictionaries is of good quality and precision, and done in time. All interviewees are aware of the fact that they were lucky to be recruited by the institution and to have a working position. For all of them, the job at ZRC SAZU is their first job. Due to permanent financing, the interviewees have not yet been involved in a European project. Although they believed they were recruited because of their knowledge, experiences and personal qualities, such as precision, reliability, punctuality, etc., they are reluctant to apply for an EU project because of precise deadlines. Their current projects are financed by the Slovenian Research Agency, which is not very strict regarding the deadlines.

According to interviewees F1 and M2, a huge problem of the institute is plenty of work on the dictionaries and no time for the basic research work. The researchers are forced to accept all dictionary requests from foreign subscribers, and at the moment 1 person works on 3 dictionaries. In the past, 3 linguists worked on 1 dictionary. The institution does not have a strategy, vision, enough personnel and clear idea of the real amount of published dictionaries per year, for which the interviewee F1 blamed contemporary leadership. Since the purpose of science changed according to neoliberal circumstances, the researchers at the institution work on completely different interior scientific criteria, which are not in accordance with the general criteria in other Slovenian institutions and in the international environment. There is no pressure to prepare project proposals, no money and time to go to international conferences, or to spend several months at foreign institutions. Furthermore, the older generation hardly passes the system of scientific points and does not have skills to help younger researchers to fulfil contemporary scientific obligations.

Regarding the aforementioned problems, the interviewee M2 exposed that writing articles or attending foreign conferences is for him unpaid work, which he should prepare in his free time. Because of that, it is not evaluated. As he personally decided not to bring work tasks to home and, vice versa, family obligations to work, he has problems to balance his professional and private life. However, he is aware of the fact that articles are important for his scientific promotion and obtainment of a job. We should also mention what the interviewee M2 pointed out, that is, that the preparation of dictionaries and publishing them as a book are not interesting for the market anymore, so the question which arises is, how to utilise this important national heritage according to contemporary market needs and project's purposes and aims. Furthermore, the interviewee F1 also questioned the following: what will happen if the state will reduce the permanent financing or the new Head of the institution will reduce

dictionary work and force other scientific activities, for which they are not educated and competitive in the contemporary knowledge society.

A completely different story was given by the third interviewee (F6), who works in the dialectological section and does not regard the preparation of the linguistic atlas as expert work and preparation of the articles as research work. She admitted that she can use data from the linguistic atlas as an important resource for developing some dialectological theory and she has time to prepare articles and to obtain international conferences. She noted that she would like to get more help from older colleagues in writing articles, preparation of papers, and publishing in scientific publications. She would like to prepare a co-authored project, too. At the moment, she has some pleasant colleagues, who help her in scientific career. As she had some serious health problems in the period of the preparation of the PhD thesis, she now gives more attention to her personal and family life and does not work overtime if there are no urgent deadlines. What is interesting is that she does not see herself as a typical scientist, who works all the time and neglects family, foreign relationships and a healthy life.

4.2.4. Their expectations and projects

The main expectations of the interviewees F1 and M2 are reconciliation of dictionary work and research field work. The interviewee F1 wants to publish a book as well. She would like to get more knowledge on writing projects, more data about promotions and a more promising situation for younger people. Personally, she is going to change an apartment, which will still be where she and her partner's parents live. They help her with childcare and family obligations. The interviewee M2 wants to obtain a job at the institute and become a successful and brilliant scientist. The third interviewee gave more attention to her personal life, as she had some serious health problems in the past as a postgraduate student. She would like to be a good professional scientist, be healthy, and have a good relationship with her partner and family.

4.2.5. The 'postdoc' types of trajectories and experiences (the relation with the variables 'sex', 'age', 'marital/couple status and parental status')

All the interviewees with the position of an Assistant with PhD can be identified as the "optimistic types". They can favourably reconcile the professional and private life and devote a lot of their free time to family relationships and childcare. The interviewees F1, M2 have two small children and they both like their professional lives. The interviewee F1 confessed that sometimes she would like to be at work on Saturdays and that she has not experienced a lot of stressful periods, although her section works on many dictionaries. Furthermore, as her partner works in the army and he is often absent, she consciously subordinated her job to childcare. But she does not feel as a victim. She agreed that she could work more and publish more articles, but family is also very important to her. She also has parents who help her with certain family tasks. Although she constantly feels guilty for not spending enough time at home or at work, she does not pay a lot of attention to that. Her regular work at institution does not suffer because of her family obligations, but her research work and publications which should be prepared in her free time do. The interviewee M2 also lives with a female partner and two small children. As his partner is also employed, they divide some childcare with their

parents. Sometimes he also works from home. He is realistic, well aware of the fact that scientific references are needed for promotion, but he spends weekends with his family without feeling guilty. He attended the first conference after finishing PhD studies. The third interviewee does not have a child, so she has more time for her personal hobbies, sports activities. As in the past she was more engaged and lived just for work, she later recognised that this is not a real way of life for herself. Now she places high priority on quality of life. She would like to share this experience with younger scientists, to share with them that there is no need for a brilliant scientist to forget about themselves and relationships.

5. THE NEWLY TENURED

5.1. STEM institution: Department of Agronomy, Biotechnical Faculty, University of Ljubljana

In our sample, this group of interviewees consists of 3 women and 2 men who have permanent job positions. They all obtained the academic titles as Assistant Professors, however, only 2 (F2 and M7) have systemised jobs according to this title. The other 3 collectors (F3, F5 and M8) are paid as Assistant with PhD because of their systemised jobs. 2 among the interviewees are living in partnership without children (F5 and M8) while the others have their families (from 1 to 3 children). Except M8, who lives in 3-generational parents' house, they all live in their owned apartments.

5.1.1. *Understanding their trajectory retrospectively*

The interviewees from this group were recruited by the Department of Agronomy through publicly advertised calls for young researchers (3) and university teachers (2). All the interviewees believe that they were selected for these jobs mostly because of their previous (undergraduate) collaborations with their PhD mentors. This practice of recruitment proves the 'social inbreeding' from the very beginning.

Those interviewees, who were recruited as young researchers immediately after their BSc, started their PhD studies because of their research interests. 2 other interviewees, who applied for jobs as university teachers had to complete their MA and later PhD studies according to the contract. Yet, they too were interested in obtaining a PhD, but they preferred teaching.

Except for 1 woman (F3), they all refer to their PhD mentors when they discuss their career mentors, and their descriptions mirror substantial criticism. The first female interviewee (F2) describes her PhD mentor as a very paternalistic person who introduced a hierarchical communication and did not allow autonomy. She had to follow her vision. After she completed her PhD, her mentor did not provide her with a research project. She accepted the invitation to collaborate in an EU project under the leadership of a professor from another chair who was not in good relationship with her former mentor. Participating in the EU project to prolong her temporary contract, she had to change a field of research. At the same time, she was expected to work also for her former mentor who was without research projects at that time. She refused and her job had been uncertain for 3 years. She found herself between 2 professors in a conflicting

relationship. She believes that she got a permanent position because she chose the more successful and influential one. The second one (F3) had a very unexperienced young mentor for PhD study without necessary research skills. He did not socialise her step-by-step into the academic life. She was dependent on her own discipline and capabilities of doing research. As a result, she left the faculty immediately after she completed her PhD, but after 2 years she returned as a postdoctoral candidate. She got a postdoctoral project and moved abroad for 6 months where she learnt how to write project proposals, scientific articles and efficiently work in a team. Since then, she has been her own principal investigator, a self-made researcher without influential godfather, but she has enjoyed the respect from others as a successful project applicant. The third one (F5) was also unfortunate with her mentor, who was to be a mentor only by the name (officially) in order to have enough PhD candidates for her promotion as an associate professor. F5 was left to herself because her mentor was not an expert in the research field of her PhD study.

Both men (M7 and M8) were relatively satisfied with their mentors. Their mentors were not completely 'at home' in their research topics and as a result, the interviewees described them as the ones who left them plenty of 'autonomy'. Actually, they were left to themselves, but they were still satisfied with such a mentoring, describing themselves as persons who better function alone, 'without asking too much'. Moreover, they were told by their mentors to rely on other associates in their research team. As a particularly good characteristic of his mentor, M8 exposed his capability of obtaining research projects.

Compared to others, the trajectory of both university teachers (F5 and M7) was less intense in terms of the struggle for research projects. They both inherited mandatory and elective courses since their predecessors (full professors) got retired. They believe that they got promoted at a slower pace because they did not select the suitable mentors for their research interests.

5.1.2. Their current positions

Compared to the previous observed groups, this group of interviewees have successfully moved from the temporary to permanent jobs at the faculty. Yet, only two of them are paid according to their academic titles as Associate Professors. Others share the same academic title, but are paid according to the lower job systemisation as Assistants with PhDs.

Discussing the current organisational culture, they all report relatively collegial relationships in their research groups or chairs and quite distant relationships with other research groups at the departmental level. The exception is a self-made F3, who stresses that she collaborates with all qualitative scientists irrespective of the group they belong to. The collectors attribute the responsibility for such a conflicting climate mostly to the heads of research groups who hinder the wider cooperation at a departmental level and consider it undesired. They believe that such a conflicting climate is a consequence of the constant competition for the ever scarcer research funds, which is related to the scientific excellence criteria defined by the national research agency. Moreover, some of them identify a gap among generations: in seeking for excellent results, the older generation rather orders the analyses abroad, instead of engaging younger associates, in order to keep the authorship for themselves only. The tension is identified also between

researchers and university teachers. Researchers believe that university teachers occupy more secured jobs, while university teachers believe that teaching is undervalued compared to researching, because various kinds of time-consuming teaching activities are not recognised as scientific work. Some, however, observe that university teachers and researchers are 'natural allies' because they do not compete directly for the same funds. They see teaching staff as less ambitious, seeking the status quo, compared to more ambitious and aggressive researchers.

In this group of collectors, the majority run obligatory and elective courses as well as demonstrations. Except for the self-made F3, they participated in several research projects, but were not their leaders.

They all describe their working environment as appropriate: 3 (2 female and 1 male collectors) are alone in their offices, one (F2) shares a room with an associate, and the last one (M8) intentionally stayed in the office with 2 other associates. Talking about equipment, they refer to appropriate office equipment; however, some of them would like to have better laboratories or more powerful computers.

They all miss leisure time and without their partners' or parents' support they would hardly harmonise their work and home. They are tired due to a very competitive and stressful environment. The organisation itself provides flexible work time or work from home, but they prefer to work in their offices because of necessary equipment or teaching duties.

The majority of interviewees are critical of the administrative support at the departmental or faculty level. They believe that the existing administrative office should provide much better support, particularly in project administration.

Finally, those who are paid as Research Assistants with PhDs are not satisfied with their salaries.

5.1.3. Their reasons for what in their eyes is a 'winning trajectory in the scientific space', but also the difficulties they encountered and how they managed (or not) to overcome them

According to the interviewees, the winning trajectory in the scientific space is related to the moment when they got permanent contracts. Before that moment, the majority thought that they should leave the faculty either because there were no research projects for their salaries or because there were no teaching courses. Moreover, from their descriptions it is obvious that 'to stay' at the institution is dependent on several circumstances. To be involved in a research project is related to organisational culture, particularly to mentorship. They all stress this factor – mentorship – as a very important one. Since the majority of collectors from this group describe their PhD mentors as unexperienced, non-consolidated, ignorant, paternalistic, etc., they had to find the other way out. In some cases, it was not planned because most of them were surprised to get permanent jobs. F2 was surprised to get the permanent position despite constant warnings of her PhD mentor that she should start looking for a job somewhere else. The mentee (F2) accepted the offer of a professor from another research group at the department to participate in his European project as an expert whose knowledge was necessary for certain project's tasks. She found herself between 2 opposing professors and chose the more successful one in the view of providing research money. She

believes that this moment was a decisive one to get the permanent position. F3 is a self-made person. Her mentor could not socialise her properly because he was young and unexperienced. She left the faculty after her PhD study, but she returned after 2 years as a postdoctoral student with her own research project. At that time she spent 6 months abroad and learnt necessary skills (project and article writing) in a much more organised research team compared to the departmental context at home. Moreover, she established very collegial international network of researchers who still provide her with peer reviews and advices when she needs them. F5 got permanent position at the very beginning when she applied for a Teaching Assistant position. She 'inherited' the demonstrations of several courses of her professor who at that time got retired. The same applies for M7 who also applied for the Teaching Assistant position at the faculty. Yet, both have to complete their MA and PhD studies in a certain time-period and fulfil the necessary criteria of the University Rules for Promotion. The last one, M8, got a permanent contract after 11 years of prolonged temporary contracts, because his mentor recognised the 'universalistic characteristics' of his former mentee. According to the interviewee, his wide knowledge and personal characteristics, like curiosity and efficiency, were decisive factors that made the mentor select him and not some other candidate for a permanent job.

5.1.4. Their expectations and projects

Despite permanent contracts, all the collectors are aware of their still uncertain positions. Both a male and female collectors (F5 and M7) who are employed as university teachers are concerned about their jobs, since they are dependent on enough students enrolled at the faculty. If there are an insufficient number of students, the existence of mandatory or optional courses is endangered. Therefore, they both wish a 'status quo' at the faculty level and some structural changes at the national level, which would lead to better employment of their students. In this view, they believe it is necessary to redefine scientific excellence criteria in Slovenia in order to put greater emphasis on science-industry relation or to better value applicative projects and efforts which are connected to final users of their knowledge.

The other 3 collectors are also aware of their temporary positions despite the permanent work contracts. They are dependent on successfully obtained research projects of various kinds, and in such circumstances, they all wish for improved cooperation at the department, faculty and outside faculty institutions. They recommend much better mentorship than the one they have experienced, which is crucial for appropriate socialisation into the academic world and for survival in the circumstances of enhanced academic competition.

5.1.5. 'Winning' types of trajectories and experiences (the relation with the variables 'sex', 'age', 'marital/couple status and parental status')

In this group, there is difficult to identify pure engaged, optimistic, ambivalent or distant types of their trajectories and experiences, but rather there is a mixture of all of them. As above mentioned, all the collectors are aware of their 'temporary positions' despite permanent jobs. They would not be surprised if they stayed without jobs over night. This thinking is constantly in their minds. Only in this view, their trajectories can be defined as

'distant type'. Yet, they all wish to stay at the faculty, and are interested in researching and teaching, but under different or improved circumstances. They all wish there were more collaborative research groups at the faculty, and also out of faculty, level. However, they are all aware of the fact that this improvement is related to the national research politics and internal politics at departmental and faculty levels. Currently, they are the observers and not the active actors who are doing a change in this direction. They are trying to survive, hoping that something shall change. Therefore, there is none among the interviewees' trajectories to be recognised as an 'engaged type'. They are engaged in their work, but at the same time, they prefer their families and partnerships. Reconciliation of work and family pertains to their support from their partners, spouses or parents. They all miss more leisure time and less stressful work circumstances, which again dependent on several other factors beyond their personal engagements, such as, for instance, 'objective' scientific criteria. On the other side, coming 'so far' in their trajectories, they have proved at least the 'optimistic rationale'. Showing research and teaching interest, coming so far in their trajectories, but being the observers or identifiers of necessary changes in the academic environment and not the active contributors to these changes, their trajectories can be labelled as **'temporary optimistic type'**, irrespective of collectors' gender.

5.2. SSH institution: Fran Ramovš Institute of the Slovenian Language, Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU)

We conducted 7 interviews with Research Fellows. All interviewees were women who work in different section and are employed at ZRC SAZU for more than seven years. Two of them are temporarily employed (F5, F9), while others have permanent positions (F3, F4, F8, F10).

One female interviewee is a widow (F5); 1 female interviewee is divorced and lives with their children (F8); 5 female interviewees (F3, F4, F7, F9, F10) are married and have children.

5.2.1. Understanding their trajectory retrospectively

3 of interviewees (F3, F4, F8) were Young Researchers and the employment at the ZRC SAZU was their first job. According to the interviews, they were recruited because of excellence in scientific and expert (dictionary) work, personal characteristics, reliance and punctuality. The Interviewee F3 expressed that she always wanted to be a researcher and that this job at Institute is her dream job. Most of them were brilliant graduate students and were accepted without second thoughts. The interviewee F3 is a leader of the Section of Terminology, while the interviewee F4 is a leader of the Section of Lexicology. The interviewee F4 came to the institute when she was in the third year of her postgraduate study. She worked with her female professor, who was also employed at the institute. She worked together with her on a project under personal contract, and afterwards the professor invited her to the institute as a Young Researcher. At the moment, she works on the Dictionary of the Slovenian language II, where she deals with technical and technological problems, and the Dictionary of orthography. The interviewee M8 was a brilliant student at the Faculty, where her professor invited her to apply for the position of a Young Researcher, not at the Faculty, however, but at the ZRC

SAZU, as there were more possibilities to be recruited. After finishing the programme, she, without second thoughts, got a permanent position as an Assistant with PhD. She admitted that her graduate study took a long time, 9 years, but in the meantime, she gave birth to 3 children. She has worked in the Section of the Etymology from the beginning. She also has given some lectures at the University of Ljubljana, Faculty of arts, where at the moment, she teaches 6 hours per week.

Regarding PhD mentors, the interviewee M3 said that her mentor was not from the section where she worked, but somebody from the Institute, as in her Section, none of the colleagues was a PhD holder. During her PhD study, she changed mentors 3 times, as they retired or changed the job. All of them were correct, but they did not give her a lot of support and knowledge, as they were specialised for other fields. Thereby, they were mentors only on paper and all PhD questions were resolved by herself. The interviewee F8, F5 had very good experience with their PhD mentors; the mentors appreciated their ideas for research and provided them with appropriate knowledge and support. The interviewee F8 said that she appreciated that her mentor permitted her to be independent, and was, at the end, only checking whether she was following the guidelines that she had formulated at the beginning. She had more bad experience after the PhD, when she found herself in a big void. The colleagues from the Section just gave her some work to do for a project and let her alone for two years. After two years, they asked her why she did so many things as she did not need to do them. She did not have any support or somebody to ask for help in terms of promotion and obtainment of other scientific criteria. The leadership was very bad. However, the Interviewee F5 stressed that Young Researchers at ZRC SAZU have better support by mentors or other colleagues from the Sections than Young Researchers at the Faculties, as she was a Young Researcher at the Faculty. She compared her position to the positions at ZRC SAZU.

The other group consist of researchers for whom the work at ZRC SAZU was not their first occupation, but before that they were employed in other institutions (F5, F9, F10). The interviewee M5, who has not experienced a permanent employment yet, worked at the University of Ljubljana, Faculty of Social Sciences, where she gave lectures at different departments. After the recruitment on the ZRC SAZU, she finished teaching, but has now resumed it again. As she does not have a permanent position, she is very active in forming social networks, having different references, attending international conferences, publishing articles, etc. Because of her social and international networks, experts' activities in the local communities, references and specific specialised knowledge, she was invited to the institute. The interviewee M7 was, after finishing graduate studies, firstly living abroad as a lecturer of the Slovenian language (two years), then she was a lecturer at a medical institution (one year), and, lastly, an assistant at the University of Primorska, where she has also done a PhD. After finishing PhD studies and because her husband had psychical problems, they terminated the contract. As she was teaching at the University together with 1 researcher from ZRC SAZU, she recommended her to the Head of the Institution. The interviewee F10 first taught at a secondary school and lectured in private linguistic schools. As she realised that teaching is not her preferable occupation and that she would like to devote herself to research work more, she left the permanent position at school and focused on obtaining Master's degree. In the second year of postgraduate study, she got the Status of a Young Researcher. After successfully completing programme, she left the institution for a year, but afterwards the ZRC SAZU gave her another opportunity to be employed and to complete her PhD thesis,

as the institution needed knowledge in references in the dialectological field. Now she works in the Section of the Dialectology and is a colleague of the interviewee F6.

5.2.2. Their current positions

All interviewees are working on the main tasks of the Institute, which is to compile linguistic materials and use them for the creation of the basic Slovenian language dictionaries and a linguistic atlas. The interviewee from the Section of Terminology (M3) is also a terminological advisor, which takes a lot of her time. The Leaders of the Sections (F3, F4) have to prepare different reports as well. Lots of them organise different meetings with foreign experts for whom they prepared dictionaries. The interviewee F10, do a lot of fieldwork, where she gathers dialect vocabularies for the Linguistic Atlas.

As already presented in the section on Postdocs, the main problem of the researchers at the Institution is not having enough time to do research and especially for writing scientific articles. As the main purpose of the Institute is to create basic Slovene language resources, with which the institute has been occupied since its establishment in 1945, the researchers are forced to educate themselves for the preparation of the dictionaries. Of course, self-initiative to work on articles, to publish books and to attend conferences is appreciated among the Head and leader of the section of the Institute, but the biggest focus is on dictionary work. Some interviewees (F3, F4) also admitted that they are not ambitious and encouraged enough to travel abroad. They preserve the links with foreign institutions, but they are not so much active at international conferences. They just observe scientific activities regarding national languages abroad.

Another difficulty that interviewees encounter is that they should not refuse any request for the preparation of dictionaries. Besides, as in the past, the older colleagues did not prepare the dictionaries according to deadlines since the Slovenian Research agency was not strict in this sense, the younger researches have to finish their past work as well as do the work in progress. Furthermore, as in some sections there is a huge gap between the older and younger generation, there was no development in digital technologies and other research approaches, which additionally complicates the current work and lessens the competitiveness of the researchers in the knowledge-based society.

Generally, the interviewees did not complain about gender problems or different expectations from male and female researchers, or hierarchical problems. The leaders of the sections are young people, who are introducing mutual and friendly relationships. According to all interviewees, there is positive competition among researchers and critics are positively accepted among them. The basic work is performed in a group, and each researcher has to finish his or her tasks in definite time. Because of teamwork, due to which everyone has a special role, the interviewee F5, who is temporarily employed, feels somehow safe, as without her work, the Section would not be successful. All interviewees also stressed that, although the Head of the Institution is man, he is very sensitive to family obligations, maternity leaves, child illness, as well as permits colleagues to work from home. He did not burden female colleagues when they were on maternity leaves or taking care of sick children. In the past, working from home was not so usual, but nowadays many researchers take this opportunity. However, the researcher who takes on nursing or is sick has to finish weekly tasks irrespectively of the illness. Serious health problems are the only exceptions.

The Interviewee F8 also mentioned problems regarding a project which she was not forced to prepare. Because of the abundance of ordinary work, she resists to prepare international projects, especially since the chances for success are slim. However, the Interviewee M5, who is very active in forming social networks, would like her work to be more applicable for the society and work on different projects, but she has to focus on dictionary work primarily.

In contrast, the interviewee (F10) who works in the dialectological section, does not understand the preparation of the linguistic atlas as expert work and preparation of the articles as research work. She admitted that they can use the data from the linguistic atlas as an important resource for developing some dialectological theories and she want to publish articles and present at international conferences. In the past she prepared a proposal for one international project too, but she admitted that she had lots of problems in forming project activities, because she did not have enough knowledge regarding international project's requests. However, although she is aware of international scientific criteria and necessary to published articles in foreign high evaluated journals, she was much critiqued about quantitative criteria (number of published articles abroad). According to her thought, this is not a real science, which wants to implement research results to the people in the field.

5.2.3. Their reasons for what in their eyes is a 'winning trajectory in the scientific space', but also the difficulties they encountered and how they managed (or not) to overcome them

The main reasons as to why the collectors have stayed at the Institution are their specific knowledge needed for the preparation of the dictionaries, linguistic atlas and other institute's objectives. The institution is also facing the situation of the retirement of the older researchers, and it would like to give the free positions to younger researchers. Moreover, the so-called researchers with "winning trajectories" proved themselves to be good scientists, who are able to work in teams, to complete tasks in time, and who are socially responsible, reliable and precise. Although they are not excellent according to the European and national scientific criteria (publications in international journals, citations, talks at international conferences, participation in international projects, scientific awards, membership in additional boards) because they do not have time, money or moral support from the Head of the Institution, their permanent positions refer more to the quality of their work on dictionaries than to the criteria that the contemporary knowledge-based society demands researchers to meet.

Regarding scientific work, the interviewees pointed out difficulties regarding the lack of time to do research work, write articles and attend international conferences. According to all interviewees, their scientific work should be done in the afternoon, during the weekends and holidays. As many of them are mothers with small children (F3, F4, F9), they do not have a lot of free time for scientific work and they are not competitive enough to be applying for national research projects. Because of that, the interviewee F9 described that the Head of the institution, who has references and scientific points, lends his name, but the project proposals are prepared by the leaders of the sections or some others colleagues. Other, younger colleagues, just comment on some parts of the projects, but they do not take an active part in the preparation process. Because of that they do not acquire appropriate skills for project writing.

Because of the aforementioned problems, the interviewees (F3, F4, F5) complained about the long-term strategy of the Institution, which is not in accordance with international scientific directions. Furthermore, if dictionary work was recognised as scientific work, it would bring the needed scientific points to the authors.

Another difficulty is the intergenerational gap and differences between the older and younger generations, which were observed in the majority of the interviewees. As many older researchers are not PhD holders, and since now the obtainment of the PhD is the main formal criteria to be recruited by the Institute, the older colleagues feel threatened by younger researchers. This, consequently, triggers intergeneration conflicts. According to the interviews, the older researchers are oversensitive and the younger researchers should be more tactful with them. Some of them have already retired, but still work for the institution. As they work without payment, it is difficult to demand from them to prepare tasks in time. However, they are still very important, as they are working on some dictionaries. But, as the approaches to dictionary composition changed a lot, their work is not adjusted to contemporary needs and technological skills.

All interviewees are aware of the fact that they have permanent jobs because dictionaries and linguistic atlases are still recognised as important national heritage nowadays. But, in case the funding providers will succumb to neoliberal logic, they will not be competitive anymore. The interviewee F3 asked herself, how to present to the contemporary society, which is influenced by the market economy, that the dictionary is something innovative, competitive and urgently needed for quality life and well-being – which, in reality, it is not. The interviewee F4 pointed out that when the institute will be under the pressure from international projects, the dictionary work will disappear, as it is not possible to prepare a dictionary in 3 years – international projects' duration time. So the question which some interviewees posed was: What are they going to do since they are specialised for a special kind of expert work? In contrast, 1 interviewee (F8) was content that she had not been pushed to prepare projects (it was done by others who are positioned above her).

However, the interviewees (especially F5, F10) stressed that researchers should have self-initiative and be courageous enough to attend international conferences or publish books. Nevertheless, those who want to attend international conferences have to pay conference fees and travel expenses by themselves. In some cases, the director of ZRC SAZU helped them with some financial support. But, even though they present the Institute abroad and acquire new knowledge, their work on dictionaries has to be done in time; otherwise the whole team cannot proceed to tackle further tasks.

Regarding all presented problems, the interviewees who lecture at the Faculties (F5, F8, F10) admitted that relations at ZRC SAZU are much better and collegial than at the Faculties.

5.2.4. Their expectations and projects

The main expectation of the interviewees (especially F3, F4, F5) is better reconciliation of dictionary work and article writing as well as individual research work. Furthermore, the interviewees want more time for research and individual work. Interviewee F3 wants to have clearer directions in which way the institute is developing. The question which arises is how to preserve dictionary work in contemporary science, which increasingly gazes upon quantitative, and not qualitative, qualifications. As the institutions in Slovenia

which work on language science are in conflicted relations one with another, the interviewee F3 said she would like to collaborate more with other colleagues from other institutions in Slovenia and abroad. She sees her scientific trajectory in the framework of her section at the Institute. The interviewees (F5, F9) who are not permanently employed want more social security, which can, consequently, motivate them to do more individual research work. The bigger concern of interviewee F5 is whether she will still be employed next year, and she would rather not discuss her employment with the Head of the Institution every 2 years.

The interviewees (F10) stressed she would like to publish her book about dialects in region where she lives, as the book is the only results which is permanent. In her personal live, she would like to have a good relationship with her children and husband.

5.2.5. Winning' types of trajectories and experiences (the relation with the variables 'sex', 'age', 'marital/couple status and parental status')

Since almost all interviewees hold permanent positions, which is in their case, quite a secure position, the collectors, who have older children or have faced serious personal or familiar healthy problems, can be identified as “**optimistic types**” (F3, F4, F10) and, in some cases, also “**engaged types**” (F8, F7). Their main problems do not pertain to the difficulties of balancing professional and private engagements, but rather to having enough time to do scientific work (writing articles, attending conferences, studying abroad, etc.). Thus, they have difficulties reconciling dictionary work and individual research work. However, as they do not have time for research during working hours, they are less scientifically excellent and, because of that, not competitive enough to apply for projects. This is a characteristic of the interviewees F3, F4, F9. More engaged ones, like interviewee F8, F10 do their research work in their free time. However, the interviewee F3, who has 2 little children, revealed that her husband, who is also a scientist in the STEM discipline, helps her with family obligations and childcare, but that she still spends more time with children than her husband, because it is more obligatory for him to travel abroad than for herself. She also admitted that she is not ambitious enough, although her husband encourages her to do more research work to become more 'scientifically excellent'. The interviewee F4, who has one child and is married to a husband who is not a scientist, noted that sometimes she has to work during the weekends and in the afternoon, especially when she writes articles. Her husband does not understand that very well. She also lives on the countryside, where working hours of the majority of people are more fixed (from 7 a.m. to 3 p.m.). Problems with uncomprehensive husbands and tiredness because of childcare were reported by the interviewees W7 and W9 as well. The WP9 mentioned that, basically, her husband supported her work, but that he was not very enthusiastic about her scientific title, and that he was a postgraduate student himself at that moment. A special category are interviewees who have faced some health problems or whose parents were seriously ill (F9) or even died (F5). Because of bad experiences, they now find more time for themselves and healthy lifestyle (F5), or for their children (F9). They are also active in sports or have different hobbies. The interviewee F5, who is a widow, stressed that this traumatic experience showed her that, in life, it is sometimes necessary to say 'no'. But, as she is temporarily employed, she is forced to work overtime, so as to be able to materially provide for herself and her family. She comes from the generation which believes that hard-workers are somehow paid for their work, but she realised that luck,

as well as being at the right place at the right time, are becoming increasingly more important. She wants to have at least 2 days a week for her individual work. As an “engaged type”, we can identify the interview F8, who is spending most of her days at the institute or engaging in other scientific activities (giving lectures). She is divorced and now lives with another partner, who also works all the time. She has 3 teenage children, who do not need much of her attention and help any more.

6. TRANSVERSAL DISCUSSION

6.1. STEM institution: Department of Agronomy, Biotechnical Faculty, University of Ljubljana

6.1.1. The comparison between the 3 samples – key findings to understand the leaky pipeline phenomenon from a qualitative approach

Irrespective of the group observed, female and male interviewees decided for their PhD studies mostly because of their research interests. The majority of them were recruited by the STEM Department for Agronomy at the Biotechnical Faculty (University of Ljubljana) because of their previous (undergraduate) collaborations with their later PhD mentors. The practice of selecting the already ‘known candidate’ who also has to fulfil the required official criteria for the status of a young researcher is a prevailing practice in recruitment and a sign of a ‘social inbreeding’ at this faculty.

Speaking about their career mentors, the interviewees referred to their PhD mentors. However, discussing the mentorship, there are some differences among the 3 groups of collectors. In the most numerous first group (10), there are both descriptions of good and bad mentorship experienced, in the second group (5), there are mostly positive descriptions of mentorships experienced, while in the third group (5), the collectors expressed most criticism towards mentorship experienced. In turn, among the first group, there are female involuntary leavers who reported bad mentorship in terms of being ‘left to themselves’, while it seems that the same practice was experienced by male involuntary leavers as greater ‘autonomy’ or trust of their mentors, who did not want to be involved much in their research tasks. Irrespective of good or bad descriptions of their mentors and mentorship experienced, all collectors from the first group reported that their mentors supported their mobility or attendance at scientific conferences, but were not sensitive to their family commitments. In the first group, there is the highest number of interviewees with their own families (6 of 10). The organisation itself offered some flexibility in terms of flexible working hours or working from home, but the interviewees did not take advantage of these arrangements because they were involved in teaching or worked in laboratories, or because of the necessary equipment, which they had in their offices. As to the national family policy, the mentees could employ maternity/fraternity/parental leaves and public kindergartens, while the organisation itself does not offer any other caring possibilities. Anyhow, they all enjoyed support from their partners, spouses or parents.

In the second group, only one among 5 interviewees has a family. The collectors from this group in general spoke positively about their mentors and their mentorship. These

collectors believe that they were chosen by their mentors as promising candidates worth of staying at the faculty. Yet, they are all temporarily employed and live in uncertain circumstances in which their trajectories are dependent on every research project obtained. These uncertain circumstances can lead to leaky pipeline as soon as they would unsuccessfully obtain research projects, which also mirrors in female and male alternative, but distant, types identified in this group of collectors.

The collectors from the third group expressed most criticism towards their PhD mentors and mentorship experienced. Again, there is observed gendered reporting. Female collectors talked about a paternalistic mentor, who employed hierarchical and one-way communication, or a young scientifically inexperienced mentor, or a seeming (but non-existing) mentor, while male collectors (as in the first sample) reported the same experiences differently, speaking of a mentor who was not 'completely at home in research', or a mentor who gave them enough autonomy during PhD studies, or a mentor who gave them advice to rely on other associates when necessary. Anyhow, these collectors belong to the group of permanently employed people at the faculty, but some of them exposed the discrepancy between the higher academic title achieved and the lower paid job, which is in accord with the jobs' systemisation at the faculty level, and can also lead to a leaky pipeline.

Besides mentorship, the most potentially dangerous circumstance for the leaky pipeline phenomenon is related to the organisational culture. The collectors from all the groups emphasised collegial and cooperative relationships inside the research groups, but distant, detached and 'rivalry' relationships between the research groups or research programmes at the departmental or even faculty level. As possible reasons for such a climate of 'negative competition' they identified scientific excellence criteria, defined by the national research agency, which follows the principles of the so-called 'knowledge society'. Gender-neutral rhetoric of objective scientific excellence criteria is accepted among the heads of the chairs and leaders of research groups and programmes as unquestioned guidance towards sound and successful researching and teaching. Instead of interdisciplinary and collaborative efforts and strategies employed at the departmental level, tensions emerged between clear bounded research groups and their members in constant fights for scarce national and hardly obtained international research funds. In seeking to achieve the prestigious results of scientific excellence criteria, there are also tensions between the younger and older generations, particularly as to the access to laboratory equipment; in pursuing their privileged position, the older generation sometimes deny the access to the younger associates. Unstable financing of research and more stable financing of teaching is another identified reason for tension between them. The university teachers believe that their activities are de-emphasised compared to researching because of scientific excellence criteria, while the researchers believe that the university teachers are privileged because of stable financing of pedagogical work.

Collocutors from all groups believe that, in such uncertain and competitive circumstances of academic work, their superiors are not sensitive enough to work and life balancing. Deadlines must be achieved and work must be done irrespective of family obligations of their mentees. Irrespective of the national family-friendly policy, both male and female collectors believe that without substantial support from their spouses, partners or parents it would be impossible to keep the pace with academic life.

6.1.2. The key findings of the comparison pertaining to 4 interrelated mechanisms operating in the leaky pipeline

The **masculine habitus** of the scientific field can be recognised in the heads of the chairs, leaders of research groups and programmes who, according to the interviewees from the 3 samples, employ the strategy of unquestioned adaptation to the imposed scientific excellence criteria. This group of mostly male successful superiors, according to the national criteria, believes that these criteria are gender-neutral and objective in the academic world. In this regard, the logic of 'old boy's club' can be recognised, particularly because the collectors reported about the superiors' informal rules, strategies and tactics, in sum, about their internal politics of who in the department is allowed to apply for a project, mentorship and the like.

The collectors of 3 samples are ambivalent in this regard: in their narratives they, on the one hand, oppose such criteria as non-realistic and exhaustive in the long-run, yet on the other hand, they expect from their mentors to integrate them properly step-by-step in such a competitive world. In this view, they recommend either improved, responsible and engaged mentorship, or the introduction of some schemes or seminars to equip them properly with necessary skills to survive in such a world.

The **Matilda effect** can be recognised in the interviewees from the first group, particularly in those female collectors who were promised to stay at the faculty after their PhDs if they were more engaged in some additional tasks. Otherwise, the majority of both female and male collectors from 3 groups were involved in teaching, although this was not a necessary activity during their PhD studies. But, as said above, they understood this involvement as the investment for the future, as their mentors trusting them that they could assist them in teaching. The same applies for the practice of co-authorship. The collectors as the mentees did not expose the co-authorship with their mentors as unfair, even though their mentors' contribution was minimal or none, but as the returned favour for their participation in the mentors' projects.

The Matilda and the St. Matthew effect can be recognised in superior-inferior clearly defined tasks as the result of departmental politics. The main strategy or politics of a network of superiors, who are the best according to the national scientific excellence criteria, is to supervise and distribute tasks among the lower-ranked associates. According to this practice, the higher-ranked superiors are involved in financing and are co-authors of the publications produced irrespective of their contributions, while the lower-ranked associates implement all necessary time-consuming tasks in research. In this view, the lower-ranked associates in a research group are becoming modern nomads, shifting from one topic or project to another, dispersing their knowledge and energy.

6.2. SSH institution: Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU)

6.2.1. The comparison between the 3 samples – key findings to understand the Leaky pipeline phenomenon from the perspective of a qualitative approach

Qualitative research and the comparison between the 3 samples show that the research politics at the Institutions of ZRC SAZU vary and that the collectors have developed their trajectories under different internal/informal scientific criteria, engagement and circumstances.

The majority of the interviewees (11) are former Young Researchers, who successfully and excellently finished the Programme of Young Researcher. Beside the formal criteria defined by the Slovenian Research Agency, they also met informal criteria of the specific institutions, which are defined by the Scientific Committee of the Institution, the Head of the institution or, in some cases, also by the Leader of the research programme. Some of them had already worked at the institution as graduate students. In some cases, interviews were invited on the basis of good relationships with the institute's colleagues during their undergraduate studies at the Faculties, where some of the institute's researchers teach, while some interviewees had worked with the institute's colleagues on different foreign projects. Thereby, the practice of selecting the already "known candidate" prevailed in their recruitment.

The majority of interviewees from WP4 and WP6 emphasised the importance of their mentor's role during their graduate studies. Generally, they express a positive attitude toward their supervisors, particularly in terms of providing them with substantial knowledge and support. However, several of them emphasise the lack of supervisor's support in the career trajectory after completing PhD studies. They generally expressed lack of support from their former mentors once they obtained the PhD status. In some cases, the interlocutors from WP6 stated that they would probably stay at the test institution if they had a more influential supervisor who would support their employment.

More critical were the interviewees in their descriptions of postdoctoral mentoring. In general, they missed appropriate advice and guidance in their early academic trajectories, including support in terms of scientific writing. While the interviewees from WP4 attributed the consequences of the lack of appropriate postdoctoral mentoring programmes to difficulties in their timely fulfilment of promotion criteria, the interviewees from WP6 believed that the deficiency of mentoring programmes was the main reason for their leaving ZRC SAZU. Finally, some interviewees from all 3 groups mentioned senior colleague(s) at the Institute or outside the Institute as their informal supervisors in their postdoctoral work, while some relied on their 'international contacts'.

Besides mentorship, potential difficulties to prove the emergence of Leaky pipeline phenomenon include organisational and working politics at the institutions, which lead to many anchored problems and discrepancies among institutions. The huge problems are mirrored in understanding the purposes and objectives of scientific work in the contemporary world. The Institution of the Slovenian Language is still very traditionally

oriented to the basic purposes of scientific/expert work, which is based on compiling linguistic materials and using them for the creation of basic Slovenian language dictionaries and linguistic atlas. The problem is that the Slovenian system of estimating scientific research (SICRIS) does not value dictionaries and linguistic atlases as scientific work and achievement that would bring necessary scientific references and points.

In other ZRC SAZU institutions, which are more dependent on international European projects due to financial instability in Slovenian sciences, the main research politics and orientation have to take into consideration also the neoliberal logic, which has completely shifted an emphasis from the quality of research to the quantity of published articles in high-related journals. Due to the economic and social crisis since 2008, and related reforms since 2012, which have cut research funds, international projects and struggles to meet international scientific criteria have become the fundamental work of many scientists at ZRC SAZU.

Although all researchers have to meet quantitative formal scientific criteria that the Slovenian Research agency and international scientific politics proposed, otherwise there is no possibility to apply for a national or international research project and to get financing, the Fran Removš Institution of the Slovenian language has a special status inside the ZRC SAZU institutions and in the SSH disciplines. As their research outputs (dictionaries, linguistic atlases) are still recognised as important intangible national heritage, necessary for the Slovenian culture, identity, education, science, etc., the institution have more permanent financing than other institutions. Thereby, the collectors, especially the Assistant with PhDs, are not occupied with the preparation of project proposals, but they just work on tasks assigned to them by the leaders of the sections. Of course, self-initiative in writing articles, publishing books, attending international conferences, giving lectures at the national universities is very desired and welcomed among the Head of the institution and the leaders of the sections. However, as their primary work is to prepare dictionaries or a linguistic atlas in desirable time and to educate themselves on these specific issues, they can work on other scientific criteria only in their free time. Since young female researchers with small children do not have a lot of free time, they are not competitive in the scientific environment and, consequently, less ambitious to be excellent as well. Although they have their partners' and parents' support regarding family obligations, many of them admitted that they subordinate their research work to their families and private engagements. The question which arises is: What will happen if the financial providers cut off the financing (as they did with other research groups formed at the ZRC SAZU)? As the Assistants with PhDs at the Institution of the Slovenian language are not forced to acquire skills for project writing or to meet other scientific criteria, after some years, they could lose their jobs, and the phenomenon of the Leaky Pipeline will be observed. At the moment, the decisions as to who will apply for a national project is in the hands of the male Head of the institution, who has the highest references to be a project leader and who has often lent his name for applications. Their content is prepared by the leaders of the sections or other colleagues.

A completely different situation was identified at the institutions which the levers/movers had to leave because of financial cuts and unsuccessful project politics. According to the interviews, many of them (five) left the institution because the Head of the institution or PhD mentor did not manage to include them in the research group due to financial problems. All collectors admitted that, if the financial situation in the institutions would be more stable and the mentors or other colleagues would introduce

them to the academic career, they would like to be a part of ZRC SAZU, as it is recognised as international scientific research centre. The 6 interviewees complained that they work very hard on PhD thesis and other project proposals, and that they subordinate their private life to research and working engagements. This conclusion mirrors the unenviable situation in the Slovenian science and confirms the statement of one of the interviewee from the Institution of the Slovenian Language, who is temporary employed as well, that in the contemporary world, it is not enough to be a hard-worker, but also to have luck, an acquaintance, and to be at the right place at the right time to obtain the job. And many researchers at the beginning of their carrier do not have such luck, so the Leaky pipeline phenomenon is increasingly introducing itself.

However, 4 movers/leavers left the ZRC SAZU due to personal challenges in order to experience other ways of life. 2 of them went abroad, not only because of insecure jobs in Slovenia, but also due to personal and professional wishes. As the Head of the Institution and mentors forced them to be internationally mobile, they did not have problems to find international postdoctoral fellowships. Nowadays this institution is one of the most prosperous and international institutions at the ZRC SAZU, where in contrast to the opinions of the colleagues from the Institution of the Slovenian language, (who believes that international experiences are not that important for the specific field of Slovenian language), their researchers are very ambitious, courageous and willing to meet international scientific criteria.

Self-initiative, which is the most desirable trait at all institutions (also at the Institution of the Slovenian Language), was observed in the interviewees from the Section of the Dialectology inside the Institution of the Slovenian Language, who irrespective of the opinion of the Head of the institution, pay a lot of attention to the international scientific criteria, especially publishing articles and attending international conferences, in order to meet promotion criteria, acquire new knowledge, open new horizons and possibilities to make international contacts and networks. One of them also prepared a proposal for a transnational European projects, which are very rare at the institution. Besides, it should be also noted that the younger generations are aware of the impermanence and instability of the current seemingly stable circumstances and permanent positions at the Institution of the Slovenian Language, but most of them still do not live under constant pressure because of it. They are very critical of the contemporary leadership, as there is no vision and long-term strategy as to how the Institute will survive in the circumstances which are atypical for Slovenian science.

Generally, all interviewees were very critical of project work, which has become the fundamental form of research work in Slovenian science, especially in research institutions, whilst the struggle for a project has become the main preoccupation for most researchers. More critical of project policy were mover/leavers, who had to leave the institutions as they were unsuccessful in project applications. As some of them were only a tool for creating a project, but did not have the opportunity to be leaders/managers of the projects, as they did not have the required references, they felt exploited, and some of them gave up (the Leaky pipeline phenomenon).

All collectors from all 3 groups described internal relationships among colleagues as cooperative and emphasised positive competition among researchers. This is especially characteristic of the sections at the Institute of the Slovenian language, where younger generation prevails. Movers/Leavers, however, pointed out bad internal relationships and, retrospectively, blamed themselves for that, believing that they lacked self-

confidence, that they were not strong enough, and that they were not able to express their opinions or ask for help. Interviewees from the Institute of the Slovenian language focus more on intergeneration problems, as the older employees who are not PhD holders are very sensitive and feel threatened by the younger employees who have scientific titles. Since the leaders of the sections are younger, there are no hierarchical problems there, while some movers/leavers stressed there are some tensions between the Head of the Institutions and mentors. Some exposed the formation of preferred groups inside the institutions, which additionally caused bad feelings of the movers/leavers at the institutions. Because of that some movers/leavers would prefer to work from home, which was not a preferable advantage in some institutions. As the work at the Institute of the Slovenian language is done in teams, the interviewees said that they did not often use this opportunity. However, according to the interviewees, the Head of the Institution does not forbid working from home, especially if the researchers have a sick child or other family obligations. The attitude of the Head of the Institutes towards family obligations was positive in all examined institution, both among movers/leavers, postdocs and among the newly tenured researchers.

Although the scientific quantitative criteria, especially the publication of the articles in high-related publications, have become the main preoccupation of many scientists in SSH and STEM disciplines in Slovenia, the interviewees did not pay a lot of attention to this problem. At the Institution of the Slovenian language, the main informal criteria are focusing on the qualification to do research, social skills and ability to work in a team, the willingness to work and social responsibility. Contrarily, the desired scientific values among movers/leavers differed according to the institute to which they belonged. At one institute the most desirable criteria were developing international scientific networks (international mobility, collaboration with foreign colleagues, etc.), while at another they were stressing the ability to work in a research group and to work for the group, which means not to think individually, but for the benefit of the research group.

6.2.2. Key findings of the comparison in terms of 4 interrelated mechanisms operating in the Leaky pipeline phenomenon

The masculine habitus at the Institute of the Slovenian language can be recognised in the male Head of the institute who – Irrespective of the preparation of dictionaries, which are not scientifically evaluated, and other administrative tasks – has managed to meet necessary scientific criteria requested for the project leaders. Because he is a masculine “hero” of the institution, who is, among the colleagues, very respected and honoured, and who is also very sensitive to colleagues and their private and professional engagements, the interviewees did not problematized this issue. On the one hand, the interviewees are aware of the fact that he is the soul of the institution, who leads the institution in accordance with the traditional research purpose formed already in the years of the institution’s establishment, in 1945, but on the other hand, they are afraid of the situation when the financial providers will cut off the resources for dictionaries and linguistic atlas and they will have to work on other scientific criteria for which they will not be educated and so they will be, consequently, less competitive.

The **Matilda effect** is recognised among the many female interviewees at all institutions where the interviews were taken. At the Institution of the Slovenian language, the Matilda effect is observable among younger scientists, who, fortunately, have permanent positions, but are not scientifically competitive, as they just work on dictionaries and do

not have individual time for research and publishing articles. As the Head of the institution is successful in providing them necessary financial support, they do not problematize this fact too much. Because of private engagements, they do not have time and encouragement for more ambitious steps in their trajectory (international mobility), so they work on their dictionary tasks without any resistance. Moreover, in their own words, they are aware of the fact that they work hard on less prestigious tasks, but they are not ambitious and courageous enough to develop their careers more successfully.

At the Institution of the Slovenian language, the logic of an “**old boys club**” is recognised in the structure of the institute. However, even though the institute is feminised and women prevail as researchers, the leading positions are in the hands of men: there is a male Head and male leader of the research programme, who are in charge of financial resources for research.

Additionally, quantitative research also showed that the Head of the Institution and the leaders of the sections understand obligations of young mothers and they allow them to work from home. Furthermore, a younger researcher has support from partners and parents, but some young researchers’ husbands did not understand that they sometimes had to work during the weekend or in the afternoon. Some of them also have negative experiences of not being appreciated as scientists by their husbands. As many of them had serious health problems in the past or were facing a serious illness in the family, they started to live more healthy and got courage to sometimes refuse research tasks.

6.3. SSH and STEM comparison

6.3.1. Similarities

In both test institutions, the interviewees refer to their PhD mentors as career mentors, and the majority of them were involved in PhD studies as young researchers. The phenomenon of an ‘already known candidate’ in selection and recruitment procedure of young researchers applies for both test institution. The majority of the candidates for young researchers knew or were informed about or collaborated with their later PhD mentors at the undergraduate level of their studies.

In both test institution, the main reason for starting the PhD studies pertains to ‘personal interest in research’ while one of the main reasons for involuntary leaving from both test institutions after the PhD study of the interviewees is ascribed to mentors’ responsibility. In this regard, both male and female interviewees stress that the main shortcoming of the Young Research Programme in Slovenia is related to inconsiderate trajectories of young researchers after they complete their PhD studies. In this context, the interviewees ascribe the key role to their career (or PhD) mentors, who should carefully plan their trajectories also after their PhD studies. These interviewees expressed the lack of their mentors’ support and their non-appropriate socialisation into the academic world. Irrespective of their gender, the mentees were ‘left to themselves’ during their PhD studies and were not adequately equipped to survive after their PhD studies. Some collectors also mention that the older generation of mentors was socialised in the previous time-period without such demands to survive in the academic world as they are currently underway. Therefore, such older mentors are incapable of leading and

socialising their mentees in the neoliberal context. Such poor mentoring is one of the reasons for the leaky pipeline phenomenon in both test institutions.

Another similarity pertains to the mobility of the group of movers/leavers from both test institutions. Irrespective of their gender and good or bad mentorship experienced, the interviewees from this group were supported by their mentors to attend international conferences and to stay abroad. Some of them took advantage of this practice and went abroad after their PhD studies.

The only similarity among the interviewees who stayed at both test institutions after their PhD studies, either temporarily or permanently employed, pertains to 'masculine habitus' of their superiors. At the STEM institution, such a 'masculine habitus' consists of mostly male leaders of research groups and programmes or the Heads of the Chairs, while in the SSH institute, it pertains to the male Head of the test institute. These actors are very influential decision-makers about internal research politics, tactics and strategies employed (project writing, article writing, tasks division, research hours' distribution, etc.), and their informal network seems impermeable for other employees.

6.3.2. Differences

The most salient difference between both test institutions pertains to doing and organising research. In the STEM test institution, doing and organising research and teaching follow the 'knowledge society' requirements, which are manifested through scientific excellence criteria. To obtain prestigious national and international projects and to publish in prestigious scientific journals is of the highest value at the departmental level, which contributes to St. Mathew and Matilda effect on the employees, as well as to the 'rival' climate and relationships among the research teams. Quite a different picture can be extracted from the SSH test institution. The main work and preoccupation of the Institute is related to the creation of various kinds of dictionaries, which is not recognised as a scientific work according to scientific excellence criteria, but as a professional activity of special national value and interest. This main activity, however, is financed in a relatively stable way, compared to research as such, and it is not subjected to short-term project applications or constant efforts for funding. The head of the Institute influences and directs the work of mostly female employees towards group or teamwork as a precondition for the creation of their main products – dictionaries. As a result, the majority of the employees are permanently employed, the group identity, collegiality and solidarity are values which are most strongly shared; however, particularly the younger generation is aware of their long-term marginalisation in the scientific world if they do not adapt to the requirements of the 'knowledge society'. Project writing, scientific writing, etc. are the activities which are currently subordinated to the group work related to the creation of dictionaries. The same applies to the mobility and scientific conferences, which is not so spread research activity among the employees. Particularly younger collectors are afraid of possible marginalisation of their work and status in the case of reduced financing of their current activities. Moreover, such a way of doing profession is not harmonised with promotion criteria, which follow scientific excellence criteria of 'knowledge society'. The younger collectors believe that they are not equipped enough to survive in the competitive context for research funding. Finally, because of group work, where everybody contributes their skills, knowledge and competences to the common project – the creation of a dictionary –, the employees do not meet any difficulties related to work and life balance. Their tasks are

clearly defined, their work-schedules are known, actually, they live atypical academic life in current academic competitive environment. Yet, younger collectors are afraid that currently secured jobs can become insecure if funds for dictionaries become scarce. One of the consequences would be a leaky pipeline phenomenon.

7. CONCLUSION AND RECOMMENDATIONS

7.1. Key results of quantitative and qualitative analysis

Statistical indicators (2010-2013) and statistical survey data (2012) at the national level clearly show the existence of leaky pipeline in Slovenia, in a 3-dimensional way, namely: first, the share of female students prevails at all study levels (BSc, MSc and PhD), but the share of researchers (PhD holders) employed at academic institutions is in favour of men. Almost 'traditionally', there is an unbalanced gender distribution in the scientific field (STEM/SSH). Female students are still overrepresented in the so-called female scientific disciplines, while male students outnumber women in the so-called male scientific disciplines. Agriculture as a scientific discipline is an example of a reversed trend: former masculine field is becoming slightly in favour of female students. Second, a scissor-shaped curve of professional trajectories of women and men proves gendered vertical segregation: the share of women is decreasing in every higher step of academic (promotion) ladder. Third, there are more female PhD holders who are temporarily employed.

The available data of 2 test institutions in the time-period observed (2010-2013) reflects the national picture only in some aspects. Female researchers of all academic levels obtaining temporary and permanent contracts are overrepresented in the SSH Institution (Fran Ramovš Institute of the Slovenian Language ZRC SAZU) compared to men. In another STEM test department (the Department for Agronomy at the Biotechnical Faculty, University of Ljubljana), there are more women among the research staff with permanent and temporary contracts, while the number of male Full and Associate Professors is higher compared to women. Yet, observing promotions and exits, leaky pipeline phenomenon cannot be verified and confirmed at the STEM/SSH Institutions' level, mostly because of a relatively small number of such cases in a relatively short time-period observed (2010-2013). There were 10 exits (6 men and 4 women) at the STEM Department and only 1 male leaver at the SSH institute, and only 2 female promotions at the SSH and 14 promotions (7 men and 7 women) at the STEM Department.

Qualitative analysis identified some potential sources for the leaky pipeline phenomenon.

The first one is related to poor mentorship experienced in both test institutions. In Slovenia, there is no official mentoring programme with clear protocol and responsibilities defined for mentors. As a result, the interviewees experienced various kind of mentorship, from appropriate step-by step socialisation into the academic world to the absence of any kind of relationships. All interviewees stressed the importance of mentors in the mentees' trajectories, but their role was particularly emphasised by the involuntary movers and leavers. Both female and male interviewees from this group of collectors were left to themselves and were not adequately integrated into the academic environment. Their mentors did not equip them with necessary advice, support and skills

regarding project and article writing as well as building necessary relationships with other associates.

Another source for the leaky pipeline phenomenon pertains to organisational culture. Yet, this source is identified mainly at the STEM test institution. The collectors from all the groups emphasised collegial and cooperative relationships inside the research groups, and distant, detached and 'rivalry' relationships between the research groups or research programmes at the departmental or even faculty level. As possible reasons for such a climate of 'negative competition' they identified imposed scientific excellence criteria defined by the national research agency, which follows the principles of the so-called 'knowledge society'. Instead of interdisciplinary and collaborative efforts and strategies employed at the departmental level, tensions emerged between research groups and their members in constant fights for scarce national and hardly obtained international research funds. The masculine habitus of the scientific field can be recognised in the heads of the Chairs, leaders of research groups and programmes, who, according to the interviewees from the 3 samples, employ the informal rules, strategies and tactics of who at the departmental level is allowed to apply for a project, mentorship and the like.

The Matilda effect can be recognised at both test institutions, particularly in the involuntary female leavers who were promised to stay at the faculty after their PhDs if they were more engaged in some additional tasks (e.g. project or article writing).

The Matilda and the St. Matthew effect can be recognised in superior-inferior clearly defined tasks as the result of internal politics at both test institutions. The main strategy or politics of superior(s), who is/are the best according to the national scientific excellence criteria, is to supervise and distribute tasks among the lower-ranked associates. According to this practice, the higher-ranked superior(s) is/are involved in financing, while the lower-ranked associates implement all necessary time-consuming tasks in research.

Interviewees' low sensitivity to gender unbalanced position of PhD holders of the observed groups in both test institution is a very important result from the qualitative analysis. Instead, the interviewees from both test institutions stressed a generational difference or gap as more salient, and in the STEM test institution, the interviewees mentioned the 'unfair' difference between the higher academic title obtained and lower-paid-systemised job position.

Difficulties of work and life harmonisation are identified mostly in the STEM competing environment, while at the SSH test institution, this issue was recognised as a challenge only among the leavers/movers.

Unstable financing of research is the biggest risk factor for the leaky pipeline in both STEM and SSH institutions. Yet, it is also worth mentioning that, at the moment, the leaky pipeline is not so much visible among the stayers of the selected SSH Institute because of their currently secured jobs and financing. Still, the younger generation is afraid of possible changed circumstances, which may also lead towards the leaky pipeline. They are not well prepared for project applications and their publication record is poor according to the scientific excellence criteria. Finally, the majority of them have not yet been a project leader.

7.2. Recommendations for tackling leaky pipeline phenomenon: organisational/institutional/ structural levels

There are 5 general groups of recommendations stemming from the above quantitative and qualitative analyses:

To arrange and settle the data on BSc, MSc and PhD students and PhD holders in a given year according to age cohorts (e.g. the enrolment of students per gender and age in a given year), their academic titles obtained, and other necessary variables, so as to monitor the Leaky Pipeline at the national level.

To collect and dissect the data on PhD holders per gender, age, academic title, income, work contract, etc. in HR offices at a given academic institution. Despite the fact that *The Data Protection Law* seriously questions the public availability of such data, it is necessary to collect them in order to cope with the Leaky Pipeline phenomenon inside the institutions and to take necessary measures.

To create and introduce protocols and steps of adequate and responsible mentoring, or to regularly organise seminars and workshops for both, the mentors and mentees, in order to change the existing gendered organisational cultures, or to introduce seminars on article and project writing in graduate studies.

To activate and connect the existing supporting institutions at the University level (e.g. various kinds of offices for doctoral study, career centre, international mobility, Equal opportunity office, etc.), non-profit organisations (e.g. the Association of Young Researchers, the Young Academy etc.) and Public Research in a coordinated network of support offices to provide students and PhD holders at academic and non-academic institutions with necessary information for their academic careers (e.g. grants, mobility schemes, project partners, project calls, etc.).

To constantly organise public events (round tables, discussions, media reports, etc.) to raise awareness about the Leaky Pipeline phenomenon.

REFERENCES

- Arsenjuk, U. and Vidmar, D. (2015). *The Career Paths of Doctorate Holders*. Ljubljana: Statistical Office of the Republic of Slovenia. <http://www.stat.si/dokument/8449/Careers-paths-doctorate-holders.pdf>
- Brink, M. van den, Benschop, Y. (2012). Gender practices in the construction of academic excellence: Sheep with five legs. *Organisation*, 19(4), p. 507-524.
- Brink, M. van den, Benschop, Y., Jansen, W. (2010). Transparency in academic recruitment: A problematic tool for gender equality? *Organization Studies*, 31 (11), p. 1459-1483.
- European Commission, (2013). *She Figures 2012*.
- Gabrič, A. (2009). *Sledi šolskega razvoja na Slovenskem (Track School Development in Slovenia)*. Ljubljana. Pedagoški inštitut. http://www.pei.si/UserFilesUpload/file/digitalna_knjiznica/Dissertationes_7/

- Genova, A., De Micheli, B., Zucco, F., Grasso, C. Magri, B. (2014). Achieving gender balance at the top of scientific research: guidelines and tools for institutional change. Genis Lab project Rome.
- Jogan, M. (1997)., Položaj znanstvenic v Sloveniji (The Situation of Female Scientists in Slovenia) (Research Report) Ljubljana: University of Ljubljana – Faculty of Social Sciences.
- Mladenić, D. (2006). (ur.): Enakost žensk in moških v znanosti in raziskovanju v Sloveniji (The Equality of Women and Men in Science and Research in Slovenia). Grosuplje. Partner graf.
- Rees, T. (2012). The gendered construction of scientific excellence. *Interdisciplinary Science Reviews*, 36(29), 133-145.
- SORS (Statistical Office of Republic of Slovenia) (2011). Careers of Doctorate Holders. Slovenia. 2009 – Final data. <http://www.stat.si/StatWeb/en/mainnavigation/data/show-first-release-old?IdNovice=3951>
- SORS (Statistical Office of Republic of Slovenia) (2013). Statistical Yearbook of the Republic of Slovenia 2013. <http://www.stat.si/StatWeb/doc/letopis/2013/07-13.pdf>.
- Ule, M., Šribar, R., Umek Venturini, A. (2015). Gendering Science: Slovenian Survey and Studies in the EU Paradigms. Ljubljana: Faculty of Social Science.
- Ule, M. (2012). Spolne razlike v delovnih in kariernih pogojih znanstvenega dela v Sloveniji (Gender Differences in Working Conditions and Career of Scientific Work in Slovenia). *Teorija in praksa* 49(4): p. 626-644.
- Zgaga, P. (2015). Vplivi dinamike v visokem šolstvu na spolno strukturiranost sodobne družbe (The Effects of Dynamics in Higher Education on Sexual Structure of Modern Society). In Antič Gaber. M. (eds.) *Zahtevna razmerja: spol, strukturne ovire in priložnosti (Difficult Relationships: Gender, Structural Barriers and Opportunities)*. Filozofska fakulteta. Ljubljana.

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