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Having it all, or avoiding black holes? Career–family strategies and the choice between leaving or staying in academia among Swedish PhDs

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ABSTRACT

Despite a persistent notion that women exit academia due to family responsibilities, research on exits is scarce. Based on 32 interviews, the paper explores how male and female PhDs recount the choice of leaving versus remaining in academia in terms of aspirations, opportunities and constraints. The main question is whether the exit/remain decision reflects gendered work-family strategies in a modern dual-earner society like Sweden. The narratives form a fourfold typology of strategic and accidental stayers, as well as strategic and accidental leavers. The analysis points to asymmetric opportunities connected to both gender roles and internal/external employment prospects. Family concerns formed a prominent reason for exit but problems of job insecurity and care involvement were highlighted by both men and women. Female but not male stayers could foresee obstacles and applied a range of strategies to minimize the impact of family on their careers. All in all, findings did not conform to prevailing notions of female exits but suggest that the academic career system present women and families with complex dilemmas even in a country with supportive policies. In future, exit processes should be furthered studied in other institutional contexts.

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1. Introduction

For a long time, the numeric gender imbalance at higher academic ranks was discussed as a transitional phenomenon destined to fade away as more women entered university. By now, however, most scholars agree that this imbalance is more than a historic relic. While their percentage of PhDs has increased dramatically (European Commission, 2019; Mason & Goulden, 2004; Silander, 2010), the share of women decreases at each level of the academic hierarchy (Rees, 2001) and evidence from a range of countries shows that women are still significantly less likely than men to reach the rank of professor (European Commission, 2019, for Sweden see also Danell & Hjerm, 2012). Clearly, there is a need to better understand the mechanisms by which such inequalities are sustained.

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Over the decades, research on labour market gender inequalities has rested heavily on Gary Becker (1985, 1981/1991) notion that women – but not men – accommodate future family responsibilities in their human capital investment strategies, choosing occupations and jobs that require less skill development, less time commitment and less effort than men's jobs, thereby compromising their career prospects. The underlying logic is that within-household specialization between paid work and care would maximize household utility. These assumptions seem outdated at a time when women's educational investments exceed those of men across the OECD (2019). Also, the gendered division of paid and unpaid work within families has weakened, albeit with large variation across countries (Hook, 2006). Still, men and women largely choose different fields of education and different occupations and such choices too could reflect gendered roles and expectations. In particular, scholars argue that women will avoid complex jobs where continuous skill development make work interruptions problematic (Estévez-Abe, 2005; Polachek, 2004). Presumably, such jobs also entail 'family-unfriendly' work demands such as long hours and requirements for continuous availability (e.g. Grönlund & Öun, 2018 Magnusson, 2019;).

Arguably, research careers provide a prime example of such 'family-unfriendly' tracks and the idea that care obligations form women's strategies and opportunities has been put forward in research focussing on gender inequality in academia (e.g. Mason & Goulden, 2004; Preston, 1994; Williams, 2005; Wolfinger et al., 2009). Several aspects of research careers are depicted as incongruent with women's care responsibilities: the long period of training and insecure employment, as well as the long hours culture, the high requirements for travelling and mobility and the need for continuous service to keep up with the pace of research (e.g. Rees, 2001; Weisgram & Diekmann, 2017). Empirical studies, mainly from the US, provide some support for this perspective. In a longitudinal study, Mason and Goulden (2004) documented that US women who had children soon after their PhD were less likely to achieve tenure than men who had children at the same point and that tenured women were unlikely to have children (cf. Wolfinger et al., 2009). In other studies, female academics cite work-family conflict as a reason for leaving or considering to leave academia (Mason & Goulden, 2004) and perceptions about the family-friendliness of science careers crucially affect women's interest in such careers (Weisgram & Diekmann, 2017).

Based on these and other findings, Williams (2005) discusses the maternal wall phenomenon, blocking academic women's career progress from the time they become mothers. However, since employers may assume all women could become mothers and exercise statistical discrimination non-mothers too can encounter this barrier (Williams, 2005). Here, the work-versus-family hypothesis blends in with the hypothesis of the glass ceiling, which emphasizes an inherent pattern of discrimination and exclusion barring women from top positions in academic institutions (Mason & Goulden, 2004; Williams, 2005).¹ Clearly, however, individual and structural factors are difficult to disentangle. For example, Fox and Stephan (2001) showed that female doctoral students in STEM had weaker preferences for research careers than men but also perceived women's career prospects to be less favourable. Presumably, then, discrimination and work-family conflicts could be anticipated and factored into women's career strategies (cf. Estévez-Abe, 2005). Considering these complexities, there is reason to explore how women and men perceive their opportunities and motivate their choices. In the study presented below

PhDs exit/remain decision as used a lens for studying whether and how work-family deliberations can put women off the academic track.

Female exits from academia are commonly discussed as a mechanism behind the gender imbalance at higher positions, a phenomenon described with stark metaphors, notably the 'leaky pipeline'. This widespread notion draws on the 'disappearance of women at each stage of the academic career' (Rees, 2001, p. 252). In a similar vein, the 'black hole' metaphor, discussed mainly in Scandinavia, suggests that women 'disappear' soon after obtaining their doctorate (Academy of Finland, 1998 – see also Husu, 2001 and Silander, 2010). However, the empirical underpinnings of these metaphors seem less than solid. The notion of women 'disappearing' from academia is based largely on cross-sectional observations (but see Preston, 1994). Presumably, the difference in gender composition across hierarchical levels could reflect women's lagged careers rather than exits. Also, patterns of exit may vary between countries with different institutional frameworks. Notably, for Sweden, longitudinal analyses show that men leave from academia more often than women (Silander, 2010 – cf. Kyvik & Olsen, 2007 for Norway).² Moreover, the idea that female exits are inherently negative is clearly simplified. For example, Eltzkowitz and Ranga (2011) claim that many women leave academia to work in professions where their expertise is better utilized. European research policies also promote exits to increase the share of researchers, particularly female researchers, in industry (European commission, 2003).

Arguably, these metaphors and the underlying assumptions can also reproduce a traditional view of gender roles. As noted by Husu (2001, p. 43), they tend to stress women's 'otherness, exclusion and rejection' and to downplay women's (and men's) agency. Empirically, the topic of care responsibilities and exits has received some attention in quantitative research (e.g. Preston, 1994; Silander, 2010), however, to my knowledge, only a couple of qualitative studies, both from the 1980-90s, have addressed this issue (Husu, 2001; Sonnert & Holton, 2006). As discussed, gender norms are changing and so are women's career strategies – as witnessed by the fact that 48% of doctoral graduates in EU-28 are now women (European Commission, 2019). Still, norms and practices vary significantly between countries with different institutional frameworks. In this study, the case of Sweden is used to explore and update traditional assumptions about gender, work-family strategies and exits from academia.

Due to longstanding policies promoting a dual earner/dual carer family model (e.g. Korpi et al., 2013), Sweden boasts high rates of both female and maternal labour force participation (Grönlund et al., 2017) and equal sharing of paid and unpaid work is a widespread norm (Edlund & Öun, 2016). However, though women combine work and family throughout the childrearing years, supported by parental leave schemes and affordable childcare, gender inequalities in family and labour market remain salient (Boye & Evertsson, 2015; Grönlund et al., 2017). In fact, some scholars discuss Sweden as a 'gender equality paradox', arguing that extensive family policies exacerbate segregation and discrimination and hamper women's advancement in professions that require continuous presence and skill development (e.g. Mandel & Semoyonov, 2006; cf. Estévez-Abe, 2005).

Here, academia could be a case in point. In Sweden, women's share of PhDs has increased from 27 to 48 percent between 1990 and 2018 (UKÄ, 2020). Over the same period, Swedish academic research has developed into 'a system in which guaranteed research opportunities [have] decreased and success on the "funding market" [has

become] a precondition for research positions' (Öquist & Bennert, 2012, p. 27). In academia, the share of temporary employment contracts (33%) is about twice as large as on the labour market at large (UKÄ, 2018) and a genuine tenure-track system is lacking. A clear dividing line can be discerned between doctoral students, for which employment is strictly regulated³ and PhDs who face an insecure future where they depend on obtaining grants in fierce competition (Öquist & Bennert, 2012).

Against this background, the aim of the study is to explore how Swedish women and men with PhD degrees recount the choice of leaving versus remaining in academia in terms of aspirations, opportunities and constraints. The main question is whether and how the exit/remain decision is related to work-family strategies and if such strategies reflect traditional gender norms and/or aspirations for gender equality.

2. Data and method

The analysis is based on qualitative interviews carried out in 2018 with 32 Swedish men and women with a PhD degree. Both gender groups were equally divided between stayers, that is, respondents working inside academia, and leavers, employed outside academia. To disentangle gender from crucial contextual factors, the sampling strategy was to minimize differences in labour market opportunities due to geography and discipline and to match men and women across disciplines.

Following these principles, respondents were recruited from eight disciplines within STEM and social sciences.⁴ Further, I chose disciplines with different gender composition at the PhD-level and matched men and women both across disciplines and across the groups of stayers and leavers. Statistics of Swedish PhD exams show a gender divide between STEM and the social sciences, with 40% women in the former and 54% in the latter. Within these broad fields, gender segregation varies across disciplines. To capture this variation, I selected two STEM disciplines where the gender distribution at the PhD level was balanced (i.e. 40–60% women) and two disciplines in which women were in minority. Of the social science disciplines two had a balanced gender mix and two were slightly dominated by women.⁵ The disciplines were also some of the largest disciplines within STEM and SSH, in terms of PhDs.

The final sample includes 16 men and 16 women – half stayers, half leavers – who were matched across eight disciplines in STEM and social sciences. Thus, each discipline is represented by two persons of each gender, one of which is working in academia and one who has left to work for other employers. To achieve variation in positions and careers, I included respondents with a PhD taken between 1999 and 2013, that is 5–20 years before the interview. To minimize differences in labour market opportunities, I recruited respondents working in the labour market region of Stockholm. Still, the respondents represent a variety of institutions, with PhDs from seven Swedish universities, ranging from Umeå in the north and Lund in the south.

PhDs working in academia were recruited from universities in the Stockholm region. To identify PhDs working outside academia, contacts were made with alumni organizations, external offices and departments at these universities, as well as a range of larger employers in the area. Some respondents were found through contacts at universities in other cities. The interviews took place between April and October 2018 and were carried out online, mainly with the software Zoom which allowed for high quality face-to-face

interaction. In a few cases, telephone interviews were used.⁶ The online interviews allowed the respondents to chose both the time and place of interviews and all reported that they had felt comfortable with this mode of interviewing. To avoid gender bias in the interview situation, the interviews were divided between the author (female) and another senior researcher (male). The interviews lasted between 63 and 155 min, with an average of 97 min. All interviews were recoded (audio only) with Audio Hijack software and later transcribed, resulting in 881 pages of written text.

Before the interview, respondents were asked to complete a fact sheet about career and family as well as a time-line. The time-line was a simple arrow on which respondents were instructed to plot important events after the PhD-degree, both in work and private life. The intention was to help them recall their deliberations and experiences and to sensitize the interviewers to each individual story (for a similar procedure see e.g. Husu, 2001). Meanwhile, a semi-structure interview guide ensured that important themes were covered in all interviews. These included aspirations and motivations, family situation and work-family adaptations and perceptions of work conditions and career prospects both in – and outside academia. Respondents were asked to reflect about these aspects at different time points and in relation to events featured on the time-line, starting before postgraduate education and ending with plans for the future. Also, they were asked to retrospectively reflect both on their actual trajectories and on the career and family situation they might have had if they had made another decision about leaving/remaining in academia. The analysis was based on thematic analysis (Braun and Clark 2013), a flexible method that is not tied to a certain theoretical or epistemological perspective. Here, the researcher performs an initial coding of the data, then proceeds to identify themes – that is patterns of responses or meaning – in the data. Next, the researcher creates thematic maps, connecting the themes to each other and the research question, and finally, all themes must be scrutinized to make sure they are clearly defined and firmly based on the data.

Table 1. Participant characteristics for female and male stayers and leavers.

	STAYERS Women	Men	LEAVERS Women	Men
Age				
Mean	44	45	46	43
Min – max	39 - 51	36 - 58	36 - 64	33 - 50
Years since PhD				
Mean	11	11	8	9
Min – max	6 - 15	6 - 17	5 - 16	3 - 15
Years from PhD to exit				
Mean			1.4	0.8
Min-max			0 - 5	0 - 4
Academic career				
PhD only	3	0	8	8
Associate professor	2	5	0	0
Full professor	3	3	0	0
Family				
Partners education ¹				
– PhD	3	1	2	2
- University degree	5	5	5 ^a	4
No partner	0	2	0	2
First child before PhD	2	4	5	1
First child after PhD	6	1	3	5
No children	0	3	0	2

^aMissing information on partners education for one female leaver.

Table 1 shows selected characteristics for male and female stayers and leavers at the time of the interview. In terms of ages and time since the PhD, there is a large variation within but small differences between groups. Most stayers but only one leaver had been promoted beyond the PhD level. More men than women were associate professors, but the number of full professors was the same. Regarding family, all women were partnered and had children while five men were childless and four were single. Stayers and leavers did not differ in this respect, but it can be noted that among women, most leavers were mothers at the time of the PhD defense, while most stayers had their first child after that point. For men, the pattern was the opposite. Finally, both men and women were in dual-career households with partners who had a university degree, often a PhD. All in all, then, compositional differences between the groups are small.

3. Results

In contrast to the stark metaphors used to depict exits from academia, the respondents' narratives provide a more nuanced picture. Considering their accounts of aspirations, opportunities and constraints, the processes preceding the exit decision can be described as both accidental and strategic. The same is true of the stayers choice to remain in academia. Thus, the narratives can be summarized in a typology comprising four categories. The *strategic stayers* were determined to remain in academic research and worked strategically through a series of choices and actions to fulfil this goal, while the *strategic leavers* were focussed on finding employment outside and saw the PhD education largely as a means to this end. The *accidental stayers* ended up in academia through they were doubtful about staying or planning to leave and, finally, the *accidental leavers* were hoping to stay but ended up leaving. In contrast to the strategic groups, the respondents classified as accidentals did not describe the exit/remain-decision as a result of purposeful action, but rather as a situational response. Regarding the distribution of respondents across categories, it can be noted that male and female leavers are equally divided between the strategic and accidental groups, as are male stayers. Meanwhile, most female stayers are classified as strategic – a pattern that will be discussed below. Finally, STEM and SSH respondents of both genders are equally often categorized as strategic and accidental (see Table 2).

Clearly, these categories should be regarded as ideal types rather than clear-cut characterizations of individual's life stories. Nevertheless, the broad patterns describing the interplay between individual aspirations and structural constraints can illuminate the processes involved in the exit/remain decision. Below, I first present the motives and actions in the strategic groups, then move on to describe the themes expressed by accidental stayers and leavers. Here, both differences and similarities between male and female respondents are noted. Finally, I use the typology as an analytical tool for discussing the exit/remain decision and work-family strategies.

3.1. Strategic stayers and leavers

At the time of the PhD, the respondents classified as strategic stayers were determined to build a research career. The overarching motives can be summarized as a drive to *solve puzzles* and *make an imprint*. For Niklas, the possibility to influence science – and, indirectly, public debate – through intellectual endeavours was a major appeal: 'To get

Table 2. Typology of PhDs exit/remain decision: aspirations and work- family strategies among leavers and stayers.

Category and respondents	Goal/aspiration	Strategies
STRATEGIC STAYERS 7 women of which 4 SSH, 3 STEM; 4 men of which 1 SSH, 3 STEM	Strong intention to make a career in academic research	* Establishing independent security through external grants. Using mobility to avoid discrimination. Limiting use of parental leaves. Strategic partner contract to reduce care work and enable (international) mobility. Using flexible schedules to buffer long hours.
ACCIDENTAL STAYERS 1 woman of which 0 SSH, 1 STEM; 4 men of which 2 SSH, 2 STEM	No clear intention aiming for career outside academia	* No long-term strategy: decision to remain a situational response to job opportunities. Family factors not a base for decision. Risk of long-term job insecurity with problems to use parental leaves
STRATEGIC LEAVERS 5 women of which 2 SSH, 3 STEM; 3 men of which 1 SSH, 2 STEM	Strong intention to exit	* PhD a means for career outside academia. Securing permanent job contracts to get long-term financial stability - family. Emphasizing right to care. Making use of family policy (parental leaves). Choosing regulated hours over 'boundaryless' work in academia.
ACCIDENTAL LEAVERS 3 women of which 2 SSH, 1 STEM; 5 men of which 3 SSH, 2 STEM	Intention to remain in academia	* No long-term strategy: radical exit due to lack of employment. Family factors central to decision, both in terms of longterm economic security and possibilities to use parental leaves and limit/reduce work hours.

stuck in an ordinary job seemed like an anonymous and plain existence. I wanted to make some kind of imprint and the university offered a great platform'. Similarly, Josefin realized during her PhD education that she 'had some kind of mission' to change her discipline through her approach. For some, demonstrating ability was a central aspect of this theme. Several strategic stayers describe themselves as highly competitive and argue – as does Lars – that 'it is individuals with this disposition who end up as researchers'. Nina is a good example. She was drawn to research because it offered 'a possibility to challenge myself and strive for goals such as academic titles' and had her mind set on becoming a professor already at her PhD defense: 'It's just this drive I have: I will get there'. Demonstrating ability could also be about disproving stereotypes. 'A reason why I am here is that I want to break these heavy gender patterns. If we want to improve gender equality I guess someone has to start', says Karin, who chose a heavily male-dominated education instead of becoming a nurse like her female relatives. Meanwhile, some strategic stayers describe research as a passion rather than a career that can be planned. Says Magnus: 'You cannot plan to become a professor. After all, the basis is your curiosity, your inner motivation to solve puzzles.'

Regarding work conditions, the predominant stance can be summarized as *embracing flexibility*. The strategic stayers praise the high level of individual autonomy and consider it a privilege to develop projects based on their own ideas. Several claim that their creativity would be stifled in bureaucratic organizations based on pre-defined tasks and procedures. Josefin believes her critical thinking would have suffered if she had left academia.

I would have become more boxed in. I could have made a good career elsewhere, but I would have lost an important dimension of who I am today, and not have had access to this voice with which I can inspire others.

In this vein, strategic stayers talk about research as a life style more than just a job and some compare researchers to entrepreneurs. 'You have a great amount of freedom and to many that is a source of deep anxiety. You have to create your own structure. I love that', says Linda. Similarly, Oskar notes that the freedom in academia is also a liability which involves working long hours at high intensity, yet he has never considered leaving.

Sometimes when you have done 60 h a week for three weeks and the kids are ill you can have a minor breakdown and ask yourself if this really makes sense. But then again, it's about being a person who is drawn to creative problems.

The strategic stayers emphasize the positive sides of flexibility also when it comes to juggling work and family responsibilities. Says Karin: 'I can work on a Sunday and be away from work on Thursday and nobody asks where I am, it's the work I do that is important. When you have small children that is obviously much more smooth.'

Despite their positive take on academic work, the lack of employment security was a point of concern to many strategic stayers. Indeed, Niklas reports that his career planning was fuelled by encountering an academic 'precariat', stuck in temporary positions with little possibility for engaging in long-term research. 'I kept thinking, what do I do so as not to end up in that blind alley?'. Like the other respondents in this group, he employed a range of strategies aimed at *getting a head start*. The respondents worked hard to optimize their PhD time by building networks, applying for funding and publish more articles than was required for the dissertation. 'You have to stand out from the crowd', says Niklas who was promoted associate professor shortly after receiving his PhD. Noticing that the prospects of remaining in academia were 'tough, particularly for women', Nina put time and effort into boosting her publication list and applied for grants that allowed her to go to conferences and spend a pre-doc period abroad and by the time of her PhD defense she had secured an international postdoc grant. Her story is not untypical. All strategic stayers were granted funding for a post doc research period, usually in another country, and many report that the postdoc period had a massive impact on their careers. Obtaining external grants in your own name was an crucial part of achieving *security through independence* and a few years after the PhD, all strategic stayers had three – or four-year research grants or a tenure track-position. The grants were a proof of independence, but also a means for independence as it allowed them to build groups and networks. For some female respondents, the grant was a crucial source of freedom as it allowed them to avoid harassment and discriminatory treatment by changing universities. Says Josefin: 'I had these fuck off-money and to have that integrity is incredibly important. I have been able to put my foot down.'

For the female respondents, getting a head start also involved *limiting family interference*. In particular, they report trying to minimize the negative impact of work interruptions in relation to childbirth: 'My partner has taken more parental leave than I have. One cannot be away [from research] for years, you know', says Karin who also planned the birth of her children to fit in with her career. Olivia claims she made an important career investment when she started working part-time only a month after giving birth to her second child: 'With the first child I was home for five months and I noticed that you get counted out pretty soon.' More generally, *relying on the partner* was an important strategy for combining parenthood and academic careers. Marias husband followed her to a postdoc position in the US and quit his job to take care of their son. 'It is a fantastic luxury to have such a mainstay. I

have not been weighed down by childcare and he has totally accepted the idea that we will move wherever I will be most succesful', says Maria. Among the strategic stayers, both men and women highlight the importance of having a partner who will take a substantial responsibility for childcare, be geographically mobile and generally understanding towards the demands of their careers. In practice, this situation may be more feasible for men. However, in the Swedish context, traditionally gendered arrangements are not unproblematic. Oscar was able to go on a postdoc because his wife, then a PhD student, could take parental leave and come with him to the US. Still, the arrangement had its downsides.

In our circles, gender equality is very important. It is simply not okey that your wife takes the whole parental leave so that you can make a career. At the time, we felt it was the best thing to do but we now discuss the fact that her career was delayed. Also, I believe you should share parental leaves and responsibilities equally so the choice collides with my own values.

Despite their strategic approach, many respondents see real dilemmas in combining research and family responsibilities.

The research front is in constant movement and it is really difficult to keep up. If you reduce your work intensity because of other priorities it is unrealistic to expect to be at the very front. We sometimes pretend this is not the case and those who will suffer are those who believe they can have it all,

says Niclas who, still childless at age 40, feels that his passion for research had a price. Oskar notes that although Swedish family policies make it possible to have children during the PhD education, those who do will be disadvantaged in international competition: 'I would not advise a person who really wants children to go into research.'

In contrast to the strategic stayers, the strategic leavers did not have the intention to make an academic career. Instead, their main ambition was to get an education that allowed them to *be useful* and *make a contribution* in society. Says Frida: 'In industry, my work is utilized [by the organization] and I feel I am being useful. There are clear strategies and plans and you work with others towards a larger common goal. To me that is important.' The ambition to be useful and achieve tangible results could be fulfilled in many ways. Gabriella found what she calls an economist's dream job at a government department. Here, she could influence societal developments by 'being where the action is and contribute to well-founded decisions'. Meanwhile, Anders felt that the important research in his field was done in global corporations rather than in Swedish academia: 'There were a lot of old men in their sixties. It did not feel like the future', says Anders, who left to work for his own company.

Regarding the work conditions of academia, strategic leavers tend to *denounce flexibility*. They describe researchers' work as a problematic, boundary less situation where tasks are difficult to define and delimit, causing negative spillover on family life. During postgraduate education, Hanna noted that the successful researchers were constantly working at a high pace. They lived and became their research careers, and work and leisure time became blurred. That was not for me'. Similarly, Frida recalls meeting many senior female researchers who struggled with combining work and family. 'They were always so stressed about having too little time for their families and too little time for their work. They never felt adequate. It was disheartening'. The problems of boundaryless work is brought up also by male strategic leavers. Erik recalls: 'I often

thought about this extra, unpaid, work that you do [in academia]. That is the flip side of flexibility. The boundary between work and private life [gets blurred]'. For many strategic leavers, the insecure employment situation with short-term employment contracts and a reliance on external grants was a factor prompting their decision to leave. The motive of *economic security* was clearly related to family responsibilities. 'It was this insecurity. Having to apply for funding every other year did not seem tempting', says Gabriella who left when she got pregnant with her second child.

Many strategic leavers had their mind set on leaving already when starting their PhD studies. For them, the degree was a *first-class ticket* to qualified jobs in private companies or public administration. With a bachelor in chemistry Frida started working in the pharmaceutical industry only to realize that many colleagues held PhDs 'They got more responsibility and more interesting [assignments] so I thought okay, let's go for it. That's when I applied for the PhD education'. Similarly, Hanna saw a way of leaving the shop floor for a more influential position: 'The PhD education was an opportunity for me to deepen my knowledge so that I could work with these issues on a more strategic level'. However, the payoff was not always instantaneous. Instead, some experienced a period of *negotiating knowledge*. In particular, the women who left for jobs in industry had to earn respect for the competence acquired during postgraduate education. After a period of unemployment, Frida had to accept a job with lower skill requirements and a salary that did not reflect her skills. 'I told them the job actually required a PhD, but I was not in a position to turn down the offer. After working for some time I brought it up again and my boss agreed that I was right.' Although Hanna had pursued her PhD as part of a company programme, she found that her degree didn't quite count. 'For it to count I would have to take the usual road and work as a constructor for a few years, then as a supervisor. After that they would start listening'. According to Hanna, the ideal employee at the company was someone who would construct engines during the day, then goes home to work on his own car. 'There was a certain contempt for these new engineers they called latte engineers and who happened to be women. [The supervisors] had difficulties in identifying and value other competences.' At the government department, Gabriella had to negotiate her own knowledge from the research field.

There is no time to do anything properly, you are forced to settle for good enough. At first I was very frustrated about the simple analyses and basic models. I thought we know more than this, what are we doing? [laughs]. But you must present answers and use the tools you have got.

3.2. Accidental stayers and leavers

In contrast to the strategic groups, the respondents classified as accidentals did not describe the decision to leave or stay as an obvious choice. Instead, many of these respondents had *competing motivations*. Like the strategic stayers, they found research exciting but also saw PhD education as a road to more qualified positions outside academia. Says Fredrik: 'What I had in mind was either an academic career or a career in the pharmaceutical industry and both required a PhD'. For Calle, the superior goal was to be a part of saving the rainforest. 'To do that I had to go for high positions in international organizations or become a leading researcher on the subject'. By the end of postgraduate

education, some of these respondents still had no clear preference; others, however, opted for one sphere but ended up in the other. In both cases, the decision to stay or leave is not described as a result of strategic action but rather as a *situational response* to obstacles and opportunities presenting themselves at a crucial point – usually around the time of the PhD defense. However, due to the peculiarities of the academic labour market, the character of the decision differs between the two accidental groups.

As the PhD defense approached, the accidental stayers were either doubtful about staying in academia or planning to leave. Nevertheless they ended up in academia through a process that can be described as *being pulled in*. After receiving his PhD, Jörgen was unsure about staying and applied for a job outside, but the department recommended him for a research scholarship available to new PhDs in his discipline. 'The offer was too good to turn down and when [the money was gone] I was an assistant professor and close to qualifying for professor. So it was this path dependency-thing.' In comparison, Ivar's process was more protracted and uncertain. He was worn-out and just wanted to get away from the academic environment, but when he did not find employment outside he returned to teach and was stuck with temporary contracts for eight years. In this situation, Ivar could not use his parental leave as planned. 'My wife and I had decided to take one year each but I did not dare to be away full-time.' For Peter, most choices were guided by a goal of keeping his options open.

I don't have this grand plan and I don't want to get locked in somewhere. I do what I have to do to stay there but at the same time I keep my options open so I can change tracks between the academy and industry.

A generational shift at the department enabled him to stay, but ten years after his PhD, Peter still has no permanent job contract.

During their PhD education, all accidental leavers had developed a strong interest in research and were hoping for an academic career. For these respondents, the decision to leave was crucially related to a lack of secure employment after the PhD. Eva's experience brings to mind the metaphor of a black hole. 'I had invested so much and promised [the family] that, you know, it will all work out. Soon I will have a job and a better salary and I will be less stressed', says Eva who saw her dreams 'collapse like a pancake' as she became unemployed after her PhD. At Daniella's department, many PhDs held temporary teaching contracts and when the economy deteriorated she decided to leave:

It was quite a dramatic decision. So much of my identity was connected to the university. But in retrospect I am grateful. Now I am turning 50 and if I had stayed I might still have had the same insecure work situation. That would have been horrible.

Still, most respondents do not report being passively pushed out as much as *taking a leap*. While being a situational response to the acute need for employment, they describe their exit as a conscious decision, taking the long-term prospects into account. In most cases, family considerations were a decisive factor. David had envisioned an academic career but reconsidered when he became a father at the end of postgraduate education. 'A permanent employment contract seemed very, very important as we were starting a family. And it seemed to me that even if you were successful with applications and research, getting such a contract could take forever.' Unlike some strategic leavers, the accidental leavers were not deterred by the unregulated work conditions and the heavy

work load in academia. David declares ‘my career choice was not about the time strain and the everyday juggling of work and family’. Yet, the family concerns raised by the men in this group did not merely reflect a traditional provider role. To Fredrik, parental leaves were also an issue. ‘It’s simplified and old-fashioned to say that women find academic careers too insecure because they want children. I, too, wanted children and I wanted a secure employment situation that allowed me to take parental leave’. Anna was passionate about research and had a four-year contract when she realized she would not be able to uphold a research career and forskarkarriär and a family:

It was not just the children but also the fact that my husband is cronically ill. I needed a secure job that allowed me to provide for the family and to periodically reduce work hours. I could not take responsibility for a group of researchers that would depend on me for external funding.

For strategic and accidental leavers alike, the timing of the exit fits in with quantitative evidence showing that most exits take place shortly after the PhD is received (Silander, 2010). Here, the qualitative interviews provide a rationale that may help explain this pattern. Notably, respondents in all four groups agree that an early choice is necessary, due to the limited transferability of skills between the spheres.

The smart thing to do is to leave immediately. A PhD degree will have a value on the outside labour market, but if you stay a few more years you risk losing out in both careers. Many people get stuck in some weird limbo. They do not make great progress in the academic world and the years they spend there will not count if they eventually decide to leave,

says David. Also, most respondents agree that re-entering academia after a period of employment outside it very difficult. Says Bo; ‘You will always be questioned [if] you have not published any research in recent years.’ In short, the construction of academic and non-academic as separate pipelines calls for an early choice which is perceived as essentially irreversible.

3.3. Gender, family and the exit/remain decision

As argued, the typology can be used as a tool for discussing how the exit/remain decision is related to work-family strategies in the Swedish context. Table 2 summarizes the aspirations and strategies of the four categories.

First it can be noted that virtually all female stayers were classified as strategic. Also, women report more complex strategies than men even within the group of strategic stayers. In essence, the narratives suggest that women pursuing an academic career foresee – and often experience – obstacles based on gender stereotypes and employ a range of strategies to overcome them. In particular, female stayers were concerned with limiting parental leaves so as not to fall behind in the fast race for publication and funding opportunities. To minimize work interruptions and facilitate mobility, they negotiated a strategic family contract in which their partner took a main responsibility for child care. In contrast, childcare responsibilities did not appear as a central strategic issue for the male stayers. However, in the Swedish context, the demands of academic careers pose dilemmas also to men with ideals of involved fatherhood and accidental stayers faced problems using parental leaves due to job insecurity.

Meanwhile, family considerations played a crucial role in the decision to leave academia. This was found for both strategic and accidental leavers and for men and women alike. In particular, the insecure employment in Swedish academia, based on a continuing reliance on external funding, appeared as a decisive factor. Both men and women stressed that long-term economic security was crucial for starting a family. However, care issues also stood out in the stories of leavers. In practice, the possibility to utilize parental leave entitlements were connected to secure employment and for some leavers, the 'boundaryless' work in academia was regarded as a source of work-family conflict.

4. Discussion

Exits from academia have been fervently discussed but the processes behind PhDs decision to leave or remain in research have not sufficiently explored. Here, the widespread notion that women leave academia due to family responsibilities was put to test with a study based on qualitative interviews with male and female PhDs in Sweden, where institutions support a family model based on equal roles in work and family.

The findings show that, in this context, women's work-family strategies are more complex than envisaged both in labour market theory and in scholarly debates on academic careers. Though the female respondents were no less career-oriented than their male counterparts they did not refrain from having children. At the same time – and despite the have-it-all assurances of Swedish family policy – they could foresee problems and applied a range of *combination strategies*. In the case of female stayers these were directed at minimize family interference with work by limiting parental leave periods and transferring care responsibilities to their partners. Due to the gendered division of unpaid work, the family situation was less often perceived as a hindrance for the male stayers. Yet they stressed that research careers put a large burden on the partner and collided with their ideals of gender equality and modern fatherhood. Finally, family considerations was a prominent reason for leaving academia, however not only for women but also for men. A main factor was job insecurity, but care issues were also raised both by men and women.

In the narratives, two dividing lines can be identified: one between male and female respondents and one that distinguishes academia from the Swedish labour market at large. The exit/remain decision reflects *assymmetric opportunities* in terms of gender roles and employment prospects and the combination strategies varied with both dimensions. While leaving was described as a one-time choice, generally leading to permanent contracts and high-quality jobs, the process of gaining a foothold in academia was protracted and uncertain and family policy entitlements could not be fully utilized. Though gendered patterns did appear they did not conform with the idea that women opt out of academia or limit their career ambitions to accommodate family responsibilities. Instead, they negotiated a new strategic partner contract entailing a less traditional division of care and housework. All in all, however, long-term strategies were complicated and uncertain and at any point, exit could be the only option.

The thrust of this study was to explore if gendered work-family strategies motivate exits from academia in a modern dual-earner context like Sweden. Clearly, such an approach has several limitations. Findings a qualitative study cannot be generalized to the larger population and due to the focus on respondents with similar situations, the importance

of the gender segregation across educational fields is likely underestimated. Generally, exit opportunities are substantially worse in the humanities, dominated by women, than in the STEM field (Silander, 2010). Also, labour markets have a strong regional dimension and, even in Sweden, family mobility tends to be motivated by the husbands career (Brandén & Haandriksman, 2019).

Despite these limitations, the findings point to the importance of empirically examining exits from academia from a gender perspective. For Sweden, both quantitative evidence (HSV, 2010; Silander, 2010) and the analysis presented here suggest that female exits may not be as problematic as the metaphors of leaky pipelines and black holes imply. Still, though Sweden is considered to be one of the most de-familized, individualized and de-genderized countries due to the strong support for women's economic independence (e.g. Lohmann & Zagel, 2016; Saxonberg, 2013) academic careers are not easily reconcilable with family responsibilities. Statutory rights to parental leaves and work hour reductions can not be fully used and in practice, dependent on a partner taking a large share of the care responsibilities. Clearly, this has implications for women but also for men who strive for a more involved fatherhood and naturally for single parents.

To move beyond stereotypes and simplifications, the typology identifying strategical and accidental groups among both leavers and stayers can be used to study PhDs career trajectories within and outside universities. There is a need for both quantitative and qualitative analysis and here, both traditional gender roles and attempts to 'undo' gender must be considered. Considering that the institutional support for gender equality and work-family reconciliation varies substantially across countries, these issues should be explored in different contexts, preferably in comparative studies.

Regarding policy implications, the study implies that the Swedish institutions providing both employment security and family policy rights clash with the realities of academia. To recruit dedicated researchers, ambitions to develop career tracks that offer the same protection as external jobs must be intensified. Moreover, universities could take more responsibility for providing PhD students with tools that will help them plan for a family-compatible career and not leave them worrying about 'black holes'.

Notes

1. González and Räthzel (2018) emphasize that 'glass ceiling' barriers are encountered also by working class men and that, in academia, class and gender will interact in complex ways.
2. In Silander's study (2010), exits varied drastically between disciplines, however, the hypothesis that young children would affect women's exits more than men's received very weak support.
3. Generally, a doctoral student has a four-year employment contract, that can be extended with a year of teaching. Through their employment, doctoral students all family policy rights available to Swedish employees. In some cases, stipends with weaker rights (but full financing) can be used.
4. The SSH disciplines were chosen within the social sciences, excluding the humanities. This was motivated by the ambition to choose disciplines with clear employment opportunities outside academia. Also, matching men and women across disciplines was difficult in the humanities due to the small number of PhDs and the strong domination of women.
5. Disciplines were classified at the 3-digit level using the official system Fields of Research and Development, FORD. The statistics used are from 2013, because all respondents had received their PhDs by then.

6. The respondents could choose between a video interview (over Zoom) and a telephone interview and all but one of the respondents chose the video. In three other cases, telephone interviews were used due to technical problems or employer restrictions on software usage.

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