ETH zürich

Compatibility of (Post) Doctorate and Family

Pilot Study for ETH Zurich

Final Report

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December 2015

Research Institute for
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Chancengleichheit von Frau und Mann

Preamble

Often times, the question of starting a family becomes virulent for women during the phase of pursuing doctoral or post-doctoral research. It is usually not easy for young mothers to gain further academic qualifications. One part of this is a result of societal, another part a result of institutional boundary conditions within an institution such as ETH Zurich. If ETH does not want to lose its female talents, it needs to actively promote beneficial boundary conditions that enable or simplify reconciling (post-)doctoral research with a family.
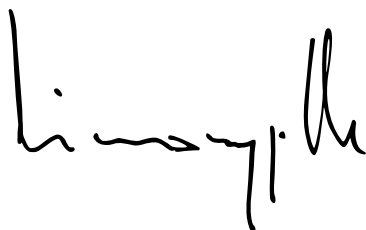
For this study, we found it advisable to include in particular the parties affected, meaning young female scientists with small children, but also their supervisors. In order to obtain as honest statements as possible, we asked the "Competence Center for Diversity and Inclusion" of the University of St. Gallen (HSG) to conduct a pilot study. Together with the team from HSG, we developed an interview guideline that the team used to conduct separate interviews with eleven "tandems" consisting of a doctoral or post-doctoral female researcher and their respective supervisor at ETH. As the interviews were transcribed and anonymized, only anonymous data was used for the present report.

This study was – on purpose – interpreted qualitative-exploratively. We assumed that the 22 extensive interviews would lead to important clues on those aspects that impede reconciling (post-)doctoral research and family at ETH Zurich. We were not disappointed in our expectations. Some problems were mentioned in many of the interviews.

ETH Zurich has reacted and initiated measures to improve the situation. This includes for example the expansion of available daycare places at the Campus Hönggerberg (80 new places starting in late summer 2016), additional flexibilization of daycare opening times and increased transparency concerning the distribution of places in kihz-daycare. In addition, a guideline for career discussions in case of pregnancies is being developed by the Human Resource Department.

On this behalf, we would like to thank the HSG-team that conducted the interviews in a prudent, but focused way. Furthermore, we would of course like to thank all those persons that took part in the interviews. Final gratitude is directed to the Physics Department that suggested the study and helped finance it.

The President of ETH Zurich | The President's Delegate for Equal Opportunities

Professor Lino Guzzella | Professor Renate Schubert

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1. Background and objectives

In the context of the efforts by ETH Zurich to raise the proportion of women in engineering and the natural sciences, the doctorate and postdoctorate phases pose a significant challenge. This is especially true when female scientists start a family and desire to continue pursuing their careers. In order to better manage this phase and to be able to win and retain more women in scientific careers, the Office of Equal Opportunities "Equal" at ETH Zurich commissioned the Competence Centre for Diversity & Inclusion at the University of St.Gallen to conduct this pilot study "Compatibility of (Post)Doctorate and Family".

2. Aim

The aim of this pilot study is to examine the effects of pregnancy and family care responsibilities on the careers of female postdoctoral researchers in particular, but also of female doctoral candidates. Barriers and problems should be identified from the perspective of the women themselves as well as their supervisors. The study results will serve as a basis for concrete recommendations on key areas for action, which will allow Equal/ETH Zurich to contribute to an increase in the number of women who choose a technical or natural sciences career and opt to stay in it.

3. Methodology

The study was conducted on the basis of qualitative research. Individual semi-structured interviews were carried out with eleven dyads, each consisting of a female (post)doctoral researcher and her supervisor. The semi-structured interview guides were developed in consultation with Equal/ETH Zurich. The interviews took place on location at ETH Zurich and were conducted in either English or German as necessary. They lasted on average about one hour each. Two individuals carried out the interviews on a rotating basis. In order to create a common starting point, both interviewers were involved in the first three interviews. The semi-structured approach made it possible for other relevant topics to be addressed during the interviews whenever appropriate.

3.1 Survey Participants

For the interviews, Equal/ETH Zurich selected eleven dyads from various departments based on internal criteria. In total, ten supervisors, eight postdoctoral researchers and three doctoral candidates were interviewed. One of the supervisors was involved in two dyads. The following departments were included in the study: Physics; Civil, Environmental and Geomatic Engineering; Humanities, Social and Political Sciences; Mathematics; and Environmental Systems Science. Various experts from other relevant offices were also interviewed (Human Resource Management Dual Career Advice, forum on the promotion of young researchers (Forum Nachwuchsförderung), Hello Kids! and kihz daycare centres).

3.2   Analysis Approach

Each interview was transcribed and anonymised according to the prescribed standards and then summarised. The interviews were structured and analysed based on a number of categories (see below) and supplemented by relevant quotes from the corresponding interview participant.   Each interview summary was double-checked by a second person. The overall findings from each target group were then summarised, whereby it became clear that the statements made by postdoctoral researchers and those made by doctoral candidates rarely differed from one another. Analysis also revealed that the statements made by supervisors were often in agreement with those of their subordinates. As a result, the overall evaluation summarises statements made by all target groups. Results are presented separately only where particularly relevant differences were found.

Multiple meetings took place with Equal/ETH Zurich for the data analysis and preparation of the final report.

Central aspects of the material were extracted according to the structured content analysis of Mayring (2003), and the previously identified categories were found to form a cross-section through the transcript material. The categories are theory-based on the one hand, but also based on the research objective and interview guide. Data from the following categories were collected and analysed in detail:

1. **Communication und culture / department culture**
   The study examined how the compatibility of a scientific career and pregnancy/family duties is generally communicated and talked about. This included an exploration of the department culture and any cultural differences which might exist between departments.

2. **Job content**
   The study explored whether the employee's job content (type of projects) changed as a result of pregnancy or maternity leave.

3. **Maternity leave, workload percentage, and private situation**
   The study looked into whether regular maternity leave was taken and to what extent the employee's contractually defined workload percentage might have changed afterwards. The survey also explored what effect, if any, the employee's private situation might have had on her maternity leave and/or workload.

4. **Career plans**
   The study examined how the compatibility of an academic career and family is general perceived and where potential stumbling blocks or challenges might lie with regard to career planning.

5. **Funding**
   The study sought to identify whether and to what extent a pregnancy, maternity leave or adjustments to an employee's workload percentage might lead to any financial bottlenecks, for example in the funding of projects or positions, and how these could be resolved.

6. **Points of contact and information offices**
   The study explored whether the survey participants were familiar with and made use of the various points of contact and information offices at ETH Zurich.

7. **Child care**
   The study examined how child care was arranged in individual cases and where challenges might lie.

8. **Summary and outlook**
   Further relevant information on the compatibility of an academic career and family was collected under this category.

3.3   Study limits

The survey participants demonstrated an affinity for the topic. They were already known to be an example of either a challenging case or a best-practice case. This could potentially mean slightly biased results. Based on the findings, however, we can assume that the general tendencies (most important challenges and successful solutions) were sufficiently identified. A larger survey might possibly reveal additional challenges. It is very important to note that the quality of the supervisor-subordinate relationship was not examined in any way. The interviews were conducted individually and kept strictly separate.

A conscious decision was made not to undertake any comparative studies at other universities. We also abstained from conducting quantitative surveys or frequency counts due to the low number of participants.

4.   Results and measures

This section presents the most important findings as well as concrete recommendations for action in each category. The measures are divided according to the extent they can be influenced (short-term, medium-term, no direct influence).

4.1   Communication and culture / department culture

The study examined how the compatibility of a scientific career and pregnancy/family duties is generally communicated and talked about. This included an exploration of the department culture and any cultural differences which might exist between departments.

4.1.1 Summary

The news of a pregnancy is generally perceived in a positive light in each department, both by the supervisor and the postdoctoral researcher herself. In most cases the supervisor was found to have a supportive attitude and a notably high level of understanding for the need for more flexibility in the areas of work time, absences, breastfeeding breaks, etc. The female researchers themselves responded with more caution and insecurity with regard to their continued career development. They very much appreciate the flexible options they have for organising their work, but often wish for more structure and security regarding their next career step. The successful continuation of a scientific career with the concurrent demands of a family seems to be heavily dependent on the willingness of the supervisor to offer support as well as the degree of the person's integration in the team.

Supervisors prefer to be informed about the pregnancy as early as possible, so that plans can be made regarding the continuation of the projects. The institute's secretary and the employee herself often take over the actual organisation and implementation of all the administrative and structural challenges related to the pregnancy and maternity status. The supervisors are glad to offer concrete assistance where it is needed and are often willing to find unconventional solutions. Supervisors seem

to implicitly assume, however, that HR will offer the necessary support. This is where structured processes and clearly defined responsibilities are lacking, that would minimize the dependency of the women on the knowledge of the involved parties and could offer them more security, structure and concrete ideas for best practices.

A scientific career and family are generally considered compatible. However, survey participants mentioned concrete difficulties in practice. In particular, the mobility required during the postdoctoral phase, the child care situation, as well as shifts in time schedules due to family duties can pose career obstacles. The women surveyed repeatedly mentioned that the high level of flexibility they have provides them with a good framework (home office, accommodated working hours, breaks, etc.). Nevertheless, the expectations of the supervisor remain the same, and an unchanged level of performance would be preferred. This leaves many women with an underlying fear that their careers will slump. To an extent, this fear leads to overcompensation, which drives women to their limits and beyond. For the most part, real possibilities for part-time work are missing.

The general lack of women at ETH was repeatedly pointed out. However, the presence of a role model (female professor with children) seems to have an exceptionally motivating and positive effect on others. In concluding, it should be noted that the goodwill of the supervisor alone is no replacement for careful career planning. In spite of all the goodwill encountered, a mindset with various biases was observed. Corresponding cultural work therefore remains an important point.

4.1.2 Measures

Short-term	Medium-term	No direct influence possible
– Create clear organisational rules and responsibilities. – Communicate best practices and role models. – Provide rooms for breastfeeding.	– Develop genuine part-time working models. – Work on the cultural mindset.	– The mobility required for an academic career remains an important component and cannot be influenced.

4.2 Job content

The study explored whether the employee's job content (type of projects) changed as a result of pregnancy or maternity leave.

4.2.1 Summary

The employee's job content does not change as significantly during pregnancy or after maternity leave as previously supposed. Supervisors generally find constructive solutions that enable the women to continue working on the same projects (e.g. through the recruitment of additional persons such as postdoctoral researchers, doctoral candidates and student aids, or by reallocating tasks). Special attention is also paid to personal safety (check by SSHE). However, it is not always easy to make the necessary clarifications. It would be helpful to communicate the corresponding rules in a transparent way, so that women in the early stages of pregnancy (i.e., the first 12 weeks) can inform themselves and follow the necessary precautions without having to announce their pregnancy.

The teams usually respond in an exceptionally supportive and helpful way. In most cases, the female researchers resume their full-time workloads after returning from maternity leave. In a few cases, women reduced their working hours. A few women also continued working on publications during their maternity leave and stayed in touch. Several women noted that they would prefer a more structured planning of substitutes and of their absence period in general. This particularly includes basic organisational questions such as: When do I clear my desk? How will we stay in contact during my absence? What should I start working on when I return from maternity leave? The empirical data show that it would be advisable to focus on concrete tasks and assignments, so that the transitions from pregnancy to maternity leave and then to a return to the workplace can flow smoothly and successfully.

Many women are involved in so-called niche projects, which are less problematic in the case of a pregnancy, because the environment is less competitive and a shorter hiatus has less of an impact. It was mentioned explicitly that women optimise the way they work and develop more efficient ways of getting their work done, because of the double burden of career and family.

Supervisors are happy to grant requests for additional unpaid leave. However, it seems that the existing policies regarding this are not well-known and that the possibility of taking unpaid leave is handled in a very flexible and discretionary way. Clear policies are also lacking with regard to the coverage of costs for attending conferences, in particular when it is necessary to take along a nursing infant and an additional caregiver. Some supervisors cover the entire cost, while others pay only part of the additional expense or none at all. Supervisors often desire women to wait with returning to work on a full-time basis until they have found a satisfactory child care solution. For this, they are willing to allow more time as well as a higher level of work schedule flexibility.

4.2.2 Measures

Short-term	Medium-term	No direct influence possible
– Transparently communicate rules for pregnant women in laboratories and make them anonymously accessible. – Standardise cost coverage for child care during conferences. A unique ETH fund for covering such costs would be ideal.	– Clarify expectations during maternity leave with regard to carrying out smaller tasks such as answering e-mails, staying in touch, etc. – Prominently communicate the policy for taking unpaid leave. – Observe and analyse whether women tend to be involved in less prestigious niche projects, since this has long-term effects on a person's career.	– The effects of the performance culture cannot be changed.

4.3 Maternity leave, workload percentage and private situation

The study looked into whether regular maternity leave was taken and to what extent the employee's contractually defined workload percentage might have changed afterwards. The survey also explored what effect, if any, the employee's private situation might have had on her maternity leave and/or workload.

4.3.1 Summary

Women who grew up in homes in which both parents worked generally choose a higher workload percentage and tend to believe in the compatibility of a scientific career and family. Most women want to inform themselves during the early stage of pregnancy about the legal situation. Since only a few are familiar with the specific information offices and points of contact, corresponding information material seems to be lacking.

For the most part, women choose to take the standard four-month maternity leave that ETH offers. However, the Swiss model of "working until the birth" seems to be unsuitable for many women, and they often come to a mutual agreement with their supervisor which enables them to leave the workplace before their due dates, either through the common practice of taking sick leave or other compensational strategies. In rare cases women have even worked during contractions.

Employees can organise their work in consultation with their supervisors to an almost unlimited degree of flexibility. Smooth transitions are possible depending on a person's workload, and supervisors actively allow the mother the time and space she needs to adjust to the new situation. Only in a few cases was it difficult for the woman to distance herself from events at work during her maternity leave. In some instances, women continued to answer e-mails and handle various requests. Ambiguous situations can arise for example when a woman signs a contract and then becomes pregnant before she starts her job. Such special cases require a standardised and binding policy. Further challenges can arise when the woman must also move in order to take the position, in particular when this requires moving from another country and parting with one's private support network.

In almost every case, the woman has an active and engaged partner at her side, who does his best to help and support her career. Paternity leave will continue to gain in importance. The duration of paternity leave and the possibilities for flexible arrangements will need to be discussed at an early stage.

4.3.2 Measures

Short-term	Medium-term	No direct influence possible
– Create a guidance package in HR for pregnancy and parenthood, incl. various possibilities, information offices and points of contact. – Develop a set of communication recommendations for supervisors on staying in touch with women during maternity leave.	– Create an informational brochure for female expatriates. – Begin formulating a concept for extended paternity leave. – Develop more flexible maternity and paternity leave models.	– Individually experienced family model, including role models

4.4   Career plans

The study examined how the compatibility of an academic career and family is general perceived and where potential stumbling blocks or challenges might lie with regard to career planning.

4.4.1 Summary

In contrast to the survey questions regarding organisational culture, questions about concrete career planning reveal less flexible practices. The majority of the statements tended to point to an incompatibility of an academic career and family. Children are reportedly only "really possible" once a professorship has been attained. Both the women and their supervisors describe the postdoctoral phase as particularly difficult. The challenges are less severe during the doctoral phase. This phase seems to be almost ideally compatible with a family and is rated better than a job in the private sector.

Although there are no longer any official age limits for a professorship at ETH, there is a wide-spread perception that they still exist[1]. The perceived age limit (assistant professorship up to 35 years old) seems to have a virtually discriminatory effect, when measured against the standard of a woman's biological clock. There seems to be either an information deficit in this area, or there has been no practical implementation. That is to say, "older candidates" are viewed as less attractive, so that the age limit continues to apply after all. Uncertainty surrounding employment contracts was also identified by the women as a large obstacle. There is either not enough leeway, or not everyone recognizes opportunities for it.

If the topic of family planning becomes relevant during a woman's career, she needs to receive concrete assistance for her continued career development. Priorities should be set (e.g., which conferences are important, how many conferences should be attended). Substantiating and binding discussions with one's supervisor are often lacking in this area. Many decisions are left up to the women themselves, who find it difficult for the most part to formulate concrete needs. One positive point made was that family duties were definitely taken into account in the publications lists during appointment procedures. This however is a measure that is not known to everyone. Binding standards seem to be either lacking or their existence is not known.

Another important topic is geographic mobility during the postdoctoral phase. This proves to be particularly challenging when the person's partner is also in the postdoctoral phase. The chances of both parents finding a career-relevant postdoctoral position in the same location are deemed very slim. Foreign postings often pose difficult questions for families in need of child care, since their private networks are lost and income during this phase is still limited. This is one of the potential reasons why women repeatedly tend to seek a job in the private sector. This however often raises the question of over-qualification.

The compatibility of an academic career and family seems to be very difficult for single mothers. Individual references to this end were made by mothers from conventional families.

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[1] According to the Office for Faculty Affairs, the age limits for assistant professorships as well as for full professorships are flexible. During the interviews, however, age limits were mentioned for both cases.

4.4.2 Measures

Short-term	Medium-term	No direct influence possible
− Create guidelines for career planning discussions, incl. an implementation commitment (HR should send the guidelines to the supervisor at the appropriate time.) Goal: setting milestones. − Prepare a catalogue of possibilities for greater flexibility and utilise them transparently.	− Create models for planning short-term leaves of absence and a return to the workplace. − Mentoring programmes. − Introduce „Women back to business" as a new model after child-caring phase. − Increase contract security. − Adopt the SNSF model of 120% funding for women and men with family commitments in the postdoctoral phase2.	− Mobility in the postdoctoral phase will continue to be a necessary key to success.

4.5 Funding

The study sought to identify whether and to what extent a pregnancy, maternity leave or adjustments to an employee's workload percentage might lead to any financial bottlenecks, for example in the funding of projects or positions, and how these could be resolved.

4.5.1 Summary

Funding was a study category that survey participant groups commented on from various points of view. Supervisors do not regard financial problems related to pregnancy or maternity leave as significant challenges. Department finances are slightly affected, because money from the maternity insurance is paid back directly to ETH. But for this, ETH finances maternity leave from a specially earmarked fund. Financial drawbacks can occur in certain situations, for example when specially created laboratory space cannot be adequately used because of a pregnancy or maternity leave. In general, supervisors are not sufficiently informed in detail about the financial circumstances which stem from pregnancy or maternity status. It is the institute's secretary who normally handles all corresponding questions and solutions. Most supervisors report that the department's financial situation offers them enough leeway to be able to make the overall budget work. There are financial resources which can be tapped if needed. However, this is another area in which transparency and knowledge of best practices are lacking. Communication would be beneficial in achieving consistent and optimised practices.

When the women concerned speak of finances, they tend to point out the hindrances and challenges, which affect them personally as well as their family as a whole. It was very frequently noted how expensive child care costs are (no additional reimbursements for conferences, no standard regulations for subsidised daycare centre spots). In exceptional circumstances, financial difficulties can occur, in particular when an international transfer coincides with the family phase.

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2 See application guidelines for the SNSF 120% support grant from May 2014 as well as the following link:
http://www.snf.ch/en/funding/supplementary-measures/120-support-grant/Pages/default.aspx

For the women, temporary, short-term contracts are associated with a high degree of financial uncertainty.

4.5.2 Measures

Short-term	Medium-term	No direct influence possible
– Clarify and provide information about payment flows for maternity insurance. – Clarify the cost of laboratory spaces during pregnancy and consider alternative uses. – Cover the conference attendance costs for additional caregivers of nursing infants.	– Utilise existing funds (and other resources) in difficult circumstances, to the extent fund regulations allow. – „Share the risk" between ETH and affected postdoctoral researchers with temporary contracts. –	

4.6   Points of contact and information offices

The study explored whether the survey participants were familiar with and made use of the various points of contact and information offices at ETH Zurich.

4.6.1 Summary

Not every supervisor is familiar with the various information offices (Equal, Hello Kids!, kihz, HR), and even the supervisors who do know about them only use them on rare occasions. The information centres are also not well known or utilised by the female (post)doctoral researchers. Most of the women surveyed desire more proactive support from HR (clear processes, information, regulations and contact persons). The interfaces between the information offices appear to be rather vague. Most of the supervisors and women concerned find it difficult to take care of the most important "to do's" related to pregnancy, maternity leave and subsequent child care in the correct chronologicial order, not to mention find out which office is responsible for what. Guidelines and a specific contact person in HR are missing. Depending on how well the women are integrated at ETH, they are able to acquire the necessary information through networks, the institutes' secretaries and other personal contacts. Expatriates, however, who are not familiar with the rules for maternity leave in Switzerland, find it particularly difficult to find the right information. Information events, the creation of networks among women as well as clear processes and responsibilities would be desirable.

The quality of the advisory services offered by the various information centres was not investigated. Nevertheless, a typically biased mindset was noted. ("The woman belongs with the child, in particular a young child.") It remains doubtful, whether all the individuals working in the various information offices are fully aware of the challenges involved in balancing a scientific career with family responsibilities.

The information centres and points of contact should become more service oriented and have a clear focus on the needs of the women concerned and their supervisors. Orientation could be greatly improved by standardising, harmonising and transparently communicating the various services on offer.

4.6.2 Measures

Short-term	Medium-term	No direct influence possible
– Define a process with the corresponding steps and contact persons (single entry point, e.g., via HR to the other information centres). – Develop corresponding information sheets. – Create networks for parents. – Clarify interfaces between HR and other offices. – Encourage information offices to become more proactive in seeking dialogue.	– Make information offices accountable and more transparent. – Create information brochure with complete background information for Swiss and foreign female employees3. – Hold periodic information events. – Adopt a policy about mindset (what can be communicated, what is the parents' business).	

4.7 Child care

The study examined how child care was arranged in individual cases and where challenges might lie.

4.7.1 Summary

Three clear areas for potential improvement emerged from the questions related to child care:

a) More subsidised daycare centre spaces for infants are needed within the immediate vicinity of the workplace (This was frequently mentioned for the Hönggerberg location, and partially for the center location as well).

b) There is also a demand for fairness in the subsidisation of external daycare centre spaces.

c) ETH's own daycare centres need to develop new child care models that are needs-oriented (opening hours, flexibility, mindset).

The women and supervisors alike are satisfied with the quality of child care for the most part. There is a desire, however, for more on-site premises that are suitable for children (offices, breastfeeding facilities). A kindergarten in the immediate vicinity of the workplace would be ideal. Not just the women concerned, but also their supervisors find it difficult to understand why child care services at ETH have not been further expanded.

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[3] The letters to parents from Pro Juventute could serve as a model. These are sent free of charge to all expecting parents in a number of cantons. Such a "letter to parents" could be created specifically for parents in the scientific community. Goal: Information tailored to the target group about childhood development, the effects of family on a scientific career and corresponding solution models and best practice examples.

The lack of transparency with regard to daycare centre waiting lists and ambiguous allotment criteria was mentioned frequently – in particular pertaining to ETH's own daycare facilities. This is a big point of criticism. It is evident that child care can be more easily organised, when a family can rely on grandparents and its extended private network. Only a few people are able to do this, however. If a child becomes ill, parents are suddenly confronted with an emergency. Supervisors are very understanding in such emergency situations and offer the necessary flexibility. Work demands remain unchanged, however, which can lead to enormous burdens. Not everyone is familiar with the nanny pool available for emergency situations; others find it too expensive.

4.7.2 Measures

Short-term	Medium-term	No direct influence possible
– Make daycare centre waiting lists transparent. – Create clear criteria for the allotment of daycare centre spaces. – Establish inexpensive solutions for sick child care. – Consider standard rules for covering child care costs4. – Collect concrete data on the child care needs of full-time female employees. – Ensure that child care is possible at conferences and standardise ETH's financial assistance. – Position Hello Kids! as a central information centre and adjust services.	– Create more subsidised daycare centre spaces for infants. – Introduce a fair and uniform subsidisation of daycare centre spaces (also for external facilities). – Develop a conceptual strategy for more innovative daycare solutions which correspond to actual needs5. – Examine the possibility of an ETH kindergarten at Hönggerberg6. – Evaluate the current use and quality of existing services. – Make all child care services more service-oriented.	– Introducing measures to reduce the general cost of child care in Switzerland is a difficult task that would require political engagement.

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[4] E.g., a fixed amount per child regardless of income, which parents can then use discretionarily for a daycare centre, nanny, etc.

[5] Compare hospital daycare centre models

[6] Explore possible synergies with international schools.

4.8 Summary and outlook

Further relevant information on the compatibility of an academic career and family was collected under this category.

4.8.1 Summary

In addition to the other survey topics, it was noted several times, that in order to win more qualified women for an academic career, actions need to be taken before career choices are even made. A sensitisation is particularly necessary in the promotion of young talent. Concretely, this means encouraging a change in mindset among girls aged 6-10 years old by strengthening and increasing their interest in the natural sciences as well as technology.

It was repeatedly pointed out, that the compatibility of a scientific career and family should not be viewed only from the deficit-oriented perspective of shortcomings and stress. Having children definitely causes parents to strive for greater efficiency and to more consciously set priorities, which can have an extremely positive influence on one's professional life as well. This fact should be taken more into account.

Survey participants frequently made comparisons to the United States, noting that gender equality in Switzerland is not as well promoted or implemented comparatively. Supervisors in particular, who were also active in the US, emphasised the differences between the two countries.

Stereotypical behavior and associated expectations are still seen. This fact in itself, however, does not reflect specifically on ETH. ETH cannot change social images and gender role expectations any faster than the society itself can. However, ETH can create exemplary models more quickly and directly as well as foster awareness and implement gender equality in concrete ways within its sphere of influence. These efforts, coupled with corresponding endeavors such as surveys, discussions, the creation of new services, and the identification and implementation of improvement opportunities, would be considered extremely valuable contributions.

4.8.2 Measures

Short-term	Medium-term	No direct influence possible
– Create specific information and guidance packages.	– Create more information opportunities for 6-10 year old girls (besides Future Day). – Compare with the US and copy best practices. – Change mindsets7. – Encourage a resource-oriented perspective around the subject.	– Stereotypes are shaped by society. ETH cannot change this, but it can lead the way as a role model!

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[7] Integrate topic into strategy retreats, leadership training and continuing education.

4.9 Importance and urgency of key areas for action (categories)

In this section, the survey categories are classified according their importance and urgency for the surveyed persons. This classification serves to show where the key areas for action are (red box), what other influential factors should be promptly addressed (orange box), what areas are deemed important but cannot be changed quickly (green box), and where there is a need for action, but the surveyed person feels that an immediate answer to the problem is not imperative (grey box).
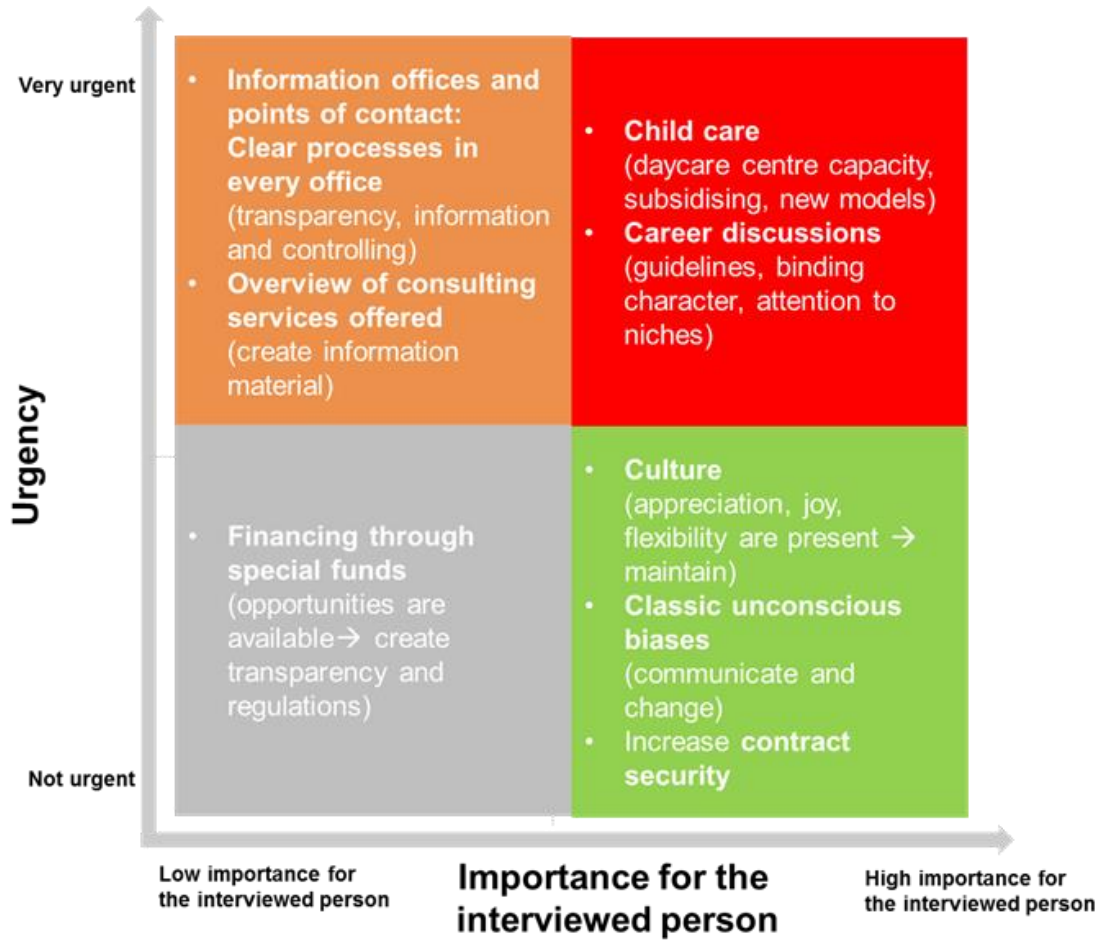

Figure 1: Importance and urgency of key areas for action (categories)

4.10 Further (research) projects

The area of child care presents itself in particular as a subject for future research and development. It seems important to restructure child care services and adapt them better to the needs of the persons surveyed. The following concrete steps are recommended:

1. Establish external project management and monitoring through a neutral party.
2. Conduct a survey on concrete child care needs or a refined analysis of recently executed surveys.
3. Draft a new concept for child care models including estimated costs.
4. Create an investment plan and funding scheme.
5. Establish a single point of contact for guidance (for daycare centre spots, emergency nannies, special funds, etc.) and consolidate all child care services under this one information centre.
6. Adapt subsidisation practices to create more fairness.
7. Examine the possibility of an ETH-kindergarten at Hönggerberg (perhaps in cooperation with international schools).

Ongoing cultural work with regard to biases is also deemed important.

4.11 Concluding remarks

CCDI would like to thank you for working with us. Our gratitude also extends to the surveyed persons for their openness and willingness to provide us with information. Independent of the results of this study, it must be noted that the dedication of the individual supervisors as well as of the postdoctoral and doctoral researchers in striving to achieve an optimal balance between an academic career and family is exceptionally high.

5.   Sources

Mayring, P. (2003). *Qualitative Inhaltsanalyse Grundlagen und Techniken* (8. Aufl.). Weinheim: Beltz.

Transcripts from 22 interviews in total with postdoctoral and doctoral researchers, supervisors and experts from relevant fields.

6. Appendix

Subject-oriented Interview Guidelines
Women Postdocs and Doctoral Students

Conduct of the Interview (not to be communicated with the interviewee)

–   First and foremost, the goal is that the interviewee may speak freely of their experiences as much as possible and that an authentic conversation is encouraged (refrain from a structured iteration of the interview questions). The interview questions do not have to be answered in any particular order. Rather, these guidelines serve as a reminder of important subjects, such that all relevant information may be collected.

–   Quite often, the questions will be answered by context alone.

–   In case the interviewee digresses significantly from the relevant topics, they should be guided back on track.

–   An important factor towards reaching the interview goals is that the interviewee may present specific examples.

Information before the Interview (to be shared with the interviewee)

–   We are grateful that you have agreed to participate in this pilot study in order to share your personal experience.

–   Distribute the Informed Consent Document to be signed by the interviewee.

–   Short, personal introduction of the interviewer (name, background and function within the study).

–   The goal of this pilot study is to develop specific strategies with which ETH may optimally support pregnant women and their superiors.

–   The interview will be recorded and subsequently transcribed in order to allow proper analysis. Do you agree with this procedure?

–   You can rely on us not to record any names in written form.

–   The interviews will be transcribed in an anonymised form and all non - anonymised data will be destroyed after completion of the study.

–   We guarantee that your data will be treated with utmost confidentiality and will be stored securely.

–   As you know already, your superior will also be interviewed. However, we will not assess your specific relationship with your superior.

- In other words, this means that we will not compare your interview with the one of your superior. Each interview is treated separately and will be analysed independently.

- Your superior will not be given any information on your interview.

Socio-demographic Data (to be gathered orally before the interview: please check boxes.)

What are your field of work and your function at ETH Zurich?

Workload / Pensum

Current Situation concerning Pregnancy
☐ Pregnant
☐ Delivered

Number of Children
☐ Expecting the first child
☐ One child
☐ Two and more children

Phase of Academic Career
☐ Dissertation
☐ Postdoc

Age

Family Support
☐ Partner
☐ Personal surroundings
☐ External childcare (nursery, child day care, foster parents, after-school care club)
☐ Other

Housing Situation
☐ Near ETH Zurich (travel time of up to 30 minutes with public transport)
☐ Farther away

Nationality (residence permit)

Subjects	Details	Possible Questions
Introduction	The introductory question should encourage a free conversation. Generally, it is important to discover whether the interviewee feels (un-)comfortable or (in-)secure with respect to the treatment of scientific career and family that ETH Zurich brings forth and whether they have suggestions for improvement.	Pregnancy is a special situation. What comes to mind when you think of your pregnancy or delivery and your professional situation? Please, speak freely. I will ask for details from time to time and I am particularly interested in specific examples.

Subjects	Details	Possible Questions
Communication and Culture	How do people speak of pregnancy in general? What opinions are noticeable?	– How did you perceive the reaction of your superior upon hearing of your pregnancy? – When and how did you communicate your pregnancy and what were your thoughts to that matter? – How did you perceive the reaction of your colleagues upon hearing of your pregnancy? – Did you notice any change in behaviour of your superior and your colleagues towards you after knowing of your pregnancy? – Were you met with encouragement, doubt or scepticism? – How are you able to cope with their reactions? – Were you met with support from your superior and /or your team? If so, in what way? – How is pregnancy regarded in your field? Is it seen in a positive, neutral or doubtful light or possibly even as career killer?
Work Content	Work content before, during and after pregnancy. Organisation and conference participation. Task completion during absence.	– Did your work content change during and after your pregnancy, compared to before? If so, why? Has your normal workday changed during and after your pregnancy? How and why? – Did you notice changes in conference participation or time abroad during and after your pregnancy? What changes and why? In what way do you receive support from your partner and your surroundings, for example concerning conference attendance? – Did anyone in your team take over your work during your absence, or did your work come to a standstill (e.g. what happens with your active unpublished work)? If a replacement was instated, did the transfer go with ease?
Maternity Leave and Workload	Rights Deadlines Workload / Pensum Health / Absence	– How long have you been or will you be on leave from work? – What were your reasons to choose this duration? – Was the duration of leave the result of a mutual agreement with your superior? – What role did your partner or your private situation play? – What workload did you fulfil before, during and after your pregnancy? In case of variations: what were your reasons? – Was your work contract adjusted during or after your pregnancy? Why?

Subjects	Details	Possible Questions
		– Was the temporary nature of your contract an issue or were you able to rely on continued employment?
		– Did you have to fight for your rights concerning maternity leave and work load or did the process proceed with ease?
		– Did your health suffer due to your pregnancy or were you put on sick leave?
		– If so, were you met with understanding from your colleagues or your superior? How does ETH Zurich generally treat people who are on sick leave for a long time?
Career Plans	How does your pregnancy "fit" with your career goals? What are the interviewee's thoughts and assumptions to matters of career?	– How do you imagine an ideal career in your field? – What are your continued career plans? – Have they changed due to your pregnancy? Why? – What is your general opinion on the reconcilability of career and children? – Does your opinion match with your current experience? – Possibly a question concerning dual careers (dual career couples).
Private Situation	Who supports the interviewee? What is the state of their family surroundings? In what areas do they see challenges - where resources?	– How did you grow up (roles of their parents)? – Who supports you concerning your pregnancy or your children? In what way? – Where do you see challenges in the reconciliation of work and family? – Do your partner or your surroundings support you in matters that should be taken care of by ETH Zurich? Examples?
Financial Matters	Does the interviewee face any particular challenges due to their pregnancy? Are there risks?	– Does your new family situation result in financial restructuring or bottlenecks? – Did you reflect on tax- or subsidy-specific issues concerning childcare?
Drop-in Centres and Information Centres	Does the interviewee know where they may get information or counsel? Did they act proactively?	– Are you aware of drop-in centres at ETH Zurich concerning pregnancy and reconcilability of career and family? – Which offices of ETH Zurich were you in contact with during or after your pregnancy? Why? – How did you experience your contact with these offices? – Were you left missing something? – Did you know who to contact in case of questions? Who was this person?

Subjects	Details	Possible Questions
		– Were you contacted by offices such as HR?
		– Have you been given written information? What exactly?
		– Do you know of any support from outside of ETH Zurich? If you have requested any information, what did you request (e.g. SNF)?
Childcare	How did or will the interviewee organise childcare?	– Which childcare model do you prefer? Why?
		– Which childcare solution did you find for your children?
		– How easy or difficult was this process?
		– In that respect, what could ETH Zurich improve?
		– Does your workplace offer the possibility of bringing your child to work? Would you take advantage of it if this possibility were open?
		– What do you expect the professorship, the institute, the department or ETH to do in that respect?
Field-Specific Information	Field culture and ideals or idols	– How would you describe the ideal co-worker in your field? (possibly inquire further about working hours culture)
		– How "common" are pregnancies among female scientists in your field?
		– Do you see a difference compared to other fields?
		– Do you see successful women with children in your field or partnerships with role sharing?
Summary and Outlook	Future Special issues	– What are your hopes for your future?
		– What would you recommend a pregnant colleague?
		– If you were given a million francs, what would you change or introduce at ETH Zurich to further the reconcilability of career and family?
		– Do you have anything left to say that was not covered in our conversation?

Thank you very much for our conversation!

Subject-oriented Interview Guidelines Superiors

Conduct of the Interview (not to be communicated with the interviewee)

−   First and foremost, the goal is that the interviewee may speak freely of their experiences as much as possible and that an authentic conversation is encouraged (refrain from a structured iteration of the interview questions). The interview questions do not have to be answered in any particular order. Rather, these guidelines serve as a reminder of important subjects, such that all relevant information may be collected.

−   Quite often, the questions will be answered by context alone.

−   In case the interviewee digresses significantly from the relevant topics, they should be guided back on track.

−   An important factor towards reaching the interview goals is that the interviewee may present specific examples.

Information before the Interview (to be shared with the interviewee)
−   We are grateful that you have agreed to participate in this pilot study in order to share your personal experience.

−   Distribute the Informed Consent Document to be signed by the interviewee.

−   Short, personal introduction of the interviewer (name, background and function within the study).

−   The goal of this pilot study is to develop specific strategies with which ETH may optimally support pregnant women and their superiors.

−   The interview will be recorded and subsequently transcribed in order to allow proper analysis. Do you agree with this procedure?

−   You can rely on us not to record any names in written form.

−   The interviews will be transcribed in an anonymised form and all non- anonymised data will be destroyed after completion of the study.

−   We guarantee that your data will be treated with utmost confidentiality and will be stored securely.

−   As you know already, a pregnant woman or young mother from your field will also be interviewed. However, we will not assess your specific relationship with your employee.

−   In other words, this means that we will not compare your interview with the one of your employee. Each interview is treated separately and will be analysed independently.

– If you have already made the experience of a pregnant woman in your group, I am interested in your experience in such situations.

– Neither you nor your employee will be given any information on the interview of their counterpart.

Socio-demographic Data (to be gathered orally before the interview: please check boxes.)

What are your field of work and your function at ETH Zurich?

Workload / Pensum

Gender of the Interviewee
☐ Female
☐ Male

Number of Pregnancies in their Group
☐ Confronted with this situation for the first time as superior.
☐ Routine strategies to deal with these situations are present.

Own Situation
☐ Has own children
☐ Has no children

Age

Nationality (residence permit)

Subjects	Details	Possible Questions
Introduction	The introductory question should encourage a free conversation. Generally, it is important to discover whether the interviewee feels (un-)comfortable or (in-)secure with respect to the treatment of scientific career and family that ETH Zurich brings forth and whether they have suggestions for improvement.	– A pregnancy within your group can put you, as a superior, against new challenges. What springs to mind? Please, speak freely. I will ask for details from time to time and I am particularly interested in specific examples. – Do you have previous "experience" or routine in such cases?
Communication and Culture	How do people speak of pregnancy in general? What opinions are noticeable?	– How did you perceive the announcement of the pregnancy of your employee? – What were your first thoughts? (Joy, scepticism, fears) – How did you perceive the team members' reactions to the news of the pregnancy? – Are you under the impression that your employee's behaviour and job ethics changed through her

Subjects	Details	Possible Questions
		pregnancy or delivery? What do you base this impression on (ask for specific situation and examples)?
		− Has your behaviour towards the young mother changed due to her announcement of her pregnancy? If so, how?
		− Has your employee expressed positive thoughts, doubts or scepticism concerning the reconciliation of academic career and family?
		− Have other team members expressed their thoughts on the reconciliation of academic career and family?
		− How is pregnancy regarded in your field? Is it seen in a positive, neutral or doubtful light or possibly even as career killer?
Work Content	Work content before, during and after pregnancy. Organisation and conference participation.	− Does the work content need to be adjusted during and after pregnancy compared to before? Why? Any examples?
		− Did the pregnancy require adjustments of specific job performance matters? Why?
		− Did you notice changes in conference participation or time abroad during and after pregnancy? What changes and why?
Maternity Leave and Workload	Rights Deadlines Workload / Pensum	− How long was or will your employee be on leave? What were the reasons to choose such duration?
		− Was the duration of leave agreed upon mutually with your employee?
		− What role did the partner and surroundings play for your employee?
		− What workload do you deem sensible before, during and after pregnancy for a woman in your field? In case of differences, what are your reasons?
		− Was your work contract adjusted during or after pregnancy? Why?
		− Was the temporary nature of your contract an issue or were you able to ensure continued employment for your employee?
		− Were you, as a superior, ever in the position of fighting for a specific issue around the pregnancy of your employee? (Financing, organisation, performance, etc. – for example that the employee will continue to participate in projects)
Career Plans	Reconciliation of career and family.	− How has your career progressed?
		− How do you judge the chance of success for women with children in your field?
		− How do you judge the chance of successful careers

Subjects	Details	Possible Questions
	Opinions on role distribution.	for women with children in general? − What is your opinion on the reconcilability of career and children at ETH Zurich? − What is your opinion on the reconcilability of career and children in general? − In your opinion, are dual careers possible? Explain your reasons.
Private Situation	Who supports pregnant women or young mothers? What is the state of the interviewees family surroundings? In what areas do they see challenges - where resources?	− What is your personal family situation like? To what degree do you believe that your own experience influences your decisions concerning young families? Would you choose to keep your personal family model concerning role distribution? Explain your reasons. − Where do you see challenges in the reconciliation of work and family? − What should ETH Zurich offer to lower the burden on young female researchers with children? − How can you, as superior, be of assistance?
Financial Matters	Does the interviewee face any particular challenges due to pregnancy? Are there risks?	− Does the current situation of pregnancy lead to financial restructuring or bottlenecks in your group? − How is your pregnant employee's position financed and what challenges or resources does this lead to? (E.g. tenure track model or some such) − Do you see a potential for improvement concerning financing of positions at ETH Zurich?
Drop-in Centres and Information Centres	Does the interviewee know where they may get information or counsel? Did they act proactively?	− Are you aware of drop-in centres at ETH Zurich concerning pregnancy and reconcilability of career and family? − Which offices of ETH Zurich were you in contact with during or after pregnancy? Why? − How did you experience your contact with these offices? − Were you left missing something? − Did you know who to contact in case of questions? Who was this person? − Were you contacted by offices such as HR? − Have you been given written information? What exactly? − Did your pregnant employee confront you with subjects and questions which required you to inform yourself as well? − What areas of action from the Gender Action Plan of ETH Zurich are you aware of?

Subjects	Details	Possible Questions
Childcare	How was or will childcare be organised?	– Which childcare model do you prefer? Why? – Which childcare solution did you find for your employee's children? – Does your workplace offer the possibility of bringing children to work? Would your team take advantage of it if this possibility were open? – What do you expect the professorship, the institute, the department or ETH to do in that respect?
Field-Specific Information	Field culture	– Do you see successful women with children in your field or partnerships with role sharing? – How "common" are pregnancies among female scientists in your field? – Do you see a difference compared to other fields? – Based on your own experience, what is your opinion on the main barriers for a better reconcilability of scientific careers and young families? – What could ETH Zurich do in that respect? – How could ETH Zurich better support you as leader? – Will you continue to employ female scientists or would you prefer to rely on men? Why? – What challenges were you faced with concerning the continuation of projects in your team? How were you able to specifically address these challenges? – Have you been in contact with peers that have experienced a similar situation in their team before?
Summary and Outlook	Future Special issues	– What are your hopes for your future? – What would you recommend a pregnant colleague? – What advice on supporting pregnancies and young families would you offer to a fellow superior? – If you were given a million francs, what would you change or introduce at ETH Zurich to further the reconcilability of career and family? – Do you have anything left to say that was not covered in our conversation?

Thank you very much for our conversation!