

## **PhD and childbearing? Education and work-life balance of PhD students**

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Extended abstract

### **Short theoretical background**

#### **Women in academia**

Although the proportion of women slightly increased among those received PhD during the last decade in Hungary (KSH 1011), their proportion is still lower than those of men, especially in the field of science, technology, engineering and mathematics (STEM). Moreover, women are underrepresented in top positions, in every occupational field in academia. This phenomenon can be described by the 'leaky pipeline' metaphor (Berryman 1983): women 'leak out' from the pipeline during their career to a greater extent than their male counterparts. Several institutional and individual constraints were identified as causes behind this phenomenon, such as gender socialization, occupational segregation, biased evaluations, inflexible and masculine structure of academia (Blickenstaff 2005). The problem is more relevant in male-dominated fields, especially in STEM. Research continuously calls the attention to the special situation of female researchers in R&D, as well. The low rate of women in academia is also high on the agenda of European and Hungarian policies. Research usually approach the 'leaky pipeline' metaphor from gender perspective, treated women's career as a whole and failed to examine the different career stages separately. It has been shown recently that each professional transition has its own characteristics (Wolfinger et al 2008). In the case of an early academic career family formations, such as marriage and childbirths are mainly responsible for the leak in the pipeline. These events affect women's later academic progress. This is in line with the results showing that childbearing is one of the major obstacle to women's careers (Hewlett 2007, Wolfinger and Mason 2012, Hochschild 2012). In spite of several efforts, the tension between work and family lives has not decreased in the last decades significantly (Hochschild 2001, Desrochers-Sargent, 2004). Though higher fertility rates can be observed in case of OECD-countries with high female employment rate, the situation is quite the opposite in Hungary, i.e. we witness both low fertility and female employment rates.

#### **Women's academic career versus their social and biological clocks**

In spite of the investigations conducted and policies introduced to increase female researchers' proportion in R&D, the situation has hardly changed. The main reason is quite 'simple': academic career advancement model does not fit with women's "biological clocks" (Mavriplis et al 2010, Wolfinger 2010). On the one hand career requires lock-step advancement, on the other hand, the ideal timing for career usually overlaps with the ideal timing for family formation. More highly educated individuals with an ambition of being a researcher have to face a life stage when decisions should be taken on the timing of these events. PhD attendance followed by the "tenure track employment" and the first childbirth are both vital milestones in an academic career and in private life, and demand high efforts. The acquired knowledge and skills for adaptation and innovation, as well as professional routine and social capital acquired during PhD education highly influence the value of the degree (Fábri 2010). Women professionals' childbearing is strongly limited by their biological age. Having the first child at a later age leads to a shorter, more concentrated period for women's further fertility intentions (Billari 2005) and decreases the chance to have a second or third child (Billari-Philipov-Testa, 2009; Kohler-Billari-Ortega, 2002). Nevertheless, though more highly educated women have their first child at a later age, they show a higher transition to the second child birth than others (Kreyenfeld 2002). By all means, there is hardly a win-win

adaptation strategy for women, since whatever decision they make a huge loss might be suffered: in the career track and utilization of education investment *or* in their private life, as well as in the efficiency and excellence of R&D.

### **Delayed adulthood, risk, uncertainty**

While there is a usual pattern of life-course, i.e. timing the first child after finishing school (Spéder 2006, Husz 2006), the increasing demands of the labor market requires lifelong learning, which makes it highly complicated. Moreover, as the parts of the second demographic transition (van de Kaa, 2002), the transition into adulthood has shifted in time and is now modifiable (Beck 1992, Beck-Gernsheim 2002, Somlai 2000). Making long-term decisions in recent social circumstances is becoming difficult. On the one hand, norms and attitudes determine individuals' life-style and life-course and play a vital role in decision-making on the timing and order of life events (Billari-Philipov-Testa 2009). On the other hand, their role in late modernity seem to be disappearing and the normal life course has become flexible. Though individuals can decide more freely on their life events, they should take the risk and have to face the long-term consequences of their decisions alone (Beck 1992, Beck-Beck-Gernsheim 2002). Youths are one of the groups most afflicted by uncertainty (Blossfeld et al 2005, Frey 2011), having limited labor market experience and are being exposed to greater economic inequalities. As an adaptive strategy – avoiding decisions on long term bindings – they often delay the milestones of becoming adult (Blossfeld et al 2005; Billari 2005, 2001). People with higher educational background are more likely to postpone these milestones (Spéder 2006), moreover, the dividing lines between their life-course phases has become so blurred that young professionals will always have to reconcile more than two fields of life: work, education and family life.

### **Field of education**

The field of the education also plays a vital role in women's fertility behavior as well. Some disciplines require closer lock-step advancement, some offer inflexible employment conditions and individuals have less freedom of choice. Balancing work/education and family life can be more acute in these fields, which often occur in male-dominated occupations especially in STEM fields in the private sector. Research focusing on the role of different educational fields in work-life balance is scarce. However, recent publication (Godfroy-Genin 2009, Husu 2010) has shown that a) the good timing of career and children can facilitate top women's work-life balance at the later stages of their career in STEM fields b) top women perceive a slow positive change in women' position in STEM occupations, but top women from Central Eastern Europe share this latter opinion less. In other investigations lower fertility rates were shown in the field of economics and technology than in the field of care, teaching and culture (Lappegård 2002 refers to Hoem 1994 and Kalmijn 1996), though later Lappegård (2002) found high fertility in the field of science and technology, even in case of mainly male-dominated, higher occupations. We have even less data on the timing of educational attainment and the first childbirth. Lappegård (2002) showed that women with university education tend to finish their studies after they have become mothers - except for science and technology, where women tend to finish their education first and have their first child at a later date (Lappegård 2002). It has been recently founded (Wolfinger 2010) that births vary dramatically by occupation, female professors have fewer children, have their first child in their late 30s.

### **Empirical findings from Hungary**

In Hungary, the issue of work-life balance of higher educated women is usually a sub-part of research into women's academic career, mainly focusing on their segregation and

discrimination at their later career stages (Nagy 2009, Palasik-Papp 2007, Schadt 2011). The wide-scaled literature on highly educated youths in Hungary mainly focuses on degree holders, but their work-life balance is rarely in the focus. Moreover, statistics and research rarely make any distinction between MA and higher degrees, there are only rough statistics on PhD holders in terms of their number, gender, age and doctoral school. There is research devoted to PhD degree, (Fábri 2010), to young researchers with PhD (Pálinkó 2009), but we can scarcely find research either fully devoted to work-life balance of higher educated women, or focusing on the early academic career. There are only few regional quantitative research (Tornyai 2008, Fináncz 2008), which clearly show that Hungarian PhD students' find establishing their optimal work-life balance difficult and often delay their motherhood after PhD.

### **The research**

How do young researchers balance their PhD and their first childbirth? In order to answer this question I will conduct a research in spring 2014. It will be a part of my PhD research. This research will concentrate on PhD students in the field of science, technology, engineering and mathematics. Special attention will be given to the timing of the first child and PhD attendance. In the conference I shall introduce the preliminary findings of this research.

Methodology: I will use qualitative methods, i.e. semi-structured interviews. The population is PhD students under the age of 40 from the field of STEM, including disciplines with both high representation of women (chemistry, biology) and low representation of women (engineering, agriculture). The choice guarantees the homogeneity of the group in the terms of socialization in the same period of institutional/social structures and of the same educational/occupational fields. I chose female individuals with and without children.

The results, which would be introduced at the conference is expected to give us a better understanding of the following points, with special attention to the timing of PhD attendance and the first childbirth:

- ⇒ How PhD attendance affects women' first childbirth.
- ⇒ What facilitating and constraining factors young PhD students can identify in relation to balancing PhD attendance and the first childbirth.
- ⇒ What dilemmas and strategies they have connected to balancing these fields.
- ⇒ Whether the special characteristics of education and occupation in STEM have effects on their balance, and if yes, why and how.

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