FERTILITY INTENTIONS OF UNIVERSITY GRADUATES

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ABSTRACT: *Increasing numbers of young people enter university-level programmes and the share of university graduates among today's young adults is expected to be around 40 per cent in OECD countries. Education-specific studies reveal differences in fertility behaviour. Childlessness is a particularly widespread phenomenon among female university graduates in Western Germany[4] and Austria, and highly educated women are less likely to have larger families with three or more children. Based on the Generations and Gender Survey (GSS), we study fertility intentions of university graduates. We concentrate on university degree holders aged 27 to 40 years in Western Germany and Austria, and compare them with their peers in France and Norway. We aim to find out how different life domains are associated with the intention to have a child within the next three years. We identify determinants of fertility intentions based on the concept of the life course and inspired by the concept of the rush hour of life. We examine associations between employment and relationship on the one hand, and plans to start a family on the other. We analyse the extent to which the current individual situation in the life domains of work and partnership and their durations are related to short-term fertility intentions, taking into consideration possible gender-specific and country-specific differences. The study reveals that in Western Germany and Austria childless highly educated women are less likely to intend to have a child within the next three years. Moreover, gender differences are notable in these two countries, with women less often intending to have a child in the near future than men. Childbearing plans are most prominent among university graduates around the age of thirty. The degree of institutionalisation, the duration of the relationship and the number of working hours are also associated with fertility intentions.*

Keywords: Fertility intentions, university graduates, childlessness, rush hour of life, Generations and Gender Survey

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[4] In this paper Western Germany refers to the *länder* of the former Federal Republic of Germany.

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1. INTRODUCTION

Increasing numbers of young people are awarded a university degree. Based on current patterns of graduation, 60 per cent of young adults in the OECD countries are expected to enter university-level programmes and 40 per cent of young people are expected to complete university-level education at some point during their lives (OECD 2013). The study of the fertility behaviour and intentions of highly educated women and men is therefore of some societal importance. Moreover, the highly educated as a group are not only increasing relative to other educational groups, but are also seen as a vanguard for social change (Lesthaeghe and Surkyn 1988), and this includes fertility behaviour.

Childlessness has increased continuously across Europe over the last decades (Frejka 2008). Although childlessness is not a new phenomenon historically, it has been gaining increasing significance in the demographic literature and in socio-political discussion (Frejka and Sardon 2004; Konietzka and Kreyenfeld 2007). Education-specific studies show that childlessness is a particularly widespread phenomenon among female university graduates (Dorbritz 2011). This applies to women in Western Germany in particular, who in the past frequently found themselves faced with the choice between child(ren) or career, due to the low supply of public childcare facilities. Highly educated women are also less likely to have larger families with three or more children.

Low fertility rates are an important societal issue and earlier research has shown that there is gap between fertility intentions and fertility behaviour (i.e. higher intended family size than actual behaviour) (Bongaarts 2001; Sobotka 2009). If the intentions themselves are absent or low then the situation might be even worse. It is therefore important to know how to support individuals to achieve their fertility intentions and to maintain a certain fertility rate.

Various empirical studies have focused on intentions when studying fertility and childlessness (Dorbritz, Lengerer and Ruckdeschel 2005; Dorbritz and Ruckdeschel 2007). Childlessness is either intended from early adulthood or the consequence of continuous postponement of childbearing and family formation plans; the latter is especially common among the highly educated (Kreyenfeld and Konietzka 2007). Viewed from the life-course perspective, childlessness could be an expression of complex life-course constellations and the result of a succession of biographical decisions related to various areas of life, primarily education, employment and personal approaches to life (Kreyenfeld and Konietzka 2007).

The objective of this study is to analyse fertility intentions among university graduates aged between 27 and 40 in four selected European countries. The study focuses on Western Germany and Austria, countries with high levels of childlessness, especially among the highly educated. It is important to know why this is the case. To obtain a better insight, we study fertility intentions,

because lack of intention is a strong predictor of childlessness. To understand the situation of the highly educated in these two countries better we compare them to women in two other countries. France and Norway are included because they have comparably high fertility rates and different institutional contexts concerning reconciliation of work and family life. We concentrate on short-term fertility intentions, not on the intended number of children. For a discussion of the operationalisation of short-term and long-term fertility intentions we refer to Philipov and Bernardi (2011): "Short-term intentions refer to having a child within a short time period such as 2 or 3 years. Over a short period, the respondent is expected to be familiar with his or her personal situation in life and with the obstacles which might frustrate the intention to have a child. For example, the respondent is aware of her family situation and of her partner's fertility preferences; she is aware of her housing situation, employment situation, income, etc." (Philipov and Bernardi 2011, 512).

Our research focuses on the particularly intense time pressures of the phase of life between the mid-twenties and late thirties. The age starts at 27, the mean age of finishing university-level degrees in OECD countries (OECD 2013). Our aim is to find out how different life domains are associated with the intention to have a child in the near future. Based on the concept of life course and inspired by the concept of "rush hour of life" (Bertram 2007; Bertram and Bujard 2012) we identify determinants of fertility intentions for university graduates. According to the concept of the rush hour of life demands from the apparently conflicting life domains of job/career and family/private life are seen in context with fertility intentions and a possible pathway to childlessness. In particular, we examine associations between employment and relationships and intention to start or expand a family. We analyse the extent to which the current individual situation in the life domains of work and partnership and their durations relate to fertility intentions for the next three years, taking into consideration possible gender-specific and country-specific differences.

2. GENERATIVE BEHAVIOUR, CHILDLESSNESS AND FERTILITY INTENTIONS

Germany and Austria are among the countries with the lowest fertility rates in Europe (Sobotka 2011), while France, the United Kingdom and the Scandinavian countries are known for their comparatively high fertility rates (Total fertility rate (TFR) 2010: Germany: 1.39; Austria: 1.44, 2010: France: 2.00; Norway: 1.95; United Kingdom: 1.98) (VID-IIASA 2012).[5] Over the past four decades Europe has witnessed a rise in the average age at first birth

[5] See Sobotka and Lutz (2011) for a recent critique of the validity of TFR.

(Bongaarts and Sobotka 2011), and increasing levels of educational enrolment account for a substantial part of fertility postponement (Ní Bhrolcháin and Beaujouan 2012). In most European countries the average transition to motherhood currently takes place at age 28–29 (Kreyenfeld et al. 2010; Sobotka 2010). The relationship between postponement of family formation and fertility differs. While in France a high age at first birth is accompanied by a high number of children and low childlessness (Gerlach 2004; Köppen, Mazuy and Toulemon 2013), in Germany the delay in motherhood is associated with an increase in childlessness and this presumably has consequences for final family size (Kreyenfeld 2008).

Childlessness varies substantially between countries and regions (Frejka 2008; Konietzka and Kreyenfeld 2007), amounting to 22 per cent in Western Germany for cohorts born 1964–1968 (Statistisches Bundesamt 2010) and to 18 per cent in Austria for the 1965–66 cohorts (Sobotka 2011). With a share of 13 per cent, France and Norway exhibit low levels of childlessness for the 1960s cohorts (Sobotka 2005; Toulemon, Pailhé and Rossier 2008). Moreover, childlessness is low in former East German regions, with a share of 11 per cent for the 1964–1968 cohorts (Statistisches Bundesamt 2010), indicating considerable regional differences within Germany (Dorbritz 2005; Konietzka and Kreyenfeld 2007).

Throughout the twentieth century lower fertility rates have been associated with the higher education of women (Skirbekk 2008). Nevertheless, education-specific differences in fertility vary substantially within Europe. The negative educational gradient is particularly pronounced in countries where the institutional framework supports a relatively long absence of mothers from the labour force and where women perceive difficulties in reconciling family and work, such as in Germany, Austria and Switzerland (Merz and Liefbroer 2011; Sobotka 2011). By contrast, fertility differences by educational level are relatively small in France and Norway (Davie and Mazuy 2010; Kravdal 2001; Lappegard 2002; Toulemon, Pailhé and Rossier 2008).

A positive correlation between educational level and childlessness is well documented for Germany (Boehnke 2013; Bujard 2012; Statistisches Bundesamt; 2013; Schaeper, Grotheer and Brandt 2013) and in a number of other European countries (Fokkema et al. 2008; Keizer, Dykstra and Jansen 2008; Lappegard 2000). In the birth cohorts cited above, childlessness among women holding a university degree amounts to 33 per cent in Western Germany and 30 per cent in Austria (Köppen, Mazuy and Toulemon 2013; Prskawetz et al. 2008). The share of childless university graduates is lower in France (18 per cent), and Norway (19 per cent) (Köppen, Mazuy and Toulemon 2013). The comparatively low childlessness rate of Norwegian female university graduates is accompanied by high gender equality and high enrolment and employment rates of women, both ensured by family policy guidelines (Rønsen 2004). Cen-

sus data by level of education and parity are scarce. Available data on Austria and Switzerland show that the share of childlessness and the family structure itself differs among educational groups. Larger families with three or more children are rare and two-child families are more frequent than one-child families among tertiary educated women. Among women born in 1960 in Austria the proportion of women with three or more children amounts to 14 per cent in the highest educational group[6] and 30 per cent in the lowest educational group[7] (EURREP 2013, based on census data). In Switzerland the proportion of women with three or more children amounts to 17 per cent in the highest educational group and 35 per cent in the lowest group.

Empirical evidence on childlessness and family size of men differentiated by educational level is also scarcer though the data that is available indicates a different pattern of childlessness among men compared to women. A recent study on Norway noted that by the age of 45 years 22 per cent of men with compulsory education were childless whereas among those with higher degrees 13 per cent had no child by that age (Lappegard, Noack and Rønsen 2013). According to the Swiss census, in the male cohort born in 1960, differences in family size are less pronounced compared to women. For example, childlessness amounts to 28 per cent among tertiary educated men and to 24 per cent in the lowest educational group (EURREP 2013, based on census data). Although large families are more frequent in lower educated groups (28 per cent) than in the higher educated group (21 per cent), educational differences are smaller compared to women. Census data or micro-census data on the number of biological children for men are not available for either Germany or Austria.

Explanations for high childlessness among highly educated women focus mainly on difficulties in reconciling work and family (Dorbritz 2005; Fokkema et al. 2008; Lind 2008), the strong career orientation of female university graduates, high opportunity costs (Liefbroer 2005), as well as the postponement of family formation due to the considerable time spent in education (Fokkema et al. 2008; Liefbroer and Corijn 1999). A stable career increases the likelihood of remaining childless among women, but increases the likelihood of entering fatherhood for men (Keizer, Dykstra and Jansen 2008), thus indicating distinctive pathways into childlessness among men and women. Apart from economic aspects, the private situation is certainly important for family formation. Regarding the specific situation of highly qualified women, the lack of a suitable partner or a stable relationship is a central cause of childlessness in many countries of western and northern Europe (Dorbritz 2011; Keizer 2010; Köppen, Mazuy and Toulemon 2013).

Research on fertility intentions includes individual characteristics as well as macro-level indicators. The GGS has initiated research on different dimensions

[6] ISCED 5 and 6.
[7] ISCED 0, 1 and 2.

of fertility intentions, such as short-term intentions or overall intended number of children (Philipov and Bernardi 2011). But various country-specific or international surveys also include information on childbearing plans, enabling detailed analysis of fertility intentions and behaviour. The Theory of Planned Behaviour, implemented in the GGS, was the theoretical framework for various articles on attitudes and norms (Billari, Philipov and Testa 2009; Dommermuth, Klobas and Lappegard 2011; Mencarini, Vignoli and Gottard 2011; Mitchell and Gray 2007). Gender equality (Mills et al. 2008; Neyer, Lappegard and Vignoli 2011), employment and job characteristics (Bernardi, Klärner and von der Lippe 2008; Berninger, Weiß and Wagner 2011), housing conditions (Vignoli, Rinesi and Mussino 2013), availability of childcare (Rindfuss et al. 2007) and the impact of family policies (Bujard 2013; Drago et al. 2011; Philipov 2009b; Salles, Rossier and Brachet 2010) are suggested as examples of the different aspects associated with fertility intentions. Several countries are frequently included in the analyses to find out country-specific differences (Di Giulio et al. 2012; Pailhé 2009). Moreover, panel data on fertility enables study of the realisation of fertility intentions (Berrington 2004; Gray, Evans and Reimondos 2013; Morgan and Rackin 2010; Philipov 2009a; Régnier-Loilier and Vignoli 2011; Spéder and Kapitány 2009; Toulemon and Testa 2005) or changes in family size intentions (Iacovou and Tavares 2011; Liefbroer 2009).

Selection of the countries was based on the welfare state typology proposed by Gauthier (1996) and availability of comparable data. Gauthier's typology focuses on family policies, which seem to be important for the individual opportunities at the micro level. She defined four country groups: egalitarian family policy (Norway, Denmark and Sweden), characterised by its egalitarian gender policy, an adequate system of public childcare and other family-friendly provisions like generous parental leave. The pro-familial and non-interventionist family policy type (UK, USA) is based on the principles of a self-regulating market and economic independence for families from the state, which results in minor welfare provisions for families. The pronatalist family policy type (France) has the clear goal of a stable population and provides broad universal support for families. Public and private childcare facilities and well-developed maternity leave arrangements aim to remove structural barriers which may influence fertility behaviour negatively. The traditionalist family policy type (Western Germany, Austria and Switzerland) is oriented towards the traditional male breadwinner model. Structural barriers like the lack of well-developed public childcare facilities lead to difficulties reconciling family and work, especially for women. Therefore, Western Germany and Austria, two traditionalist family policy countries are compared with France, of the pronatalist type, and with Norway, an example of the egalitarian family policy type.

3. THE CONCEPT OF LIFE COURSE AND THE 'RUSH HOUR OF LIFE'

Fertility as a "purposive behaviour that is based on intentions integrated into the life course" (Schoen et al. 1999, p. 799), and its realisation, depends on specific framework conditions. Fertility intentions are complex and embedded in the specific social context (Dommermuth, Klobas and Lappegard 2011; Schneider, Limmer and Ruckdeschel 2002). The intention to have a child depends on the time frame (e.g. now, within three years or later) and can change over time according to personal and social context (Schoen et al. 1999). Although the realisation of fertility intentions is influenced by various factors (Spéder and Kapitány 2009), we assume that intentions are predictors of subsequent family formation (W. B. Miller and Pasta 1995; Schoen et al. 1999).

The theoretical framework for analysing fertility intentions in this paper is based on the sociological concept of the life course by Elder and Mayer (Elder 1977; Mayer 1990, 2003). According to the life-course perspective, individuals move through a sequence of age-graded events, situations and social roles (Elder 1977). The timing of life events, such as childbirth, and transitions between different social settings is specified by normative expectations and shaped by institutional constrains (Elder 1977; Mayer 2001, 2003). Individual life courses are closely linked to the dynamics of the social group to which they belong (Mayer 2003). On the one hand, institutional arrangements vary from society to society, creating cross-cultural differences in institutionalised pathways and life-course patterns. On the other hand, life course patterns vary across status groups within a given society (Elder 1977; Mayer 2003).

The transition to adulthood is an important period of the life course. Rindfuss described young adulthood as a time which is "demographically dense" (Rindfuss 1991, 494), meaning that more demographic action occurs then than during any other stage in the life course. Young adulthood – between ages 18 and 30 – represents a period of multiple transitions including leaving school, finishing education, residential mobility, marriage and transition to parenthood. A central aspect of the life-course concept is the multidimensionality of the action patterns. Young adults are involved in "multiple lines of adult activity – of work and civil responsibilities, marriage and parenthood" (Elder 1977, 283). The individual life course develops in different life domains such as work and family, and there are multiple interdependencies between these domains (Mayer 2003). The different life domains imply competing demands for an individual's limited time and resources (Elder 1977).

The concept of competing demands is crucial to the rush hour of life, which we view as a contribution to life-course theory. Referring to a pioneering paper by Bittman and Wajcman (2000), the expression has been coined to describe periods of life when multiple and conflicting demands are felt most pressingly. According to Lothaller (2008) it encompasses the time of life between the mid-

twenties and later thirties and particularly affects more highly educated people who must simultaneously deal with the demands of work/career and family and increased uncertainties related to these domains. Prolonged educational phases and increased employment of women, accompanied by an erosion of traditional tasks, are central to the phenomenon of the rush hour of life. Within a short period of time (five to seven years) entrance into the labour market, career establishment and family formation take place – or have to take place – which makes up for a concentration of biographical events. Different competing demands and events such as labour market entry, career establishment and consolidation, finding a suitable partner, cohabitation, marriage and starting a family concentrate in the rush hour of life (Bertram, Bujard and Rösler 2011; Nimwegen, Esveldt and Beets 2003). Further research has addressed time stress and "time crunch" (Hamermesh and Lee 2007; Hochschild 1997).

The Seventh German Family Report (BMFSFJ 2006) stressed that the rush hour of life is associated with precarious conditions such as lack of time and insecure working conditions. It is speculated that this phenomenon is particularly pronounced in Germany, because the German educational system, especially in academic professions, does not show much differentiation and access to professional life is generally defined by one's highest completed level of education. Other countries, in particular northern European and Anglo-Saxon ones, offer a variety of educational qualifications that can be acquired at various stages of life, thus allowing for flexible arrangement of life plans over the life course (BMFSFJ 2006). German university graduates are also confronted with increased vocational uncertainties (Klammer 2010). Moreover, Peuckert (2008) observed a shrinking time frame for parenthood in Germany, as the duration of the fertile years actually used has decreased significantly. In the Scandinavian countries and France life decisions have also been shifted to higher ages, but they are not as concentrated and as short as in Germany.

The individual situation in the main life domains of work and partnership provides the basis for the subjective interpretation of the current situation of decision making. The decision to have a(another) child is a long-term and high-risk commitment with considerable consequences for the future (Rupp and Blossfeld 2008). The concept of the "rush hour of life" seems to be very useful in analysing the determinants of fertility intentions of university graduates because it refers to highly educated people in advanced societies in the late twentieth century.

4. HYPOTHESES

We assume that biographical events – completion of education, entry to the labour market, the search for a suitable partner and the consolidation of a rela-

tionship – affect fertility intentions. Our central hypothesis is therefore that uncertainties regarding these factors have negative effects on fertility intentions of highly educated people and can be seen as a pathway to childlessness. It takes a certain amount of time before a relationship becomes consolidated, until a couple thinks about having children. In terms of employment, it also takes a certain amount of vocational adjustment and practice before an employee becomes established within an organisation. Since university graduates are confronted with increased vocational uncertainties (Klammer 2010) relevant information from the GGS was used, such as type of contract or satisfaction with job security.

H1: We assume that the lack of a partner, as well as the degree of institutionalisation of a relationship – in particular the lack of a cohabiting partner –, are essential prerequisites to short-term fertility intentions.

H2: The level of consolidation of a relationship – measured by the degree of institutionalisation – is associated with fertility intentions: the higher the consolidation of a relationship, the more often fertility intentions will be mentioned. We assume that the relationship quality (measured via satisfaction with the relationship) is associated with fertility intentions.

H3: Individuals in a less satisfying relationship are less likely to intend to have a child in the near future. We assume an association between employment conditions and fertility intentions and differentiate between childless people and parents.

H4: Highly educated persons, with comparably low as well as extremely high workloads, are less likely to intend to have a child in the near future, indicating economic problems and precarious employment conditions on the one hand, and limited time resources for private life on the other.

As motherhood is often combined with part-time work we assume a different mechanism among parents:

H5: Highly educated parents with extremely high workloads are less likely to intend to have another child in the near future, indicating limited time resources for private life and more children.

H6: Short current job duration indicates the need for job consolidation, and is negatively associated with fertility intentions.

H7: Fertility intentions for the next three years are less often mentioned in cases of uncertain employment conditions, such as temporary work contracts and self-employment.

At the societal level we formulate the following two hypotheses:

H8: Fertility intentions of female university graduates are less pronounced in countries with traditional gender role models and a low degree of institutionalisation of childcare.

H9: Highly educated women intend to have children less often than highly educated men in countries with traditional gender role models.

5. DATA AND METHODS

The study is based on the first wave of the GGS in Western Germany, Austria, France and Norway. Differences in fertility rates persist between former East and West Germany (Goldstein and Kreyenfeld 2011; Goldstein et al. 2010). Due to the small sample size, we excluded former East Germany. We focus on highly educated persons, whom we define as persons holding ISCED 5a/ISCED 6 degrees, i.e. having studied at a university or at a university of applied sciences. We refer to these persons also as "university graduates" or "the highly educated", using the terms synonymously. We do not include persons with tertiary education with a vocation-specific qualification (ISCED 5B), since this group's vocational biography (e.g. apprenticeship, trade examination, master craftsman's examination) usually differs from those who complete higher secondary education and then study at university.[8]

As mentioned, this study focuses on Western Germany and Austria, two countries with high childlessness among highly educated persons, and with very similar social, political and economic structures. France and Norway were included as countries with both higher fertility rates and different family policies, thus allowing European comparison. Data were pooled and analyses conducted for the entire sample as well as separately for women and for men, in order to identify possible gender-specific differences (Widmer and Ritschard 2009).

In addition to fertility intentions and birth and partner histories, the GGS includes detailed information on the current employment situation and on education. This dataset therefore enables analysis of fertility intentions in a multivariate context, taking into consideration various dimensions of the rush hour of life. We were unable to take persons with same-sex partners into consideration because questions on fertility were not asked. Moreover, we excluded those who were unable to have biological children, who had missing data on fertility intentions or who were expecting a child at the time of the interview. The final sample comprises 1,759 highly educated women and men aged 27 to 40 years, holding ISCED 5a or ISCED 6 degree and with valid responses to the question whether they intended to have a child within the next three years (Table 1). Parity matters (Bulatao 1981; Yamaguchi and Ferguson 1995), the first child marks the transition to parenthood, and it is therefore different to the transition to a second child or a child of higher parity. Accordingly, we distinguish between those who are childless and parents.

[8] They typically entered the labour market earlier and attained higher education through advanced vocational training.

Table 1
Sample by country/region and gender

	Men	Women	Total
Western Germany	113	206	319
Austria	133	269	402
France	241	370	611
Norway	230	197	427
Total	717	1,042	1,759

Source: GGS Wave 1.

The central variable of this study is the intention to have a child within the next three years, coded as a dichotomous variable that distinguishes between "yes" and "no". The small group of respondents who answered "don't know" to the question on childbearing intentions within the next three years were classified into "no childbearing intentions" (total 13 respondents, i.e. 1 per cent). We restrict ourselves to a few descriptive results and focus on multivariate analyses in order to handle problems in the representativeness of the data – in particular of the German dataset (Kreyenfeld et al. 2011; Sauer, Ruckdeschel and Naderi 2012). Of the 1,759 university graduates, 59 per cent are female and 41 per cent male. The average age of respondents is 34, Germans are somewhat older (35) and French somewhat younger (33). The proportion of highly educated persons wishing to have a child within the next three years ranges from 39 per cent in Western Germany and Norway to 51 per cent in Austria. Childless persons and parents of one child more often plan to have a child in the near future (59 and 62 per cent respectively) than parents of two or more children (20 and 8 per cent).

To our knowledge this is the first study that attempts to use the concept of the rush hour of life to identify determinants of fertility intentions. Therefore, indicators for relationship and employment are related to fertility intentions. Moreover, we add a time component, since the central idea of the rush hour of life is the temporal aspect and the concentration of decisions and biographical events within a short time span. For combining partner status and duration of partnership various classifications and sub-groups are modelled, taking into consideration size of the subgroups and the significance of results. For the final model presented in this paper the cutting point is three years for cohabitation and marriage and two years for living-apart-together (LAT) partnerships.

Probit regressions were carried out in a multivariate framework. The dichotomous dependent variable is the intention to have a child within the next three years. Apart from age, country, gender and parity, type of partnership

combined with duration of partnership, relationship quality[9], duration of current job and the current workload (measured in hours worked) were taken into consideration. We furthermore accounted for type of contract and satisfaction with job security.

Regression analyses were calculated for the total sample, as well as for men and women separately so as to identify possible gender-specific differences. As mentioned above, we estimated models for childless people and parents. Analyses for all university graduates regardless of their parity are provided in the Appendix (A2).

6. RESULTS

As expected, age is significantly associated with fertility intentions. Intentions are highest among university graduates in their early thirties, whereas those aged between 35 and 40 and childless people under the age of 30 are less likely to intend to have a child within the next three years (Table 2). Differences by age groups are more pronounced among women than men.

The lack of a partner and the degree of institutionalisation of a relationship is related to fertility intentions, confirming H1. Married and cohabiting persons intend to have a child more often than persons living apart together or without a partner.

Contrary to H2 (referring to the consolidation of a partnership), there is a negative correlation between duration of cohabitation and fertility intentions. Hence, highly qualified persons who have been cohabitating for less than three years intend to have a child more often than those who have already been cohabitating with their current partner for three years or longer. This finding contradicts the hypothesis concerning the degree of partnership consolidation, and might be explained by a selection process. Highly educated persons cohabiting for a longer period of time, who are still childless and have not married, might constitute a select group that is less family orientated. Duration of marriage is positively associated with fertility intentions among newly married women with children. It is particularly interesting that in the female sample the estimated coefficient for short LAT is not significantly different to those without a partner (results not shown here), whereas in the childless male sample we find statistically significant results. We might conclude that in terms of fertility intentions highly qualified childless women in short LAT are more similar to those without a partner than to those in a longer LAT. By contrast, men's fertility intentions among the childless are already more pronounced in the presence of a short LAT partnership.

[9] Relationship quality is captured by the question "How satisfied are you with your relationship with your partner/spouse?" Possible answers range from zero to ten on a satisfaction scale, with zero being not satisfied at all and ten being completely satisfied.

Table 2
Estimated regression coefficients for intention to have a child within the next three years

	Childless university graduates			University graduates with children		
	All	Women	Men	All	Women	Men
Age						
27–29	-0.32**	-0.35*	-0.29	0.27	0.27	0.41
30–34 [a]	0.00	0.00	0.00	0.00	0.00	0.00
35–40	-0.28*	-0.40*	-0.18	-0.61***	-0.77***	-0.42*
Country/Region						
Western Germany [a]	0.00	0.00	0.00	0.00	0.00	0.00
Austria	0.17	0.21	0.36	0.15	0.05	0.38
France	0.51***	0.80***	0.29	0.20	0.15	0.40
Norway	0.17	0.74**	-0.26	0.16	0.13	0.33
Gender						
Male [a]	0.00			0.00		
Female	0.03			-0.26*		
Parity						
1 child				0.00	0.00	0.00
2 children				-1.11***	-1.17***	-1.13***
3+ children				-1.65***	-1.70***	-1.76***
Partner status						
Married less than 3 years	0.90+	.	0.88	0.34	1.24+	-0.04
Married 3 years and longer	0.20	0.16	0.38	0.22	0.23	0.19
Cohabiting less than 3 years	0.38+	0.22	0.62+	0.11	0.30	-0.04
Cohabiting 3 years and longer [a]	0.00	0.00	0.00	0.00	0.00	0.00
LAT less than 2 years	-0.55**	-0.68**	-0.37	-0.19	0.23	.
LAT 2 years and longer	-0.43*	-0.55*	-0.33	-0.25	.	0.62
No partner	-0.93***	-1.06***	-0.76**	-0.23	0.02	-1.29+
Relationship quality						
(Relatively) poor quality	-0.21	-0.22	-0.20	-0.07	0.01	-0.16
(Very) good quality [a]	0.00	0	0.00	0.00	0.00	0.00
Working hours						
Less than 30 hours	-0.60**	-0.53*	-0.64+	-0.01	0.07	-0.07
30–34 hours	0.10	0.13	0.64	-0.21	0.05	-0.99
35–40 hours [a]	0.00	0.00	0.00	0.00	0.00	0.00
41–50 hours	0.08	0.15	0.03	-0.01	0.29	-0.13
More than 50 hours	0.09	-0.26	0.39	-0.23	-0.86	-0.20
Not employed	0.10	0.13	0.32	0.46**	0.62**	-0.19
Duration of current job						
Less than 1 year	-0.09	-0.01	-0.12	-0.24	0.02	-0.59*
1-3 years	-0.00	0.07	0.01	-0.00	0.01	0.03
4 years and longer [a]	0,00	0.00	0.00	0.00	0.00	0.00
Constant	0.58**	0.51+	0.51+	0.46*	0.17	0.40
Pseudo R^2	0.13	0.16	0.14	0.10	0.11	0.16
N	772	416	349	940	578	351

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.
[a] Reference category.
Remark: See Table A1 in the Appendix for the distribution of the variables.
Source: GGS Wave 1.

The estimated coefficient for those reporting relatively poor relationship quality is negative, indicating that those who are dissatisfied with their relationship are less likely to intend to have a child in the near future. Nevertheless, the estimated coefficients fail to reach statistical significance and therefore our results do not support H3.[10]

We took into consideration the hours actually worked in order to better examine the vocational time burden during the rush hour of life. According to our calculations, full-time employment in the range of 35 to 40 hours, full-time employment with a modest amount of overtime (i.e. between 41 and 50 hours) and part-time employment in the range of 30 to 34 hours are associated with fertility intentions in a more or less similar way. Part-time work comprising less than 30 hours per week is significantly negatively related to the fertility intentions of highly educated childless men and women. Childless university graduates who have a part-time job with less than 30 hours per week are presumably not yet established on the labour market and face possible financial restrictions, meaning they do not favour family formation in the near future. Our results on part-time work support H4, in that relatively few working hours are associated with low fertility intentions, conveying a still precarious position in the labour market and possible economic difficulties. Among mothers we do not find a negative association between part-time work and fertility intentions. Their reduced working hours are most probably due to the combination of childrearing and work.

Extensive working hours (i.e. more than 50 hours per week) are associated with a lower likelihood of intending to have a child in the near future among childless women. By contrast, high workload is associated with increased risk of intending to have a child among childless men, though results are not statistically significant. Our results indicate that for childless female university graduates who work 50 or more hours per week, family and work are particularly difficult to combine, whereas childless men with such high workloads coversely see economic advantages in extended workloads as this makes family formation easier to finance. The estimated coefficients among parents are negative and suggest that parents with extensive working hours less often intend to have a child in the near future. Thus H5, which assumes a negative association between extended workload and fertility intentions due to restricted time resources, is supported only for highly educated parents and childless women and not for childless men. Finally, non-employment is associated

[10] We started with all possible values - ranging from zero to ten - for being satisfied with the relationship, and collapsed various later values into groups if the estimated coefficient were similar in size and not statistically significantly different. The final specification distinguished between “(Very) good quality”, comprising those with answers nine or ten on the satisfaction scale, and “(Relatively) poor quality”, comprising those with answers ranging from zero to eight.

with a higher chance of intending to have another child among parents. Further analyses revealed that this is mainly due to homemakers and women on parental leave.

The estimated coefficient for short duration of the current job is not significantly associated with fertility intentions. Assuming that a short duration of the current job indicates the need for job consolidation and is negatively associated with fertility intentions, H6 is not confirmed.

Country-specific differences vary by gender. Taking Western Germany as the reference group, family plans among childless men and women do not significantly differ between Western Germany and Austria, but are significantly more often mentioned among French and Norwegian childless women. France and Norway represent countries with less traditional gender role models and a higher degree of institutionalisation of childcare. Therefore, our results support H8, which assumes that in countries with traditional gender role models and a low degree of institutionalisation of childcare the fertility intentions of female university graduates are less pronounced. Among childless men, Western Germans lie in the middle range, childbearing plans being lowest among Norwegians, although not statistically significant. The gender differences in Norway (comparably high among women and comparably low among men) are in line with research by Kravdal and Rindfuss (2008) and a recent study by Lappegard and colleagues (2013), which found a higher level of childlessness among highly educated men in Norway. In the sample of highly educated parents we find no significant differences. Once university graduates have at least one child, the intention to have another child is comparable in these countries.

Among childless people we find no gender difference in childbearing intentions. But country-specific analyses reveal that this is due to effects of opposite size. In Western Germany and Austria childless highly educated women intend to have a child considerably less often than highly qualified men (Table 3). The situation is the opposite in Norway, supporting previous research (as mentioned above). In Western Germany and Austria traditional gender role models still prevail. Thus our results support H9, anticipating that in countries with traditional gender role models highly educated women less often intend to have children compared to highly educated men. For parents, the estimated coefficient for women is negative, showing that mothers less often intend another child compared to fathers. Highly educated mothers in Germany and Austria are particularly less likely to intend to have another child than fathers (Table 3). Further analysis by parity (results available on request) reveals that men and women do not differ when intending a second child, but when intending a third or fourth child. As expected, parity is relevant, with parents with two or more children less often expressing the intention to have another child compared to those with one child. Analyses comprising university graduates with all parities

indicate that highly educated respondents plan to have a first and a second child but do not intend to have three or more children (Appendix Table A2).

Table 3
Estimated coefficients for gender differences for the intention to have a child within the next three years, by country/region

	Childless university graduates	University graduated with children
All 4 countries/region	0.03	-0.26*
Western Germany	-0.34+	-0.53
Austria	-0.44+	-0.62+
France	0.14	-0.24
Norway	0.90***	-0.04

Remark: Reference category is men. Controlled for age, parity, partner status, relationship quality, working hours and duration of current job, see Table 2.

Detailed job-related GGS data allow analysis by type of contract, distinguishing between permanent, temporary or limited employment contracts for employees on the one hand, and self-employment on the other. A model including childless people in all four countries indicates a lower risk of intending to have a child when holding a temporary contract, as compared to holding a permanent position. Country-specific analyses reveal negative coefficients for those holding a temporary contract in Western Germany and Norway, but results are not statistically significant (Table 4). Moreover, self-employed people less often intend to have a child within the next three years in Western Germany and Austria, and more often in France and Norway, but results are statistically significant only for France. Among parents, we do not find a negative association between fertility intentions for the near future or temporary contracts. Therefore, our results do not allow us to come to conclusions regarding the association between type of contract and fertility intentions. H7, which assumes that uncertain employment conditions like temporary work contracts and self-employment are associated with low fertility intentions, has to be rejected for failing to reach statistical significance. Further analyses reveal that satisfaction with job security tends to increase fertility intentions, but results are statistically significant only for Western Germany (results not shown here). Gender-specific analyses reveal no further insights, mainly due to the small sample sizes.

Table 4
Estimated coefficient for type of contract, by country/region

	Childless university graduates		
	Permanent contract	Temporary Contract	Self-employed
All 4 countries/region	0	-0.14	-0.01
Western Germany	0	-0.51	-0.44
Austria	0	0.07	-0.38
France	0	0.10	0.75+
Norway	0	-0.54	0.31

Remark: Controlled for age, gender, country, partner status, relationship quality, working hours and duration of current job, see Table 2.

DISCUSSION

The objective of this research was to study fertility intentions among university graduates in Western Germany and Austria, and extended through comparison to France and Norway. The central thesis was that uncertainties in partnership and employment have a negative effect on fertility intentions and constitute a pathway to childlessness. In this study we attempted to relate different life domains (private, work) and their temporal dimension to family formation plans in the near future. At the individual level, the multidimensional aspect of the rush hour of life was operationalised by including demographic characteristics such as age and partner status, and employment situation, combined with temporal aspects like duration of relationship and current job. Age was significantly associated with fertility intentions. According to our results, intentions were most pronounced among university graduates around the age of thirty, whereas both younger and older highly educated persons were less likely to intend to have a child in the near future. The steep decrease in intentions for the 35–40 age-group might also indicate a selection process or an adaptation to a childless personal lifestyle.

The results suggest an exceptional situation in Germany and Austria, where childless highly educated women intend to have a child in the near future significantly less often than in France and Norway. In addition, we find considerable gender-specific differences in the two German-speaking countries, with highly qualified women less often planning to have children compared to their male peers. This might be due to family policy concepts pursued in the past, when monetary child support schemes were accompanied by a lack of structural

policy for expanding public childcare, enforcing the widespread and strongly normative "homemaker/breadwinner" model (Esping-Anderson 1990).

Apart from availability and affordability, cultural norms regarding childcare and maternal employment also influence actual use of childcare services. In a comparison between French and German women, Fagnani (2002) concluded that differences between state policies should not be overestimated in explaining the persistent fertility gap between the two countries. She underlined the strong differences in women's attitudes towards childcare outside of the home. While childcare services seem to be generally accepted in France, the attitude in Western Germany is that children should not attend childcare facilities until they are at least two or even three years old (Fagnani 2002). In Norway, where use of childcare facilities for children above one year is generally accepted, there seems to be an informal norm that children should not spend too many hours in childcare (Plantenga and Remery 2009). From the life-course perspective, the labour market participation of Norwegian women may be "as natural" as child raising (Lappegard 2000, 16).

The relationship situation and presence of a suitable partner are crucial for fertility intentions. Married and cohabitating persons intend a child more often than those in a LAT relationship or persons without a partner. The degree of institutionalisation and the duration of a relationship are associated with childbearing plans, but with gender-specific differences. We found that in terms of fertility intentions, highly qualified women in short LAT are more similar to those without a partner than to those in a longer LAT. By contrast, fertility intentions among childless men are already more pronounced in the presence of a short LAT partnership. This result is relevant for future studies on highly educated men and women, in view of the increasing prevalence of LAT partnerships among highly educated people in times of high job mobility (Schneider, Limmer and Ruckdeschel 2002) .

In the rush hour of life the number of working hours is related to childbearing plans. Part-time employment of less than 30 hours is negatively associated with family formation plans of childless persons, which presumably indicates economic restrictions and an as-yet unsuccessful integration into the labour market. The association between heavy time burden and family formation plans among the childless is gender specific. The fact that intentions are less often mentioned among childless women working more than 50 hours per week indicates difficulties in reconciling family and time-intensive work. However, it might also point to strong work orientation and even reduced family orientation. Among childless men extensive overtime tends to be related to family formation plans. After a recent job change family formation tends to be of a lower priority for men, who might wish to consolidate themselves in their new vocational position, i.e. to gain a foothold in the new workplace and adapt to their new responsibilities before starting or enlarging a family.

According to our country-specific analyses, temporary contracts are related to an absence of fertility intentions for the near future among the childless in Western Germany and Norway. Furthermore, self-employed persons in Western Germany and Austria are less likely to plan to have children in the near future than employees with permanent contracts – in contrast to France, where self-employed people intend to have children significantly more often. We cannot explain if this is due to country-specific economic and legal situations of the self-employed, to persons with certain characteristics being more likely to start or take over a company, or to other reasons. Our results on temporary contracts and job security confirm that a stable and long-term vocational perspective is especially important for family formation plans in Western Germany. Further research suggests that being a parent has a strong negative earnings effect on women in Germany (Trappe and Rosenfeld 2000). The relevance of insecure employment conditions among young adults in Germany corresponds to the dominant idea of a "sequential life plan'' (Peuckert 2008, 126), according to which the family phase should only begin after completion of education, a few years of work experience and establishment of a steady and financially secure career. Based on the German Socio-Economic Panel, Kreyenfeld (2010) investigated whether uncertainties in female employment careers resulted in postponement of family formation and found differences by educational levels. Thus, more highly educated women postpone parenthood when subject to employment uncertainties, whereas those with lower levels of education often become mothers. Due to sample size we are not able to study the group of highly educated unemployed persons.

Another possibility is that people in our sample were faced with caring for elderly parents (Schlesinger and Raphael 1993; Spillman and Pezzin 2000). The concept of the 'sandwich generation' (D. A. Miller 1981), a generation caring for children and the elderly, refers mainly to middle adulthood and is not further addressed in the current study.

The central variable of this study is the intention to have a child within the next three years. Preliminary analyses (results not shown here) reveal that the current relationship and vocational situation are to a greater extent associated with fertility intentions in the near future than with overall fertility intentions, i.e. the intention to have children either within the next three years or thereafter. Moreover, from a theoretical point of view the shorter time span of three years is better suited to the concept of the rush hour and conflicting demands.

Apart from treating each variable individually in the model, we generated a composite variable which included all the variables that are associated with the rush hour of life. A scale indicating the number of predisposing factors was unfortunately not significantly associated with fertility intentions. Instead, it turned out that the inclusion of the different variables had more explanatory power.

Our study has several limitations. First, data collection of the first wave of the GGS took place between 2005 and 2008 (France and Germany: 2005, Norway: 2007/8; Austria 2008/9), and although data are comparable across countries, the different periods of data collection are related to different economic contexts. In addition, the current study does not address the political context in which the surveys were taken. For the link between economic recession and fertility we refer to other recent studies (Neels, Theunynck and Wood 2012; Örsal and Goldstein 2010; Sobotka, Skirbekk and Philipov 2011). Second, we do not have any information concerning whether individuals in our sample actually feel "rushed". Surveys like the 2002 German Socioeconomic Panel (SOEP) and the US Panel Study of Income Dynamics (PSID) do address the feeling of being rushed (Hamermesh and Lee 2007), but these data do not allow profound analyses of family formation because of lack of detailed information on fertility intentions. Third, the samples for single countries are rather small and with the inclusion of numerous variables the results fail statistical significance. Fourth, the couple perspective is important for fertility decisions (Jansen and Liefbroer 2006; Testa 2012; Testa, Cavalli and Rosina 2012; Thomson and Hoem 1998). Although the data include information on partners, relevant aspects such as partner's working hours are not captured. Moreover, questions remain as to whether the rush hour of life is a choice or a constraint, and whether less educated persons also encounter this phenomenon, possibly at different ages. In addition, the definition of the rush hour needs further elaboration, and the perception of feeling rushed presumably varies due to personal traits and might be perceived subjectively in different ways. Nevertheless, the rush hour of life could be a new approach in life-course analysis to study family formation in modern societies.

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APPENDIX

Table A1
Distribution of the variables (in per cent)

	Childless university graduates			University graduates with children		
	All	Women	Men	All	Women	Men
Age						
27–29	31	32	29	5	6	4
30–34	43	44	42	34	34	32
35–40	26	24	29	61	59	64
Country/Region						
Western Germany	29	14	17	19	22	19
Austria	15	35	22	19	20	19
France	34	34	35	35	37	35
Norway	21	17	26	27	21	27
Gender						
Male	45			38		
Female	55			62		
Partner status						
Married less than 3 years	3	2	4	2	1	4
Married 3 years and longer	12	12	11	73	72	75
Cohabitating less than 3 years	11	13	9	4	4	14
Cohabitating 3 years and longer	15	16	15	14	14	14
LAT less than 2 years	12	12	13	2	2	1
LAT 2 years and longer	12	11	13	1	1	1
No partner	35	34	36	5	6	2
Relationship quality						
(Very) good quality	81	83	83	68	68	69
(Relatively) poor quality	19	17	17	32	32	31
Working hours						
Less than 30 hours	7	9	5	16	25	3
30–34 hours	3	5	1	6	8	3
35–40 hours	41	47	35	33	29	39
41–50 hours	29	21	39	21	9	42
More than 50 hours	11	8	11	6	3	12
Not employed	9	8	8	18	27	3
Duration in the current job						
Less than 1 year	20	22	17	10	8	12
1 year and longer	71	68	74	73	65	85
Not employed	10	11	8	18	27	3
N abs. (unweighted)	772	423	349	947	589	358

Source: GGS Wave 1.

Table A2
Estimated coefficients from probit regressions for the intention to have a child within the next three years and sample distribution; model including all parities

	All	Women	Men	All	Women	Men
Age						
27–29	-0.26**	-0.27*	-0.24	17	17	16
30–34 [a]	0.00	0.00	0.00	38	39	37
35–40	-0.49**	-0.63***	-0.35**	45	44	47
Country/Region						
Western Germany [a]	0.00	0.00	0.00	17	19	16
Austria	0.14	0.06	0.32+	23	26	19
France	0.31**	0.38**	0.33*	35	36	33
Norway	0.13	0.34*	0.03	25	19	32
Gender						
Male [a]	0.00			41		
Female	-0.04			59		
Parity						
0 children	0.00	0.00	0.00	45	42	49
1 child	-0.31**	-0.26+	-0.42*	19	20	17
2 children	-1.46***	-1.50***	-1.51***	26	28	27
3 and more children	-1.98***	-2.05***	-2.04***	9	10	8
Partner status						
Married less than 3 years	0.57*	1.41*	0.29	2	1	4
Married 3 years and longer	0.22+	0.16	0.31+	46	47	43
Cohabiting less than 3 years	0.32*	0.29	0.38	7	8	7
Cohabiting 3 years and longer	0.00	0.00	0.00	15	15	14
LAT less than 2 years	-0.58***	-0.47**	-0.53*	6	6	7
LAT 2 years and longer	-0.38*	-0.41+	-0.31	6	5	7
No partner [a]	-0.80***	-0.74***	-0.87***	18	18	19
Partner quality						
(Relatively) poor quality	-0.13	-0.10	-0.13	74	73	76
(Very) good quality [a]	0,.00	0.00	0.00	26	27	24
Working hours						
Less than 30 hours	-0.26**	-0.19	-0.47+	12	18	4
30–34 hours	-0.13	0.03	-0.38	5	7	2
35–40 hours [a]	0.00	0.00	0.00	37	36	37
41–50 hours	-0.05	0.17	-0.06	25	14	40
More than 50 hours	-0.04	-0.31	0.05	8	5	12
Not employed	0.28*	0.47**	0.13	14	20	5
Duration of current job						
Less than 1 year	-0.17	-0.01	-0.32+	14	14	15
1–3 years	-0.01	0.05	-0.00	72	66	80
4 years and longer [a]	0.00	0.00	0.00	14	20	5
Constant	0.68***	0.54***	0.69**			
Pseudo R^2	0.22	0.25	0.20			
N	1,872	1,168	704	1,719	1,012	707

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.
[a] Reference category.
Source: GGS Wave 1.