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INTENTIONS AND CHILDBEARING

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Abstract

The adult life of women and men is characterised by a plurality of choices and events pertaining to different life domains. In the literature pregnancy intentions are usually studied in isolation from intentions pertaining to other spheres of life. In this research, we investigate the correspondence of birth intentions and birth outcome in a life course framework, encompassing several life domains such as partnership, education, work and residence. Using longitudinal data from the Generations and Gender Surveys in five European countries (Austria, Bulgaria, France, Hungary, and Lithuania), we examine the matching processes of individuals' childbearing intentions and subsequent outcomes paying attention to the mediating and moderating role of intentions other than childbearing. We find empirical support for the hypothesis that adults' plans are multidimensional and that the more simultaneous intentions individuals have, the less likely they are to achieve their fertility goals. Some intentions, like moving to a new dwelling, facilitate the realization of birth intentions; others, like changing a job, tend to hinder the realisation of birth intentions. Finally, individuals are more successful in achieving their fertility targets in contexts that promote a reconciliation of work and family life.

Keywords

Intentions, reproduction, life course, fertility, Europe, cross-national comparison.

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Intentions and Childbearing

Maria Rita Testa and Francesco Rampazzo

1. Introduction

The aim of this paper is to study the interconnections between fertility intentions and the broader multidimensional planning of adult individuals in other fields of life. With a few exceptions (e.g., Barber 2001; Philipov 2009), the link between intended and realised fertility has been assessed in isolation from the realisation of other life intentions. The interplay between different individual life paths may be the missing link in our understanding of why couples do not achieve their childbearing goals, why countries differ so significantly in terms of the degree to which individuals have the number of children that they want and, ultimately, in aggregate fertility.

The incompatibilities or conflicts between the roles of parent, student, and worker have contributed considerably to the decline and postponement of fertility observed in all developed countries (Gauthier 2007). The traditional sequence of family events has been replaced by a de-standardisation of the life course, which means that patterns of family formation in many countries become more and more heterogeneous and do not follow a pre-defined sequence. In the de-standardisation process, biographies become open and dependent upon decision-making, and are removed from the traditional precepts and certainties, as well as from external controls and general moral laws (Beck & Beck-Gernsheim 1995). The process goes hand in hand with the increased number of options that individuals are entitled and expect to make decisions about. The increasingly complex sequencing of the family life course requires the use of new analytical tools and methodological perspectives (Berrington, Perelli-Harris & Trevena 2015).

We address this challenge and expand the existing literature on reproductive intentions by studying the intention-behaviour link in the framework of a plurality of adult individuals' life intentions. Our major research questions are twofold: Do adult individuals form intentions in different life course domains in the same period of life? In other words, do they have a multidimensional life course plan? Which of the life course intentions other than childbearing facilitate or hinder the realisation of birth intentions? We focus on a set of alternative intentions that are available in cross-national longitudinal data and are mutually interrelated to the childbearing sphere of life and the family formation process, namely education, partnership, work and residence.

2. Theoretical Background

The life course is not yet a theory as coherent system of concepts, principles, definitions and statements empirically testable, but is based on several principles including those of historical time and place, situational imperatives, linked lives, agency, life stage, and accentuation (Shanahan and Macmillan 2008). The principle of agency refers to individuals constructing their lives courses and biographies as self-monitored actors within the particular opportunities and constraints they face, for example individuals sharing the same socio-economic background may show different paths of residential moves and occupational careers. Agency is one of the six most often used principles of life course theory. Social scientists usually refer to the concept of agency as the intrinsic human capacity to make choices and act (Giddens 1984) or as individual's resources which are brought to bear when taking action. In this latter definition agency is prone to empirical measurement and operationalized by psychological concepts like self-efficacy (Bandura 1997). The concept of agency is crucial in life course research because the process of individualization, accelerated social change, and the uncertainty of modern "risk society" (Beck 1992) have made status passages increasingly conditional and thus impose agentic behaviour upon the individual. Individuals do not merely follow institutionally pre-scheduled pathways but actively participate in societal fields like education, labour market, and family. They construct their life course as self-monitored actors within historical socio-economic circumstances. As in the view of Heinz (1996), individuals are biographical actors as opposed to a model of actors who just follow social norms or the rational actor model of subjective utility maximizing behaviour. In this interpretation, individuals pursue their own goals and biographical plans evaluating structural opportunities and institutional constraints.

In principle, to put the principle of agency to work in empirical research praxis rational choice theory or any other theory of action may be applied. In this paper, we focus on the Theory of Planned Behaviour (Ajzen 1991) because it has been operationalized in the Generations and Gender Surveys (GGS). The crucial analytical concepts for translating the sociological life course approach into empirical research are "transition" and "trajectory". Transitions are changes in state that are more or less abrupt life, for example from being employed to unemployed or from being childless to being with one child; trajectories are marked by a sequence of life events and transitions for example the entire occupation career or reproductive history (Elder 1985). The main emphasis of the paper is on life course transitions because examining the entire trajectories would require long-term longitudinal data that are not available for the countries selected in this analysis, i.e., Austria, Bulgaria, France, Hungary and Lithuania.

The life course approach emphasises the salience of the historical and social contexts for the interaction of related careers (Mayer 2004). Life course development is analysed as the outcome of personal characteristics and individual actions, as well as of cultural frames and

institutional and structural conditions relating to the micro, meso, and macro levels of analysis.

The theory of planned behaviour (TPB) proposed by Ajzen in 1991 has already been implemented and tested in studies on reproductive intentions (Billari, Philipov & Testa 2009; Ajzen & Klobas 2013; Dommermuth, Klobas & Lappergård 2011; Mencarini, Vignoli & Gottard 2014), though some scholars have critically argued that childbearing cannot be merely seen as an outcome of a reasoned action (Morgan & Bachrach 2011). Some scholars have extended this theoretical framework to include attitudes that compete with childbearing such as: educational attainment, professional career development, and consumption spending (Barber 2001; Barber, Axinn & Thornton 2002; Barber & Axinn 2005). In the TPB, intentions are defined by three main groups of factors: attitudes towards the behaviour, the perceived norms formed under the influence of social pressure and the perceived behavioural control which is the extent to which persons can exercise control over factors that have a major influence on the behaviour. The concept of perceived behavioural control is very close to that of self-efficacy proposed by Bandura (1997). According to the TPB, an intention to perform behaviours other than childbearing is an external factor that may influence the intention to have a child. Moreover, a preference for the realisation of one of the competing intentions depends on how strong the intentions are (i.e. their relative strength). The stronger the intention to have a child, the higher the chances that it will be realised, controlling for other intentions. Using US longitudinal data, Barber (2001) provided evidence that attitudes towards alternative behaviours are background factors that influence the three blocks of determinants of childbearing intentions in the TPB. In a similar perspective, Philipov (2009) showed that in Bulgaria the intention to pursue higher education competes with childbearing, whereas the intention to enter employment, or the status of actually being employed, facilitates the realisation of childbearing intentions. The studies by Barber (2001) and Philipov (2009) both predict that competing life domains will influence the paths through which childbearing intentions are translated into actual behaviour. The first study (Barber 2001) assumes, however, that the mechanism of influence works mainly through the formation of new attitudes affecting childbearing intentions while the second study (Philipov 2009) supposes a direct influence of competing intentions on both birth intentions and realisation of birth intentions. We take this latter approach and expect that intentions other than childbearing influence reproductive behaviour directly. We do not exclude that there could also be a path of influence derived from alternative attitudes forming alternative intentions but we do not consider it in the current analysis.

When two events in different life domains compete against each other and cannot be realised at the same time, the individual may decide to either give up definitively on one of them, or establish a temporal order between them through the life course. The conflict between events resolves sometimes spontaneously over the course of life. For example, being enrolled in education is conflicting with the formation and the realization of pregnancy

intentions at the early reproductive ages but later on, once the transition to parenthood has already been made, the intention to resume studies can be complementary with birth intentions and birth outcomes. In the life course theory, the different domains of life and the decision-making processes that govern transitions to different life states are assumed to be interrelated. Education, partnership, childbearing, work, and residence are examples of different 'careers' that are simultaneously present in a person's life. Each of these careers consists of a number of transitions, or changes of state, and the durations (length of time) between these transitions will vary (Elder 1985; Elder, Johnson & Crosnoe 2003). The risk of a given event depends on the individual's current status as a student, partner, parent, employee, and resident and on the number of events that have already occurred (Willekens 1999). Moreover, events in one career can hinder, enable, delay, or anticipate events in others, a phenomenon known as 'interdependencies of parallel careers' (Dykstra & van Wissen 1999). The organization of one's own life course implies the existence of a complex decision-making process (Blossfeld et al 2005) in which intentions are a main component. Hence, while looking at the intersection of individuals' life spheres we consider the events happening in each of these spheres as an outcome of previously made decisions. A cross-national comparative perspective is warranted because the way individuals organize the temporal sequence in ordering their life goals and events depends on national welfare systems as well as differing cultural and institutional contexts (Billari & Philipov 2004).

3. Research Hypotheses

The interaction between different life domains is complex and multiple roles often constitute a challenge for the fulfilment of reproductive intentions. Lifestyles associated with globalisation often include a large number of competing life goals (Blossfeld et al 2005). We expect that the *intention to enter a cohabiting union, or to marry, are associated positively with the chance of realizing pregnancy intentions; hence they facilitate childbearing* since being in a partnership is still an important pre-condition of having children (Schoen et al. 1999), whether or not this partnership is formalised with a marriage (Hiekel & Castro-Martin 2014) (Hypothesis 1).

We suppose that *the intention to complete studies facilitates the realization of pregnancy intentions while the intention to resume studies is detrimental to the realization of pregnancy intentions* because studying and rearing children are tasks often incompatible and difficult to be reconciled (Blossfeld & Huinink 1991; Billari & Philipov 2004) (Hypothesis 2).

We anticipate that *the intention to start work* and *the intention to change jobs facilitate the realisation of birth intentions if they are expressed in conjunction with birth intentions*. Work competes with childbearing because of opportunity costs, which are normally higher for women than for men, because in most couples and societies mothers carry out most of the

household and childcare duties (Thomson & Brandreth 1995). However, work earnings constitute an essential component of financial support for the family and, as such, being in employment or starting work could facilitate childbearing (Pailhé 2009). Similarly, changing job may be associated with individual aspirations for career advancement which negatively influences childbearing (Philipov 2009), but it could also mean a change towards a more accommodating and less demanding job that enables childbearing (e.g. a switch from a full-time to a part-time job). The competition between work and family choices depends on how these two spheres of life are combined together by couples in different institutional, cultural and normative contexts (Gauthier, Emery, & Bartova 2016). We assume that work intentions are aimed at reaching a better balance between work and family life if formulated in conjunction with birth intentions, and are more driven by career ambitions (thus competing with childbearing) if formulated in the absence of childbearing intentions (Hypothesis 3).

We expect that *the intention to change residence is positively associated with the realisation of pregnancy intentions hence facilitates childbearing*. A move to another municipality, or a change of dwelling in the same municipality, is often associated with an attempt to improve one's socio-economic status. In particular, the change of a dwelling often occurs with the intention of residing in a bigger flat or house, which is likely to create suitable conditions for childbearing or, it was planned already with the idea to expand the family (Hypothesis 4).

Finally, we anticipate that *men and women living in countries that offer some support to the reconciliation of work and family life are more likely to achieve their childbearing goals* if competition rises between childbearing and work life intentions (Hypothesis 5).

4. Data, Measures and Models

We used two follow up waves of the GGS for five European countries including Austria, Bulgaria, France, Hungary and Lithuania. The GGS are part of an international programme, hence they are based on an internationally harmonised questionnaire and are suitable for cross-national comparative analyses (Vikat et al. 2007). The national surveys took place in different years within the period 2003-2013, and the inter-survey period was three years in France, Lithuania and Bulgaria and four years in Austria and Hungary. We selected only men and women of reproductive ages (18-49 years) who reported valid answers to the questions on short-term fertility intentions at the first round of the survey, resulting in 16,605 individuals in the pooled country dataset. Bulgaria and Hungary are the most represented countries while Austria and France take an intermediate position and Lithuania is under-represented (Table 1).

While it is to be hoped that the current selection of countries could be expanded to include countries from Southern and Northern Europe, we are reassured by the fact that countries

with different family policies and institutional contexts are present in the available set: three countries from Eastern Europe (Bulgaria, Hungary and Lithuania), one country from central Europe (Austria), and one country from Western Europe (France). In Austria a male breadwinner model is still prevalent while part-time is the most frequent solution adopted by mothers to combine work and family responsibilities. In Bulgaria, Hungary and Lithuania, the dual breadwinner model is very common because of the traditionally high female labour force participation but is usually not coupled with gender equality in the family. In France, the dual breadwinner model is promoted by the presence of a large child care structure which enables working women to outsource childcare work.

In the models the birth of a child, as measured retrospectively at the time of the second survey, is the outcome variable. Respondents re-interviewed at the second wave were asked about childbirth occurring in the period between the surveys ("Did you have a child in the last three years?"). The consistency of this variable has been cross-checked with information coming from the household grid questionnaire items from which we could recover the date of birth of each family member. Women already pregnant at the time of the first survey were excluded from the analysis; thus, intended births are expected to occur at least nine months after the date of the first survey.

The intention to have a child, as measured at the time of the first survey, is the key explanatory variable. The survey question is phrased as follows: "Do you intend to have a child in the next three years?", with four response options listed: *Definitely Yes*, *Probably Yes*, *Probably Not*, *Definitely Not*. The same set of response options was included in the questions related to the other intentions which are phrased as follows: "Do you intend to finish education in the next three years?"; "Do you intend to resume studies in the next three years?"; "Do you intend to start living with a partner in the next three years?"; "Do you intend to marry in the next three years?"; "Do you intend to change company or start a business in the next three years?"; "Do you intend to take a job or start a business in the next three years?"; "Do you intend to move in the next three years?", where move stands for a general change of residence whether in the same municipality or not. For the sake of simplicity, all intentions variables were coded on a binary scale grouping 'Probably and Definitely Yes' answers and 'Probably and Definitely Not' answers together. This choice was imposed by the circumstance that some countries, like Hungary, did not code childbearing intentions in a four categorical scale but just on a binary scale.

Questions on intentions were not asked to all individuals but only to respondents who could be subject to experience the intended event (ex. singles who could intend to marry or start a cohabitation). For the sake of simplicity, in the dummy variables indicating whether the intention we contrasted those who intended to live an event with a category grouping together those people not been asked at all with those reporting a negative answer. This latter group was considered with a separate dummy only if the related effect on the outcome was statistically significantly different from those reporting a negative answer.

The control variables include age, gender, educational attainment (partner's educational attainment), marital status and employment status (partner's employment status). All variables were considered as measured at the time of the first survey. Country dummies were added into the models in order to estimate the cross-national variance in the probability of having a birth. The distribution of these variables is reported in Table 1. We also included a dummy variable to control for the fact that the length of the inter-survey period was longer in Austria and Hungary than in the other countries (four years rather than three years) and an interaction term with the intention to have a child. We did not retain these covariates in the final models because they were never statistically significant, meaning that the different time span between the waves did not influence the likelihood to have a child in the period nor the predictive power of birth intentions.

We ran the logistic regression model only on background variables (Model 1), then we added birth intention variables (Model 2), and all other intentions variables (Model 3); finally, a full model with all pairs of interactions between birth intentions, on one side, and other intentions, on the other side (Model 4) was estimated. Interaction terms were included one by one. To check the robustness of the results, we also performed the same models on a sample stratified by parity, considering childless and parents separately. This is a strategy largely used in the literature to take into account that factors driving the decision to have a first child are different from factors predicting the decision to have an additional child. The estimates of these models are reported in the appendix.

Table 1 – Description of variables used in the regression analysis. Percentage values.

Variable	Description	Parity 0	Parity 1+
Childbirth	Have a birth between wave 1 and 2	14.37	9.46
Intentions in childbearing	Intend to have a child	39.27	16.74
Intentions in partnership	Intend to marry	18.87	6.23
	Intend to enter a cohabiting union	29. 48	3.52
Intentions in work life	Intent to start working	10.66	10.55
	Intend to change a job	20.23	12.57
Intentions in education	Intend to complete studies	13.03	7.56
	Intend to resume studies	11.37	0.27
Intention in residence	Intend to change residence	37.88	17.55
Age	Average age	27,9 (7.2)	37,2 (6.6)
Gender	Female	45.43	60.56
	Male	54.57	39.44
Educational attainment	Low ISCED 0-2	12.18	18.50
	Medium ISCED 3-4	63.61	59.91
	High ISCED 5-6	24.21	21.59
Partner' educ. attainment	Low ISCED 0-2	12.78	18.85
	Medium ISCED 3-4	64.81	58.00
	High ISCED 5-6	22.41	23.15
Employment status	Employed	63.37	71.83
	Unemployed	11.49	11.92
	Housework	0.34	12.46
	Student	20.88	0.32
	Other	3.93	3.47
Partner's employment status	Employed	63.61	14.59
	Unemployed	3.02	9.26
	Housework	0.31	9.08
	Student	5.43	0.33
	Other	27.63	66.75
Countries	Austria	23.5	18.11
	Bulgaria	26.1	35.80
	France	17.4	19.80
	Hungary	28.3	19.52
	Lithuania	4.7	6.77
Sample size		6,146	10,441

Note. The category "other" in the employment status includes retired, unable to work, military, and those who indicated 'other' as answer to the related survey question. This category is relatively large for partner's employment status because it includes also those cases for which information was not available.

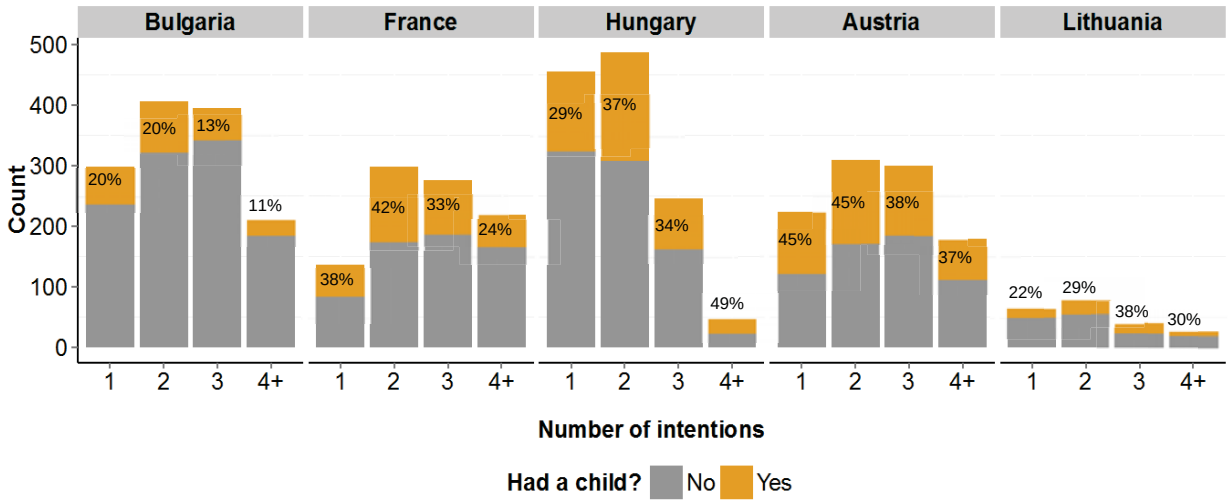
5. Results

5.1. Descriptive Analysis

The intention to have a child often co-exists with intentions pertaining to other life domains: In the pooled countries dataset only a quarter of individuals reported solely a birth intention (25%). In most cases childbearing intentions were combined with other life plans, either one other intention (34%), or two more intentions (27%) or three or more intentions (15%). The shares of those expressing only a birth intention are higher in Hungary (37%) and lower in France (15%); they are 22% in Austria and Bulgaria and 30% in Lithuania. Childless individuals were more likely to state a plurality of intentions (85%) than parents (66%), and women reported more often multiple intentions than men (76% versus 65%). The second intention is either an intention to move, to marry or enter a cohabiting union, or to change job or start working (each of them being reported by around 30% of the individuals), while intentions in education are less frequent (10%).

Overall, the ranking of the countries in terms of successful implementation of birth intentions is consistent with the results of previous studies (Kapitány & Spéder 2013; Buber-Ennser, Neuwirth & Testa 2014; Spéder & Kapitány 2014). Going from the lowest to the highest share of realisation, countries can be arranged as follows: Bulgaria, Lithuania, Hungary, France and Austria. Interestingly, multi-dimensional life goals do not hinder the realisation of childbearing intentions: Individuals reporting multiple intentions do not experience less often the birth of a child than individuals stating only a birth intention. By contrast, in some countries childbirth occurs more often if childbearing intentions are combined with another intention than if they are stated alone, like in France (42 vs 38%), Hungary (37 vs 29%) and Lithuania (29 vs 22%) (Figure 1). This empirical evidence suggests that multiple decision-making do not necessarily hinder childbearing. In the next section, we perform a multivariate analysis to see whether this result holds true while controlling for a set of background variables.

Figure 1 - Realisation of birth intentions in presence of a plurality of alternative intentions



Note. Absolute numbers are reported on the y-axis; thus, the height of the bars corresponds to the number of individuals reporting a given number of intentions, i.e., 1, 2, 3 or 4+. The share of success in realizing birth intentions is reported in the upper part of the bars (in orange colour). Only individuals with positive childbearing intentions are selected in this analysis.

5.2. Logistic Regression Analysis

Birth intentions are highly predictive of birth outcomes: Individuals who intended to have a child three years earlier are more likely to have had a child than individuals who did not intend to have one (beta is equal to 1.623; see Model 2, Table 2. The magnitude of this effect remains almost unchanged once we added the full set of intentions variables in the model (see Model 3, Table 2).

Table 2: Logistic regressions on having a child. Background variables. Beta coefficients.

			MODEL 1	MODEL 2	MODEL 3
Constant			-10.22	-9.934***	-9.782***
			(0.705)	(0.711)	(0.734)
Age	Age		0.603***	0.410***	0.393***
			-0.046	-0.047	(0.047)
	Age ^ 2		-0.011***	-0.008***	-0.008***
			0.000	(0.001)	(0.001)
Gender	(Ref. Male)	Female	-0.0698	-0.0804	-0.0705
			(0.063)	(0.065)	(0.065)
Parity	(Ref. Childless)	Parents	-0.776***	-0.268***	-0.268***
			(0.084)	(0.086)	(0.086)
Marital status	(Ref. Single)	Cohabiting	0.951***	0.778***	0.804***
			(0.115)	(0.117)	(0.161)
		Married	0.899***	0.810***	0.878***
			(0.121)	(0.121)	(0.155)
Education	(Ref. Medium)	Low education	0.134	0.127	0.116
			(0.143)	(0.149)	(0.150)
		High Education	-0.186**	-0.305***	-0.302***
			(0.089)	(0.093)	(0.094)
Partner's education	(Ref. Medium)	Low education	0.056	0.067	0.0805
			(0.483)	(0.507)	(0.509)
		High education	-0.181*	-0.153	-0.151
			(0.110)	(0.116)	(0.116)
Employment	(Ref. Employed)	Unemployed	0.168*	0.217**	0.0522
			(0.092)	(0.096)	(0.308)
		Not active	0.450***	0.470***	0.337***
			(0.092)	(0.097)	(0.119)
		Enrolled in education	-1.128***	-0.784***	-0.995***
			(0.146)	(0.150)	(0.237)
		Other	-0.432**	-0.327*	-0.435**
			(0.188)	(0.195)	(0.207)
Partner's employment	(Ref. Employed)	Unemployed	0.417***	0.272*	0.187
			(0.148)	(0.152)	(0.155)
		Not active	1.067***	0.804***	0.735***
			(0.145)	(0.149)	(0.153)
		Enrolled in education	0.226	0.187	0.114
			(0.181)	(0.191)	(0.197)
		Other	0.415***	0.188*	0.125
			(0.110)	(0.112)	(0.117)
Country	(Ref. Bulgaria)	Austria	0.984***	1.126***	1.170***
			(0.084)	(0.088)	(0.091)
		Hungary	0.544***	0.486***	0.421***
			(0.126)	(0.131)	(0.134)
		France	0.818***	1.017***	1.200***
			(0.078)	(0.081)	(0.152)
		Lithuania	0.537***	0.565***	0.597***
			(0.135)	(0.142)	(0.145)

Table 2 (Cont.): Logistic regressions on having a child. Intentions variables. Beta coefficients.

		MODEL 1	MODEL 2	MODEL 3
Birth intention		-	**1.623*** **	**1.582*** **
			(0.056)	(0.0609)
No at risk to enter a cohabiting union		-	-	-0.262
				(0.163)
Intention to enter a cohabiting union		-	-	0.0621
				(0.130)
Intention to marry		-	-	0.0351
				(0.0922)
No at risk to resume studies		-	-	**0.283** **
				(0.132)
Intention to resume studies		-	-	0.00461
				(0.146)
Intention to complete studies		-	-	0.313
				(0.290)
No at risk to change a job		-	-	**-0.174** *
				(0.0924)
Intention to change a job		-	-	-0.140
				(0.105)
Intention to start to work		-	-	0.0224
				(0.304)
Intention to change residence		-	-	**0.314*** **
				(0.0611)
Sample size		16,605	16,605	16,605
	R-squared	0.180	0.247	0.251
	AIC(own)	0.581	0.534	0.533
	R2/AIC	0.310	0.463	0.471

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in brackets.

Among the intentions pertaining to life domains other than childbearing, we found a positive effect of intending to enter a union, to marry, to complete studies, and to change residence on having a child. Only the intention to move has a statistically significant main effect, while the other alternative intentions do not have a statistically significant effect. Interestingly, when interacted with birth intentions the main effects of all alternative intentions become statistically significant with the only exception of the intention to complete studies (Table 3).

In some cases, the presence of intentions other than childbearing attenuates the predictive strength of birth intentions on birth outcomes. Hence, intending to enter a union and to marry weakens the effect of childbearing intentions on reproductive outcome (Table 3). This is because the negative sign of the interaction term reduces the main positive effect of these two intentions. In other cases, life course intentions other than childbearing, like resumption of studies or change of residence, strengthens the effect of birth intentions on birth outcomes. This is either because the positive interaction term more than counterbalances the main negative effect of the competing intention (e.g. resumption of studies) or because the negative interaction term is smaller than the main (positive) effect of the alternative supporting intention (e.g. change of residence). Here the adjectives 'competing' and 'supporting' refer to the positive or negative sign, respectively, of their association with birth outcomes. The former hinders childbearing the latter facilitates it. Finally, intentions related to the work life (i.e., the intention to change a job and to start working) have only a moderating effect on childbearing. These intentions do not have any mediating effect on birth outcomes, as suggested by the lack of statistical significance of their main effect, but they just attenuate the predictive power of birth intentions on birth outcomes. This effect is positive for the intention to start working and negative for the intention of changing a job.

Table 3: Interaction effects of life course intentions on childbirth.

To have a child & to enter a cohabiting union		
Birth	Union	Joint effect
Yes	No	+1.723***
No	Yes	+0.625***
Yes	Yes	+1.489***
To have a child & to marry		
Birth	Marriage	
Yes	No	+1.647***
No	Yes	+0.365**
Yes	Yes	+1.580***
To have a child & to resume studies		
Birth	Resumption of studies	
Yes	No	+1.328***
No	Yes	-0.327
Yes	Yes	+1.512**
To have a child & to change a job (not at risk)		
Birth	Change a job	
Yes	No	+1.505***
No	Yes	-0.329
Yes	Yes	+1.449 **
To have a child & to start working		
Birth	Start working	
Yes	No	+1.615***
No	Yes	+0.176
Yes	Yes	+1.484*
To have a child & to change residence		
Birth	Move	
Yes	No	+1.658***
No	Yes	+0.434***
Yes	Yes	+1.875*

Note: Joint effects are computed by adding the main effect of the two single variables to their interaction effect. Intention to complete studies is not displayed because of lack of statistical significance. Estimates are based on Model 4 which includes interaction terms of pairs of intentions one by one.

As far as the control variables are concerned, we found that the chance to have a child in the inter-survey period increases with age, though at a decreasing pace, and is lower for parents than for childless people, once all other variables are controlled for. Moreover, it is higher for individuals who cohabit or are married (beta are equal to +0.951 and +0.899, respectively) than for individuals who are single or have a partner with whom they do not cohabit (reference category). The likelihood of having a baby is lower for individuals who are highly educated (beta is equal to -0.186) than for individuals with a medium level of education (reference category) and is lower for individuals who are still enrolled in education (beta is equal to -1.128) than for those who have already completed their studies (reference category). Childbirth is more often experienced by people who are not active in the labour force or are unemployed (betas are equal to +1.067 and +0.417 respectively) than for people who are employed (reference category). Finally, births are more frequently observed in Austria, France, Hungary and Lithuania (betas are equal to 0.984, 0.818, 0.544, and 0.537 respectively) than in Bulgaria. The effect of these control variables is robust to the inclusion of the intentions variables and their interaction terms.

Most of the results related to the control variables are confirmed when we run the same analysis stratifying the sample by parity or by gender (Table A1). The major difference concerns the statistical significance and the magnitude of the regression coefficients while the association either positive or negative is the same as in the model run on the pooled dataset by parity and gender. Women are more likely to have a first child than men but they are less likely to make the transition to a higher birth order child than men. The negative effect of a high educational level on childbirth is statistically significant only in the models run on men or on childless individuals (Table A1). The employment status matters more for the transition to a second child and the partner's employment status matters more for the transition to a first child. Unemployment status is positively associated with childbirth among women but not among men.

Finally, the analysis stratified by parity or by gender suggests that childbearing intentions are more predictive of birth outcomes if they refer to the second or higher birth order child than to the first child, and that women can anticipate better than men their behavioural outcome (Table A2).

6. Concluding Remarks

This analysis focused on the correspondence of birth intentions and birth outcomes in the presence of multiple life goals. The major aim was to understand whether individuals' intentions formed in different fields of life and expressed at the same time of birth intentions facilitate or hinder the realisation of childbearing plans. We selected life domains closely interrelated with family formation for which short-term plans were known in the data:

education, partnership, work and residence. Using cross-country longitudinal data from the GGS for Austria, Bulgaria, France, Hungary and Lithuania we demonstrated that birth intentions are more predictive of birth outcomes if they do not co-exist with other life course goals. However, intentions in other life course domains are not necessarily competing with birth intentions: some of them actually facilitate the achievement of childbearing outcomes, such as moving to another dwelling, while other intentions are compete with childbearing intentions, such as resuming studies or changing jobs.

The GGS data provide support for the positive influence of the intentions to get married and to start a cohabiting union on childbearing, though these intentions do mainly exert a moderating effect as they become statistically significant only if interacted with birth intentions (Hypothesis 1). This result indicates that the choices of marrying or starting to cohabit are not necessarily instrumental to childbearing but they can facilitate it if they are made in conjunction with childbearing plans, as a part of a larger plan to form a family.

We did not find any robust association between intention to complete studies and birth intentions or birth outcomes, as shown by either the main or the interaction effect. Only a few individuals in the available sample were still enrolled in education at the time of the first survey and were in a position to report the intention to finish studies. Furthermore, the expected negative association between the intention to resume studies and birth intentions could not be fully confirmed with the data at hand: while resumption of studies has a negative impact on birth outcomes the effect turns out to be positive if the intentions are interacted with birth intentions (the positive interaction term between these two variables) (Hypothesis 2). This result may suggest that the incompatibility between studying and rearing children exists only for young adults who have not yet completed their studies but not for those, presumably older, who re-enter the education system later at a different stage of their life course.

The data do not provide any strong evidence in favour of either the incompatibility between work and childbearing intentions or the complementarity of them (Hypothesis 3). The intention to start work has a positive effect on childbearing, though not statistical significant, but the interaction effect with birth intentions is negative and statistically significant which attenuates the positive link between birth intentions and birth outcomes. This piece of evidence points out at potential delaying effects in realising childbearing plans if they co-exist with work life plans. The picture changes when the intention to change a job is considered; this variable has a main negative effect on childbearing which becomes positive if interacted with birth intention. This result signals that a work life change is planned more often towards an arrangement more favourable to childbearing if it co-exists with a birth intention.

Finally, the data confirm a positive effect of the intention to change residence on childbearing (Hypothesis 4). The effect is both a mediating and moderating effect, as suggested by the statistical significance level of both the main and the interaction terms. This

piece of evidence signals that individuals' plans of moving to another dwelling, whether or not in the same municipality, are correlated with childbearing and facilitate the implementation of childbearing plans. We could speculate that this intention is formed in view of a larger plan to form a family and that changing the residence is instrumental for the realisation of such a life goal.

The cross-country dummies show that France is the country in which childbirth is more likely. This ranking supports the hypothesis that a successful fulfilment of stated reproductive intentions is more likely in countries facilitating the reconciliation of work and family life than in countries, like Austria, in which such reconciliation co-exists with the prevalence of a traditional male breadwinner model (Hypothesis 5).

In this scientific contribution we have expanded the existing literature (Barber 2001; Philipov 2009) by looking at a plurality of intentions in different life domains and estimating their impact on the pathway from birth intentions to birth outcome. Such an analysis combines a cross-national comparison with a short-term longitudinal setting and extends the range of intentions other than childbearing in respect to previous studies.

It is to be hoped that the results will eventually be expanded to additional countries and over time as soon as the GGS longitudinal data become available for other countries and additional follow-up waves. A longer period of observation could help to shed light on the conditional structure of multiple intentions and detect the differences in the chance of success in the realisation of intentions depending on the priority given to each given specific life goal.

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APPENDIX

Table A1 - Logistic regression models on having a child. *Model 1* with all but intentions covariates.

Variables			Parity 0	Parity	Male	Female
Constant			-1,032	-1,104	-1,004	-11.99*** -1,077
Age	Age		0.637*** (0.0708)	0.257*** (0.0684)	0.612*** (0.0640)	0.770*** (0.0740)
	Age ^ 2		-(0.001)	-(0.001)	-(0.000)	-0.015*** (0.001)
Gender	(Ref. Male)	Female	0.233*** (0.082)	-(0.099)		
Parity	(Ref. Childless)	Parents			-(0.124)	-0.730*** (0.113)
Marital status	(Ref. Single)	Cohabiting	0.644*** (0.133)	0.578*** (0.215)	1.297*** (0.180)	0.633*** (0.150)
		Married	1.258*** (0.149)	0.421** (0.204)	1.214*** (0.190)	0.644*** (0.157)
Education	(Ref. Medium)	Low education	0.203 (0.271)	0.00818 (0.173)	0.0790 (0.216)	0.253 (0.195)
		High Education	-0.320** (0.149)	-0.0813 (0.114)	-0.269** (0.128)	-0.178 (0.125)
Partner's education	(Ref. Medium)	Low education	-0.432 -1,244	0.186 (0.537)	0.418 (0.716)	-0.296 (0.664)
		High education	-0.275 (0.267)	-0.161 (0.125)	-0.165 (0.151)	-0.287* (0.161)
Employment	(Ref. Employed)	Unemployed	0.0818 (0.138)	0.225* (0.128)	0.109 (0.133)	0.261** (0.128)
		Not active	0.329 (0.541)	0.509*** (0.105)	1.566*** (0.503)	0.474*** (0.104)
		Enrolled in education	-(0.159)	-0.339 (0.496)	-(0.289)	-1.097*** (0.176)
		Other	-0.639** (0.274)	-0.127 (0.267)	-0.527** (0.259)	-0.264 (0.278)
Partner's employment	(Ref. Employed)	Unemployed	0.960*** (0.212)	-0.282 (0.226)	0.145 (0.226)	0.481** (0.198)
		Not active	1.106** (0.551)	0.246 (0.208)	0.734*** (0.197)	1.498** (0.713)
Partner's employment		Enrolled in	0.410** (0.208)	0.704 (0.432)	0.261 (0.235)	0.283 (0.312)
		Other	0.745*** (0.132)	-0.141 (0.186)	0.236 (0.175)	0.464*** (0.143)
Country	(Ref. Bulgaria)	Austria	0.446*** (0.124)	1.361*** (0.117)	0.906*** (0.125)	1.069*** (0.114)
		Hungary	-0.0320 (0.203)	0.931*** (0.166)	0.281 (0.184)	0.675*** (0.175)
		France	0.518*** (0.118)	0.992*** (0.107)	0.752*** (0.113)	0.856*** (0.108)
		Lithuania	0.588*** (0.206)	0.433** (0.188)	0.371* (0.199)	0.656*** (0.185)
Sample size						
	R-Squared		6.164	10.441	7.482	9.123
	AIC(own)		0.170	0.217	0.169	0.210
	R2/AIC		0.690	0.494	0.600	0.555

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in brackets

Table A2 - Logistic regression models on having a child. *Model 2* with all covariates.

Variables			Parity 0	Parity 1+	Male	Female
Birth intention			1.128***	1.817***	1.468***	1.677***
			(0.0923)	(0.0803)	(0.0867)	(0.0828)
Constant			-	-	-	-11.70***
			-1,040	-1,156	-1,008	-1,088
Age	Age		0.454***	0.253***	0.422***	0.560***
			(0.072)	(0.071)	(0.065)	(0.075)
	Age ^ 2		-	-	-	-0.011***
			(0.001)	(0.001)	(0.000)	(0.001)
Gender	(Ref. Male)	Female	0.164**	-		
			(0.0836)	(0.103)		
Parity	(Ref. Childless)	Parents			-0.298**	-0.245**
					(0.127)	(0.116)
Marital status	(Ref. Single)	Cohabiting	0.568***	0.511**	1.105***	0.496***
			(0.136)	(0.221)	(0.182)	(0.153)
		Married	1.123***	0.465**	1.097***	0.587***
			(0.151)	(0.210)	(0.191)	(0.158)
Education	(Ref. Medium)	Low education	0.173	0.0366	0.0469	0.279
			(0.274)	(0.183)	(0.222)	(0.205)
		High Education	-0.309**	-	-0.320**	-0.348***
			(0.154)	(0.121)	(0.133)	(0.133)
Partner's education	(Ref. Medium)	Low education	-0.636	0.242	0.527	-0.349
			-1,244	(0.570)	(0.754)	(0.697)
		High education	-0.253	-0.156	-0.194	-0.172
			(0.275)	(0.134)	(0.158)	(0.170)
Employment	(Ref. Employed)	Unemployed	0.0862	0.338**	0.162	0.307**
			(0.141)	(0.134)	(0.138)	(0.134)
		Not active	0.363	0.589***	1.484***	0.494***
			(0.558)	(0.111)	(0.526)	(0.110)
		Enrolled in education	-	-0.382	-	-0.680***
			(0.162)	(0.538)	(0.294)	(0.182)
		Other	-0.535*	-0.0443	-0.441*	-0.127
			(0.278)	(0.277)	(0.266)	(0.291)
Partner's employment	(Ref. Employed)	Unemployed	0.838***	-0.398*	0.0608	0.327
			(0.217)	(0.234)	(0.229)	(0.207)
		Not active	0.992*	0.132	0.525***	1.280*
			(0.551)	(0.216)	(0.200)	(0.739)
		Enrolled in education	0.293	0.875*	0.217	0.179
			(0.214)	(0.464)	(0.245)	(0.333)
		Other	0.543***	-0.327*	0.0237	0.264*
			(0.135)	(0.192)	(0.177)	(0.147)
Country	(Ref. Bulgaria)	Austria	0.699***	1.355***	1.060***	1.196***
			(0.129)	(0.124)	(0.130)	(0.120)
		Hungary	0.110	0.673***	0.347*	0.522***
			(0.206)	(0.175)	(0.190)	(0.183)
		France	0.774***	1.110***	0.976***	1.014***
			(0.122)	(0.113)	(0.117)	(0.113)
		Lithuania	0.734***	0.365*	0.439**	0.658***
			(0.211)	(0.198)	(0.207)	(0.194)
Sample size			6.164	10.441	7.482	9.123
	R-Squared		0.201	0.298	0.225	0.279
	AIC(own)		0.665	0.444	0.561	0.508
	R2/AIC		0.303	0.671	0.401	0.549

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in brackets

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