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# Educational differentials in cohabitors' marriage intentions at different childbearing stages in seven European countries

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# Abstract

Several studies have looked into the socio-economic gradients of cohabitation and non-marital fertility. According to the theory of the Second Demographic Transition, highly educated individuals can be considered as forerunners in the western European spread of non-marital family forms after the 1970s. In central and eastern Europe (CEE), however, research has provided evidence for a Pattern of Disadvantage where those with the lowest education have been the most likely to adopt such family forms. Hitherto, few studies have considered the educational gradient of the intentions underlying these behaviours. This contribution uses information on marriage and fertility intentions from the Generations and Gender Surveys for seven European countries to assess educational differentials. In western Europe we observe no strong educational gradients in marriage intentions at any childbearing stage (before, during or following). In CEE countries, however, less educated cohabitors more frequently choose for cohabitation during childbearing.

**Keywords:** unmarried cohabitation – intentions – marriage – family formation – Second Demographic Transition – Pattern of Disadvantage

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# 1. Introduction

Following the rise of post-marital cohabitation, new types of cohabitation came to the fore in western Europe in the 1970s. Direct marriage declined dramatically and living together before marriage became widespread. Whereas pre-marital cohabitation initially emerged as a childless co-residence between partners (Kiernan 2004), western Europe soon witnessed an increasing share of births occurring within cohabitation (Perelli-Harris et al. 2012). Nowadays, couples not only cohabit as a prelude to marriage, but may also opt for cohabitation as an alternative to marriage (Heuveline and Timberlake 2004; Hiekel, Liefbroer, and Poortman 2014). Several authors have interpreted the growing prevalence of cohabitation and rising non-marital fertility in western Europe as a key feature of a Second Demographic Transition (SDT), reflecting individual autonomy as a central value in life (Lesthaeghe and Surkyn 1988; 2002). The SDT framework therefore posits a positive correlation between post-modern value-orientations and changing family forms. Most central and eastern European (CEE) countries, in contrast, witnessed increasing unmarried cohabitation and non-marital births only in the late 1980s and early 1990s (Kostova 2007; Zakharov 2008). Despite the recent changes in family trends, several authors argue that CEE countries have mostly maintained traditional family forms (Kostova 2007). Recent studies suggest that cohabitation and non-marital childbearing in CEE countries are more frequently prevalent among the lower socio-economic strata, reflecting economic constraints (Perelli-Harris and Gerber 2011; Potârcă et al. 2013; Spéder 2005). Longterm cohabitation and non-marital childbearing may hence mirror impoverishment as well as cultural emancipation (Perelli-Harris et al. 2010).

Several studies have looked into the socio-economic gradient of family behaviours in different parts of the world (Hobcraft and Kiernan 2001; Perelli-Harris and Gerber 2011; Perelli-Harris et al. 2010; Ventura 2009). However, marital behaviour may not necessarily reflect individuals' views on marriage. For instance, cohabiting partners with a disadvantaged background may still want or intend to form a conjugal family but feel they lack the required resources to realize marriage plans (Gibson-Davis et al. 2005). Rather than considering intentions as a proxy for behaviour, our analysis addresses short-term marriage and childbearing intentions in their own right. Data for seven European countries are used from the Generations and Gender Survey (GGS) to analyze marriage intentions at varying childbearing stages among cohabiting individuals in different European regions.

This contribution uses educational attainment as a measure, representing a crucial component of understanding family transitions. Education enables couples to acquire the necessary resources to form a married couple (Thomson and Bernhardt 2010). Literature on economic disadvantage predicts that individuals having lower levels of education are more often involved in long-term cohabitation (Perelli-Harris and Gerber 2011). On the other hand, education is associated with values and attitudes influencing the choice between living together as an unmarried or married couple (Thomson and Bernhardt 2010). Following the SDT framework, higher education leads to values in favour of autonomy and tolerance, which are, in turn, positively associated with alternative family forms (Lesthaeghe and Surkyn 1988; 2002). In line with other studies addressing the effect of education on marriage we find positive educational gradients in marriage intentions during childbearing in CEE, whereas marriage

intentions are less associated with education before and following childbearing. In contrast to other recent research education is not related to marriage intentions in western Europe.

# 2. Theoretical framework

In this section we contrast the two most prominent diffusion patterns of unmarried cohabitation and non-marital childbearing discussed in the literature. Subsequently, we identify the characteristic features and correlates of these family forms for the countries in the analysis1.

# Two distinct social patterns in the diffusion of cohabitation and non-marital fertility

In an overview paper, Sobotka (2008) discerns two patterns of diffusion of changing family forms in Europe. The first pattern relates major cultural changes, coinciding with post-war economic prosperity, to the increasing popularity of alternative family forms in the second half of the twentieth century (Lesthaeghe 2010; Lesthaeghe and Meekers 1987; Lesthaeghe and Van de Kaa 1986). In this view, rising standards of living entailed a shift in post-war birth cohorts towards post-materialist attitudes. Proponents of the SDT argue that an increasing emphasis on self-determination and autonomy constitutes the core process underlying the rise of contemporary cohabitation and non-marital fertility in western Europe (Lesthaeghe 2010). Higher education, particularly a prolonged educational enrolment, is considered as a pathway leading to the transformation of values and, accordingly, progressive views on family life (Lesthaeghe and Surkyn 1988; 2002). Hence, individuals with a high education are considered to be the first to reject traditional family institutions in the 1970s (Sobotka 2008).

A substantial body of literature describes a different expansion of non-marital fertility and partnerships. From this point of view, changing family forms particularly reflect economic constraints (Oppenheimer 2003). The choice for long-term cohabitation is frequently a mere adaptation to uncertain circumstances that have little to do with personal preferences or value patterns (Sobotka 2008), as marriages are more selective and require a stronger economic underpinning (Kravdal 1999). Scholars often link this idea to increasing unmarried cohabitation among young couples since this group is often confronted with difficulties entering the labour market (Buchholz et al. 2009; Perelli-Harris et al. 2010), resulting in uncertain prospects (Mills and Blossfeld 2005; Skirbekk, Stonawski, and Sanderson 2010). Rising expectations regarding living standards and consumption patterns may also have affected marriage aspirations of low educated and unskilled people in particular. Financial stability and house ownership are considered as important prerequisites for couples to feel ready to marry (Smock et al. 2005). Financial stress, in contrast, is associated with relationship conflict, which may indirectly preclude marriage. Also, the cost of a wedding is often indicated as an additional barrier (Edin and Kefalas 2005; Gibson-Davis et al. 2005). Cherlin (2004; 2010) therefore interprets modern marriage in the United States as an important symbol of prestige and personal achievement. Low-income groups often fail to meet the perceived requirements to marry. In this respect, Spéder (2004; 2005) hypothesizes a clear differentiation in family formation strategies2 between social groups. Whereas the lower social strata often combine childbearing with

<sup>1</sup> Bulgaria, France, Georgia, Germany, the Netherlands, Norway, and Russia

<sup>&</sup>lt;sup>2</sup> The term 'family formation' is general, referring to the connection between partnership choices and the transition to parenthood.

cohabitation, privileged groups paradoxically distance themselves by reinforcing traditional pathways with a central role for the conjugal family. Several authors have therefore referred to a 'Pattern of Disadvantage' (POD) when studying family forms among low educated groups (Edin and Kefalas 2005).

Neither the SDT nor the POD pattern is expected to prevail in a pure and unequivocal way (Sobotka 2008). Theoretical approaches emphasizing either cultural emancipation or economic disadvantage are not necessarily mutually exclusive but may reflect varying motivations underlying family forms in different social groups (Lesthaeghe and Surkyn 2002; Sobotka 2008). In most studies the rising popularity of cohabitation and non-marital childbearing in a specific context is, however, hypothesized to be more strongly associated with one particular mechanism. One social group is expected to be in the vanguard of new forms of family life, becoming a precedent for later adoption of novel demographic behaviour. For instance, Perelli-Harris and Gerber (2011) have raised the question – by contrasting SDT and POD hypotheses – whether the post-communist social and economic changes in Russia are related to a particular process of changing family formation strategies. Forerunning groups may first weaken the barriers (e.g. strong normative views) to long-term unmarried cohabitation and, hence, facilitate partnership decisions for others later on (e.g. because of economic necessity).

# Western Europe

The north western part of Europe is often regarded as the benchmark region of SDT behaviours. Especially France and Norway are considered to be cohabitation countries. Recent figures drawn from the European Social Survey (ESS) show that more than 40% of men and women aged 18-55 have ever cohabited. The GGS data suggest that cohabitors in these countries are also less likely to show marriage intentions (Noack et al. 2013). In Germany and the Netherlands the proportion ever cohabited is hovering at 30%, with particularly in the Netherlands marriage plans being more prevalent among cohabitors (Noack et al. 2013). The extent to which childbearing takes place within cohabitation is also subject to variation. France and Norway are again vanguard countries in non-marital childbearing. In both countries, about half of first births are born in cohabitation in the early 2000s (Perelli-Harris et al. 2012). In Germany and the Netherlands, by contrast, a majority of women gives birth within the context of marriage (Le Goff 2002; Perelli-Harris et al. 2012).

As argued earlier, following the theoretical framework of the SDT, these new demographic behaviours first occurred among highly educated individuals in the 1970s (Surkyn and Lesthaeghe 2004). However, there is only fragmentary empirical support for this aspect of the SDT (Perelli-Harris et al. 2010). A study on historical trends in educational gradients of non-marital childbearing suggests a diverse picture in Europe. In France it indeed appears that the highly educated group has led the increase in childbearing within cohabitation. In more recent periods educational differentials have become limited and even reversed, suggesting this trend was only temporary (Perelli-Harris et al. 2010; Potârcă et al. 2013). This indicates a more widespread and less selective acceptance of non-marital family forms nowadays (Thomson and Bernhardt 2010). Sociological literature suggests that socio-economic differentials in partnership formation may have well diminished as the choice to marry has become exclusively individual and de-traditionalized (Wiik et al. 2010). Other authors support the idea that new social norms may have first led to an increase in cohabitation and childbearing within

cohabitation. However, economic constraints and changing conditions during the 1980s and 1990s – characterized by high unemployment, progressing globalization, and labour market deregulation – particularly affected low educated groups. As a result, economic constraints could have paved the way for increases in new family forms amidst the lowest socio-economic positions in western European countries (Mills and Blossfeld 2005). In contrast to France, a negative educated individuals were among the innovators in non-marital fertility, suggesting a very different pattern of unmarried cohabitation. In the same vein, a negative gradient was observed for the Netherlands (Perelli-Harris et al. 2010). In sum, most countries show limited or negative educational gradients in childbearing within cohabitation in recent periods.

# Central and eastern Europe

Increases in proportions of couples cohabiting and children born outside marriage started in many CEE countries before 1990 (Hoem et al. 2007). However, it has repeatedly been argued that the economic and political transformations following the fall of communism have accelerated the end of a long tradition in (nearly) universal marriage and weakened the tie between marriage and parenthood (Sobotka 2008; Zakharov 2008). Nevertheless, compared to western European countries, the prevalence of cohabitation is rather limited in this region. The ESS indicates that 10 to 16% of men and women between ages 18 and 55 have ever cohabited in resp. Bulgaria and Russia. In both countries cohabitors are likely to have marriage intentions (Noack et al. 2013). The incidence of childbearing in cohabitation in Bulgaria and Russia is limited as well, with resp. 22 and 17% of first births occurring in cohabitation during the early 2000s (Perelli-Harris et al. 2012)3.

Studies on different CEE countries show that younger birth cohorts have ever since the late 1980s started to abandon long-standing views on lifestyles, the family and collectivism (Dimitrova 2006; Lesthaeghe and Surkyn 2002; Sobotka, Zeman, and Kantorová 2003; Stankuniene and Jasilioniene 2008). For example, highly educated younger birth cohorts report more liberal attitudes towards non-marital family forms in Georgia, Poland and Romania (Kotowska et al. 2008; Muresan et al. 2008; Sumbadze and Tarkhan-Mouravi 2003). The Bulgarian World Value Study demonstrates that a younger, innovative cluster of respondents no longer considers marriage to be the only socially accepted family form (Dimitrova 2006). Nevertheless, most research for CEE countries shows that long-term cohabitation and nonmarital fertility are first heralded by those with the least human capital (Sobotka 2008). Studies by Kostova (2007) and Koytcheva and Philipov (2008) suggest that in Bulgaria disadvantaged groups are the forerunners of unmarried cohabitation. The rapidly increasing popularity of cohabitation was predominantly attributed to growing economic uncertainties during the years of the transition period. For Russia, some literature relates the decline of marriage to the relaxation of ideological controls during the 1980s (e.g. Gorbechev's glasnost) and tight marriage markets associated with the WWII decline of the male population in certain areas (Gerber and Berman 2010). According to empirical studies, however, the emergence of nonmarital childbearing takes part in a long-standing pattern of disadvantage (Perelli-Harris and Gerber 2011; Perelli-Harris et al. 2010; Potârcă et al. 2013). As labour market prospects were

<sup>&</sup>lt;sup>3</sup> Georgia is not included in these studies.

very poor during the Russian economic turmoil of the 1990s (Gerber 2002; 2006), the pool of 'marriageable' men in the lower strata of society had possibly shrunk further. One of the least studied countries among the former Soviet countries is Georgia. This country experienced dramatic economic declines during the 1990s following a civil war and difficult relations with Russia. This resulted in peaking unemployment levels, high poverty and a reallocation of labour into small-scale agricultural self-employment. Only recently Georgia has witnessed some economic recovery, while it is still struggling with elevated poverty levels and an unstable labour market (Balbo 2009). For the time being, scant research addressing socio-economic differentials in family forms is available for Georgia. In sum, a bulk of research demonstrates that in CEE countries disadvantaged groups have become trendsetters of new demographic behaviours during the 1990s' social and economic turmoil. However, there are some indications that changing family attitudes – more frequently embraced by highly educated individuals – may initiate a wider spread of non-marital family forms.

# 3. Research hypotheses

This paper considers short-term intentions of respondents to marry and/or have a(nother) child in the next three years. The central research question examines how the association between marriage intentions and education varies at different childbearing stages among partners in unmarried cohabitation. To this end, we consider variation of marriage intentions by parity and intentions of having a(nother) child. We distinguish three situations: i) marriage intentions among cohabitors who do not have children and do not intend to have a child at the time of the survey (before the start of childbearing), ii) marriage intentions among cohabitors, regardless of the number of children they have, intending to have a child (during childbearing), and iii) marriage intentions among cohabitors who already have (a) child(ren) and who do not intend to have another child (following childbearing).

Based on the SDT framework, we expect a negative educational gradient of marriage intentions at different childbearing stages, particularly at the dawn of the SDT. Highly educated cohabitors are likely the first to forego marriage not only before having children, but also during childbearing, as marriage and childbearing become normatively disconnected in this group (the SDT hypothesis). This suggests that particularly partners with a low education are more likely to opt for a traditional family formation strategy. The second alternative draws on the POD perspective, which hypothesizes that marriage intentions are the highest for co-residing partners with a more advanced education (the POD hypothesis). According to the POD, long-term cohabitation has limited associations with post-materialist values and is predominantly adopted by weaker social positions, following rising economic disparities. The highly educated cohabitors, who are able to afford more traditional pathways of family formation, are expected to marry before or at one stage during childbearing. The third hypothesis predicts no particular educational gradient in marriage intentions for both childless cohabitors without fertility intentions and couples intending to have a(nother) child (the equal balance hypothesis). This hypothesis is consistent with cohabitation and non-marital childbearing becoming less selective in terms of educational attainment. One educational group may have accepted unconventional family forms earlier, while other groups have embraced those later. In this respect, limited educational differentials in marriage intentions may suggest varying reasons to refrain from

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marriage. Whereas in one group cultural emancipation is more apparent, economic constraints may be reflected among those having a lower education. As such, weak educational differentials express SDT and POD countervailing each other. Finally, we consider cohabitors who already have children and who have no intentions to have another child at the time of the survey. As this group has shunned marriage throughout childbearing, we expect them to be rather selective and more likely to forego marriage. As a result, we expect marriage intentions to be less prevalent among cohabitors who have concluded childbearing. Here too, a negative or positive educational gradient would be considered consistent with the SDT or POD, whereas a weak educational gradient would be conforming with faded educational differentials.

# 4. Data and methods

The analysis uses data from the first wave of the Generations and Gender Survey (GGS). The GGS provides the required variables on intentions to marry and/or have a child among those in an unmarried cohabitation for seven countries: Bulgaria (2004), France (2005), Georgia (2006), Germany (2005), the Netherlands (2002-2004), Norway (2007-2008), and Russia (2004). The selection of this limited set of countries is based on the availability of comparable information in the GGS. From a country-pooled dataset we selected a subsample of respondents aged 20-34 (this excludes 56,909 from the 76,609 cases) who are in unmarried cohabitation at the time of the survey (an additional 15,852 respondents are omitted). Because of the questionnaire routing, respondents who expect to have a child (either the respondent or the respondent's partner are indicated to be pregnant) and respondents potentially unable to have (additional) children are not questioned about their fertility intentions. This further diminishes the number of respondents (593 cases), resulting in a subsample of 3,255 cohabitors. The analysis concerns short-term intentions of marrying and/or having a(nother) child in the three years following the survey. To verify whether cohabitors who had children outside of the current union are selective in marriage intentions, all models are estimated separately for this group as a sensitivity analysis.

Countries are grouped in two clusters for the analysis. The first group comprises three CEE countries (Bulgaria, Georgia, and Russia) and the second includes four western European countries (France, Germany, the Netherlands, and Norway). As the number of selected respondents varies considerably by country (from 194 in Germany to 782 in Norway), country weights are implemented to give each country an equal representation in each group4. We do not claim that the limited sets of countries are representative for their corresponding regions in Europe. Based on previous studies, however, we find comparable contextual settings and prevalence of alternative family forms within the clusters.

<sup>4</sup> All parts of the analysis draw on weighted data.

# Dependent variables and modeling strategy

Binary logistic regression models are used to estimate the educational gradient of short-term marriage intentions combined with fertility intentions. The answers 'definitely not...' and 'probably not intending to marry during the next three years' are coded 0. Answers 'probably yes...' and 'definitely yes to the intention to marry during the next three years' are coded 1. A similar procedure is carried out for the intentions of having a(nother) child(ren) during the next three years 56. Studies on marriage patterns among cohabitors show that more than 60 per cent7 of starting co-residents realize their intentions to proceed to marriage (Guzzo 2008; Noack et al. 2010). Empirical support for the predictive power of fertility intentions has been mixed (Schoen, Astone et al. 1999; Westoff and Ryder 1977), as these are considered subject to the mediating impact of individual and contextual characteristics (Azjen 1991; Régnier-Loilier and Vignoli 2011; Sobotka and Testa 2008). From the selected subsample of 3,255 respondents, we found missing values for 6.6% of the respondents with respect to marriage intentions. Because of missing answers on the fertility intentions, the total proportion of missing values on at least one of the intention items adds up to 10.5% of the sample. Taking into account the independent variables, we find that the proportion showing a missing value for one or more variables increases to 13.6%. As a result, 2,811 respondents provide complete information on all variables8.

Combining the answers on both intention questions yields a typology consisting of four groups: i) cohabiting respondents not intending any transition in the next three years (*no intentions*), ii) cohabiting respondents intending to marry in the next three years, but not intending to have a child (*marriage only*), iii) cohabiting respondents planning to have a child in the next three years without getting married (*non-marital fertility*), and finally iv) cohabiting respondents intending to have a child and get married in the next three years (*marital fertility*). The distribution of the typology is shown in Table 1. To test our different hypotheses, the logistic regression models consider different childbearing stages. First, the models address marriage intentions among cohabiting individuals not intending to have a child in the next three years (marriage only versus no intentions, i.e. the first two categories of the combined intentions in Table 1). Including interaction terms between education and parity allows to examine the

<sup>&</sup>lt;sup>5</sup> The uncertain answering options (e.g. probably intending to marry) are suggested to decrease the number of missing answers on the intentions questions (Ní Bhrolcháin and Beaujouan 2011). In the Norwegian GGS, the answer categories on both intentions items are dichotomous: having the intention or not.

<sup>&</sup>lt;sup>6</sup> The fertility intention item has three answer categories in the GGS survey of the Netherlands: the intention to have a(nother) child within 3 years, no intention to have a(nother) child, and the intention to have a(nother) child within more than 3 years. The last two categories are grouped as not having the intention to have a(nother) child within 3 years.

<sup>&</sup>lt;sup>7</sup> Guzzo (2008) (based on data from the National Survey of Family Growth, United States) reports that two thirds of men and women that began their cohabiting union with clear marriage intentions proceeded to marriage. A recent study on Norway and Sweden shows that more than 60 per cent of cohabitors with firm marriage intentions married within a five year follow-up period. This proportion decreases to some 30 per cent for respondents indicating that they will 'marry eventually' (Noack et al. 2010).

<sup>8</sup> Missing values were imputed and analyzed using the ICE (Royston 2005), MI IMPORT and MI ESTIMATE Stata commands to check the robustness of the results (Johnson and Young 2011). The substantive interpretations drawn from this sensitivity analysis were similar to the outcomes using a listwise deletion method (available on request). This suggests that the missing information does not bias the results strongly. Since post-estimation indicators (e.g. a likelihood-ratio test) relying on maximum likelihood estimation are not applicable in the MI estimation procedures, we report the results based on listwise deletion of missing values.

educational gradient in marriage intentions *before* (childless cohabitors without fertility intentions) and *following* (cohabitors with at least one child without fertility intentions) *childbearing*. Second, the models consider marriage intentions among cohabiting respondents who intend to have a child in the next three years (marital fertility intention versus non-marital fertility intention, i.e. the third and fourth category of the combined intentions in Table 1). This part of the analysis investigates the educational gradient in marriage intentions *during childbearing*. In addition, interaction between country and education is allowed to verify whether the educational gradients vary within the country groups.

	Mar.	Fert.	Central &	eastern Europe	Western Europe		
			Frequency	Proportion (%)	Frequency	Proportion (%)	
Marriage intentions							
No intentions	-		317	29.6	953	54.8	
Intentions	+		755	70.4	786	45.2	
Fertility intentions							
No intentions		-	520	48.5	760	43.7	
Intentions		+	552	51.5	979	56.3	
<b>Combined</b> intentions							
None	-	-	200	18.7	529	30.4	
Marital only	+	-	320	29.9	231	13.3	
Non-marit. fertility	-	+	117	10.9	424	24.4	
Marital fertility	+	+	435	40.6	555	31.9	
Number of respondents			1,072		1,739		

Table 1. Frequencies and proportions of marriage and fertility intentions among cohabitors in seven central and eastern European and western European countries (aged 20-34).

Source: GGS Wave 1 Bulgaria, GGS Wave 1 France, GGS Wave 1 Georgia, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, GGS Wave 1 Norway and GGS Wave 1 Russia (calculations by authors)

# Independent variables

Appendix table A1 shows descriptive information on the independent variables. The central variable of interest is *educational attainment*. The GGS provides the highest reached educational level of each respondent9. Based on the ISCED-classification (1997), the analysis distinguishes between a low level of education (ISCED levels 0-2 or at most lower secondary education), a middle level (ISCED levels 3-4 or at most post-secondary, non-tertiary education), and a high level (ISCED levels 5-6 or any type of tertiary education). Some parts of the analysis test interaction terms between i) education and parity, and ii) education and country. Given the lower number of respondents with the lowest educational level (i.e. ISCED 0-2), we included educational attainment as a variable with two categories in these models: low and middle education (ISCED levels 0-4), and high education (ISCED levels 5-6).

The multivariate models include following groups of control variables: i) sociodemographics, ii) previous family events, and iii) partnership duration. The *sociodemographics* are country, age group (20-24, 25-29, and 30-34), and sex. *Previous family events* 

<sup>9</sup> Respondents who are still in education (7.7% of the selected sample) at the time of the survey may not have reached their highest educational level yet. Additional analysis shows that the results are robust for the exclusion of students.

comprise previous union experience, parental separation, and parity. A dummy variable indicates whether or not the respondent had any (non-)marital previous partnerships. This control variable is included as we consider all unmarried cohabitations at time of the interview. The selected sample is therefore heterogeneous in terms of partnership histories. We expect cohabitors with a previous experience to be more selective, given that dissolution and repartnering have been shown to be selective in terms of education, first union type, and parity (Lyngstad and Jalovaara 2010; Wu and Schimmele 2005). In addition, re-partnering is likely to be related to union type as well as childbearing intentions (Thomson et al. 2002; Thomson, Winkler-Dworak et al. 2012; Wu and Schimmele 2005). The models further control for parental separation or divorce (before the respondent's 18<sup>th</sup> birthday) since it is suggested to be negatively associated with the likelihood of getting married (Kiernan and Cherlin 1999). Subsequently, the analysis takes the number of biological children (both residential and nonresidential, and regardless of whether these children are also biological children of the respondent's current partner) into account by distinguishing between three groups: i) childless respondents, ii) respondents having one child, and iii) respondents having two or more children. Finally, the models incorporate *partnership duration*. This variable is included because low educated individuals are expected to enter their first partnership at younger ages. By the time more educated couples start to cohabit, less educated peers may have left cohabitation to marry or planning more frequently to do so (Ní Bhrolcháin and Beaujouan 2013).

# 5. Results

The results section consists of three parts. Section 5.1 presents descriptive findings on marriage and fertility intentions. Subsequently, section 5.2 discusses marriage intentions among cohabiting partners not intending to have a child in the next three years. This allows to assess the educational gradient of marriage intentions before and following childbearing. Finally, section 5.3 considers marriage intentions for cohabitors who intend to have a child. This section examines marriage intentions during childbearing.



Figure 1. Distribution of marriage intentions among cohabitors in CEE countries and western Europe by five year age groups.

Source: GGS Wave 1 Bulgaria, GGS Wave 1 Georgia, and GGS Wave 1 Russia - GGS Wave 1 France, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, and GGS Wave 1 Norway (calculations by authors)

Western Europe



**Central and eastern Europe** 

## 5.1 Descriptive findings on marriage (and fertility) intentions by age group

Figure 1 presents the distribution of marriage intentions (regardless of intentions to have a child) among 20 to 34 year old cohabiting partners in CEE and western Europe by five year age groups. In CEE countries (left panel of Figure 1), cohabitors in their twenties more frequently report to have marriage intentions (resp. 75.5 and 73.1%) than cohabitors in their thirties (65.4%). In western Europe marriage intentions among unmarried cohabitors are much lower (right panel of Figure 1). The somewhat lower share (41.4%) of cohabitors intending marriage in the 20-24 age group compared to older age groups suggests marriage is being postponed. In the 25-29 and 30-34 age groups the proportions intending to marry are higher (resp. 46.4 and 45.0%), but are still substantially lower than in CEE countries.

Figure 2 jointly considers intentions of marriage and fertility. For CEE countries, the left panel of Figure 2 indicates that fertility intentions are more strongly related to marriage than to cohabitation. In all age groups fertility intentions are more frequently combined with the intention to marry (e.g. in the group of cohabitors aged 20-24 more than 48% have both marriage and fertility intentions, whereas only 10.2% intend to have a child without getting married). Fertility intentions dwindle among cohabitors aged 30 and older. As a result, a bigger share of respondents in these older age groups have no intentions or only intend to marry. In western Europe, fertility and marriage intentions are most frequent in the age groups 25-29 and 30-34, again suggesting that postponement of marriage and childbearing is more pronounced in the western Europe less frequently involve the intention to marry. However, the share of respondents intending to have a child without getting married (marital fertility) is still lower than the share intending to have a child and getting married (marital fertility). Among the cohabitors not intending to have a child, the share intending to get married is considerably lower in western Europe than in CEE countries.



Figure 2. Distribution of marriage and fertility intentions among cohabitors in CEE countries and western Europe by five year age groups.



Western Europe

Source: GGS Wave 1 Bulgaria, GGS Wave 1 Georgia, and GGS Wave 1 Russia - GGS Wave 1 France, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, and GGS Wave 1 Norway (calculations by authors)

## 5.2 Marriage intentions among cohabitors before and following childbearing

In this section, marriage intentions are examined among cohabitors not intending to have a child. The logistic regression models compare the group only intending to marry to the group having neither marriage nor fertility intentions. Panel A of Table 2 presents the different models for CEE countries. Model 1 suggests a positive bivariate association between education and marriage intentions without fertility intentions. Cohabitors with a middle and a high educational level more frequently plan to marry their partner compared to low educated cohabitors (reference group). Model 2 for CEE countries suggests that educational differentials substantially weaken, controlling for socio-demographic variables. Additional analysis indicates that the significant bivariate association is predominantly explained by taking country into account. The main reason for this lies in the fact that there are relatively more Bulgarian low educated cohabitors in this selected sample compared to Russia and Georgia. We find that between-country differences are substantial with Russian and particularly Georgian cohabitors having stronger marriage intentions than cohabitors in Bulgaria. Controlling for family events and net of partnership duration (model 3), the educational gradient remains relatively neutral.

The results for western Europe, presented in Panel A of Table 3, show limited educational differentials in marriage intentions without intending to have a child (models 1-3). Model 2 suggests substantial between-country variation among the western European countries considered, with Norway exhibiting lower marriage intentions, while the Netherlands display higher marriage intentions in comparison with the other countries. Taking parity into account (model 3), we find that having two children or more also increases marriage intentions among cohabitors not intending to have a(nother) child. This suggests that marriage is more likely to take place when childbearing has been terminated.

Figure 3. Estimated interaction effects (odds ratios) for education and parity. Results obtained from a logistic regression model of marriage intentions among cohabitors not intending to have a(nother) child in CEE countries and western Europe (95% confidence intervals).



Source: GGS Wave 1 Bulgaria, GGS Wave 1 France, GGS Wave 1 Georgia, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, GGS Wave 1 Norway, and GGS Wave 1 Russia (calculations by authors) Model controls for country, age group, sex, previous union experience, parental separation, relationship satisfaction, and partnership duration

Significance levels (two-tailed test): not significant ( ), p < 0.050 (\*), p < 0.010 (\*\*), p < 0.001 (\*\*\*)

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To assess variation of the educational gradient in marriage intentions by childbearing stage, interaction terms between parity and education (2 categories) are added to the additive model variant (Figure 3)10. The inclusion of the interaction terms entails no significant improvement in terms of model fit for both CEE and western European countries (CEE: p > 0.100 with  $\Delta$ -2LL = 0.06 and  $\Delta df = 2$ ; western Europe: p > 0.100 with  $\Delta$ -2LL = 3.61 and  $\Delta df = 2$ ). Hence, the weak educational gradient is suggested to be invariant over different parities. This indicates that marriage intentions before (childless cohabitors) and following (cohabitors with at least one child) childbearing are not subject to particular educational differentials (cfr. *the equal balance hypothesis*). Figure 3 shows a stronger association between education and marriage intentions among cohabitors having one child in western Europe (0.100 > p > 0.050). The odds ratio indicates that highly educated cohabitors with one child are nearly three times more likely to intend marriage after concluding childbearing. Additional analysis shows that this result predominantly stems from cohabitors with a child from a previous partnership.

Figure 4 examines educational gradients by country within the country groups<sup>10</sup>. The model including the interaction between education and country does not imply a statistically significant improvement for both CEE and western European countries (CEE: p > 0.100 with  $\Delta$ -2LL = 0.05 and  $\Delta$ df = 2; western Europe: p > 0.100 with  $\Delta$ -2LL = 2.05 and  $\Delta$ df = 3). Only in France a weak positive educational gradient emerges.

Figure 4. Estimated interaction effects (odds ratios) for education and country. Results obtained from a logistic regression model of marriage intentions among cohabitors not intending to have a(nother) child in CEE countries and western Europe (95% confidence intervals).



Source: GGS Wave 1 Bulgaria, GGS Wave 1 France, GGS Wave 1 Georgia, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, GGS Wave 1 Norway, and GGS Wave 1 Russia (calculations by authors) Model controls for age group, sex, previous union experience, parental separation, parity, relationship satisfaction, and

partnership duration Significance levels (two tailed test): not significant () n < 0.050 (\*) n < 0.010 (\*\*\*) n < 0.001 (\*\*\*)

Significance levels (two-tailed test): not significant ( ), p < 0.050 (\*), p < 0.010 (\*\*), p < 0.001 (\*\*\*)

<sup>&</sup>lt;sup>10</sup> A stepwise approach estimating the interaction terms without and with control variables yields educational effects comparable to models 1-3.

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<u> </u>		Panel A		Panel B				
	Marriage i	ntention only (	none ref.)	Marital fertility intention (non-marital ref.,				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6		
	e(b) sig.	e(b) sig.	e(b) sig.	e(b) sig.	e(b) sig.	e(b) sig.		
Education								
Educational level (low ref.)								
Middle	2.08***	1.47	1.45	2.62***	2.58***	2.01*		
High	1.79*	1.10	1.19	4.15***	4.74***	3.64***		
Current partnership duration								
Duration linear			0.87			0.73**		
Duration quadratic			1.00			1.02*		
Previous family events								
Previous union (no ref.)			0.71			1.17		
Parents separated (no ref.)			1.23			0.84		
Parity (one ref.)								
No children			0.53			1.32		
Two children			1.40			0.53		
Socio-demographics								
Country (Bulgaria ref.)								
Russia		1.53	1.62		1.48	1.37		
Georgia		8.78***	7.97***		3.24***	5.23***		
Age group (20-24 ref.)								
25-29		0.84	0.94		0.61	0.73		
30-34		0.46**	0.61		0.42**	0.57		
Female (male ref.)		1.06	1.14		0.53**	0.62*		
% planning to marry	61.5	61.5	61.5	78.8	78.8	78.8		
Ν	520	520	520	552	552	552		
-2 LogL. (df)	662.75(3)	586.74(8)	576.15(14)	557.70(3)	524.94(8)	499.62(14)		
AIC	668.75	602.74	604.15	563.70	540.94	527.62		

Table 2. Effects of education and control variables (odds ratios) on marriage intentions of cohabitors not intending to have a child (Panel A) and cohabitors intending to have a child (Panel B) in CEE countries, logistic regression results (age 20-34).

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AIC668.75602.74604.15Source: GGS Wave 1 Bulgaria, GGS Wave 1 Georgia, and GGS Wave 1 Russia (calculations by authors)Significance levels (two-tailed test): not significant (-), p < 0.050 (\*), p < 0.010 (\*\*), p < 0.001 (\*\*\*)

## Pre-final version, please cite article version: <u>http://dx.doi.org/10.1016/j.ssresearch.2017.03.006</u>

<u> </u>	•	Panel A	<u> </u>	Panel B				
	Marriage i	ntention only (	none ref.)	Marital fertility intention (non-marital re				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6		
	e(b) sig.	e(b) sig.	e(b) sig.	e(b) sig.	e(b) sig.	e(b) sig.		
Education								
Educational level (low ref.)								
Middle	1.03	0.91	0.98	0.93	0.63	0.55*		
High	1.19	0.85	1.03	0.81	0.85	0.66		
Current partnership								
Duration linear			1.13			1.10		
Duration quadratic			0.99			0.99		
Previous family events								
Previous union (no ref.)			0.80			1.12		
Parents separated (no ref.)			0.62			0.68		
Parity (one ref.)								
No children			0.92			1.70**		
Two children			2.11**			1.40		
Socio-demographics								
Country (Norway ref.)								
Germany		2.59***	2.85***		8.13***	8.64***		
France		3.73***	3.96***		4.08***	4.30***		
The Netherlands		5.64***	6.66***		6.47***	6.31***		
Age group (20-24 ref.)								
25-29		1.42	1.18		0.87	0.92		
30-34		1.11	0.77		0.80	0.97		
Female (male ref.)		1.57**	1.53*		0.62**	0.63**		
% planning to marry	30.4	30.4	30.4	56.7	56.7	56.7		
Ν	760	760	760	979	979	979		
-2 LogL. (df)	972.54(3)	907.18(9)	882.75(15)	1294.49(3)	1099.37(9)	1067.42(15)		
AIC	978.54	925 18	912 75	1300 49	1117 37	1106 42		

Table 3. Effects of education and control variables (odds ratios) on marriage intentions of cohabitors not intending to have a child (Panel A) and cohabitors intending to have a child (Panel B) in western European countries, logistic regression results (age 20-34).

Source: GGS Wave 1 Bulgaria, GGS Wave 1 Georgia, and GGS Wave 1 Russia (calculations by authors) Significance levels (two-tailed test): not significant (-), p < 0.050 (\*), p < 0.010 (\*\*), p < 0.001 (\*\*\*)

## 5.3 Marriage intentions among cohabitors during childbearing

For cohabiting couples intending to have a(nother) child, we distinguish between those having both marriage and fertility intentions (marital fertility) and those planning to have a child without the intention of getting married (non-marital fertility). The results of the models predicting the odds of intending to marry for CEE countries are given in Panel B of Table 2. Model 4 shows the gross association between education and marriage intentions. The odds of having marriage intentions significantly increase with higher levels of education. Including socio-demographics (model 5) demonstrates between-country variation in the CEE countries, with marital fertility intentions being particularly high in Georgia compared to Bulgaria and Russia. Net of previous family events and current partnership duration, model 6 shows that the positive educational gradient is strong and statistically significant (cfr. *the POD hypothesis*). According to the results of model 6 a lower number of children implies a higher frequency of having marriage intentions. Additional analysis indicates that parity explains educational differences partly since highly educated cohabitors have lower numbers of children.

In western Europe a weak negative educational gradient in marital fertility intentions is observed (model 4, Panel B of Table 3). Compared to low educated cohabitors, the middle and highly educated are somewhat less likely to intend marital fertility. The results further suggest between-country variation with respect to marital fertility intentions in western European countries (model 5), with predominantly German cohabitors being more inclined to marry in case of fertility intentions. In contrast, the intention to have a child is most detached from marriage among cohabitors in Norway. In model 6 controlling for parity yields stronger negative effects of being middle or highly educated. This is due to the fact that higher educational levels have lower numbers of children and, in turn, higher odds of having marriage intentions. Marriage intentions are significantly less frequent for cohabitors with a middle educational level (p < 0.050). For the group with a high education, differences are not statistically significant at the 5% level. All in all, the reported educational gradients in marital fertility intentions are rather weak in western European countries (cfr. *the equal balance hypothesis*).

An additional logit model, allowing interaction between parity and education, suggests that the positive educational gradient in marital fertility intentions is most pronounced among childless cohabitors in CEE countries (p < 0.050) (Figure 5)11. The educational gradient of marital fertility intentions is statistically weaker among cohabitors with children. The odds of having marriage intentions for cohabitors with one child are more than two and a half times higher for the highly educated group (0.100 > p > 0.050). The model fit improvement is not substantial for CEE countries (p > 0.100 with  $\Delta$ -2LL = 2.12 and  $\Delta df = 2$ ). In western Europe the results show limited variation of the educational gradient by parity as well (p > 0.100 with  $\Delta$ -2LL = 1.46 and  $\Delta df = 2$ )<sup>11</sup>.

<sup>&</sup>lt;sup>11</sup> A stepwise approach estimating the interaction terms without and with control variables yields educational effects comparable to models 4-6.

Figure 5. Estimated interaction effects (odds ratios) for education and parity. Results obtained from a logistic regression model of marriage intentions among cohabitors intending to have a(nother) child in CEE countries and western Europe (95% confidence intervals).



Source: GGS Wave 1 Bulgaria, GGS Wave 1 France, GGS Wave 1 Georgia, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, GGS Wave 1 Norway, and GGS Wave 1 Russia (calculations by authors) Model controls for country, age group, sex, previous union experience, parental separation, relationship satisfaction, and partnership duration Significance loyals, not significant (), n < 0.050 (\*), n < 0.010 (\*\*), n < 0.001 (\*\*\*)

Significance levels: not significant ( ), p < 0.050 (\*), p < 0.010 (\*\*), p < 0.001 (\*\*\*)

Finally, variation of the educational gradient by country is explored within each of the country groups<sup>11</sup>. Compared to the additive model, the interaction terms between education and country yield significant improvements in model fit for CEE (p < 0.100 with  $\Delta$ -2LL = 5.07 and  $\Delta df = 2$ ). Figure 6 presents the variation in the effects of education. The figure indicates pronounced positive educational gradients in marital fertility intentions for Russia and most particularly for Bulgaria. In contrast, no strong educational gradient is found in Georgia. Variation between countries is very limited within the western European group (western Europe: p > 0.100 with  $\Delta$ -2LL = 0.95 and  $\Delta df = 3$ ). For western Europe only weak educational gradients are reported.

Figure 6. Estimated interaction effects (odds ratios) for education and country. Results obtained from a logistic regression model of marriage intentions among cohabitors intending to have a(nother) child in CEE countries and western Europe (95% confidence intervals).



Source: GGS Wave 1 Bulgaria, GGS Wave 1 France, GGS Wave 1 Georgia, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, GGS Wave 1 Norway, and GGS Wave 1 Russia (calculations by authors) Model controls for age group, sex, previous union experience, parental separation, parity, relationship satisfaction, and partnership duration

Significance levels: not significant ( ), p < 0.050 (\*), p < 0.010 (\*\*), p < 0.001 (\*\*\*)

# 6. Discussion

A bulk of research has studied trends in cohabitation, marriage and the relation between marital status and fertility throughout Europe and the United States. In western Europe the rising popularity of unmarried cohabitation and increasing non-marital fertility has been related to increased individualization, with highly educated individuals being the first and most likely to hold these individualistic ideals. Similar recent partnership and childbearing trends within central and eastern European countries are frequently interpreted as a cultural 'westernization', resulting from decreases in communist ideological controls. However, other studies, finding that marriage and the conjugal family have a diminishing importance among impoverished groups in particular, suggest that changing views on the family have not always been embraced in a context of emancipation. In line with the main theories in the literature (SDT and POD), we examine educational differentials in marriage and marital fertility intentions. Education not only relates to attitudes and values influencing the choice between cohabitation and marriage, but it also provides the necessary resources, such as employment and income, to make partnership decisions (Thomson and Bernhardt 2010). This article should therefore enhance our knowledge on cohabitation and non-marital childbearing in western European and CEE countries (Sobotka 2008). It is one of the first studies presenting an in-depth analysis of how education relates to joint intentions of marriage and fertility.

Compared to CEE countries, our results demonstrate that, although marriage remains the most important childbearing setting, the tie between marriage and parenthood has particularly weakened in western Europe (Heuveline and Timberlake 2004; Kiernan 2004; Noack et al. 2013). According to Raley (2001), the convergence of childbearing decisions between cohabiting and married couples signals the SDT's progression in western Europe. In line with studies on behaviour, we find the lowest prevalence of marriage intentions among Norwegian cohabitors, whereas Germany and the Netherlands show the highest propensities to marry among the western European countries (Perelli-Harris et al. 2012). Furthermore, our findings correspond to research studying partnership formation in central and eastern Europe. Although cohabitation is quickly overtaking direct marriage in CEE countries, such as Russia and Bulgaria, marriage is still a more popular setting for raising children compared to northern and western Europe (Perelli-Harris et al. 2012; Sobotka and Toulemon 2008). Our analyses further show that Georgian cohabitors are the most inclined to marry. This outcome is in accordance with studies suggesting that traditional attitudes towards family life are deeply entrenched in Georgia (Balbo 2009).

The central research question addresses the relation between education and marriage intentions at three different childbearing stages among cohabiting partners. First we considered marriage intentions <u>before the start of childbearing</u>. The results show that no significant educational differentials are found in marriage intentions among childless cohabitors who do not intend to have children. This implies that the choice for long-term cohabitation outside the childbearing context has become increasingly accepted for different social groups in both country groups. As suggested by the *equal balance hypothesis*, which predicts limited educational differentials, the highly educated group may have, however, different reasons to refrain from marriage compared to individuals with a lower education. Whereas the intentions of highly educated cohabitors may reflect more liberal views on unmarried cohabitation, less

favorable economic prospects possibly reduce marriage intentions for their low educated counterparts. This result deviates from other studies on educational differentials in family trajectories. For instance, Potârcă and colleages (2013) (for birth cohorts ranging from 1923 to 1980) demonstrate higher chances of childless long-term cohabitation for low educated individuals in Russia, whereas a positive educational gradient prevails for France.

While educational gradients are limited before childbearing starts, marriage intentions in CEE countries appear closely intertwined with education among cohabitors intending to have a child. The educational gradient suggests that cohabitation may be more closely linked to a low level of education during childbearing. Given that highly educated cohabitors follow a more traditional pattern of childbearing, we find evidence supporting the POD hypothesis for Bulgaria and Russia. This corresponds with recent studies finding higher non-marital birth rates among low educated groups in Russia (Perelli-Harris and Gerber 2011; Perelli-Harris et al. 2010). The absence of such result for Georgia supports the idea that, besides particular commonalities, CEE countries show important dissimilarities as well. The findings for Bulgaria and Russia are of particular relevance since they point at a divergence in family formation strategies based on socio-economic status (McLanahan 2004). The cultural 'opening' to the west, associated with the end of communism in Europe (Thornton and Philipov 2009), occurs with 'western' family forms signaling social disadvantage. Several authors have highlighted that cohabitation and non-marital childbearing show a long-standing association with social vulnerability in this region (Kostova 2007; Spéder 2005). In addition, the deep social and economic crises of the 1990s have been identified as an important factor promoting non-marital family forms among the most vulnerable groups (Perelli-Harris and Gerber 2011). The meaning that less educated cohabitors attach to their union may therefore differ from the reasons to cohabit among their more educated counterparts. While highly educated individuals regard their unmarried co-residence as a short-lived preparation for children and marriage, economic uncertainty necessitates the low educated group to consider their cohabitation as a feasible alternative to marriage (Clarkberg 1999; Nazio and Blossfeld 2003). This leads to the question whether governments should provide an elaborated legal framework for cohabitation. A deficient welfare protection for the most vulnerable cohabitors in case of union dissolution may additionally increase the risks of deprivation and childhood poverty. Our findings further suggest that marriage may no longer be the foundation of adult family life in some CEE countries. As people spend more of their years in cohabitation, mostly before a marriage, marriage life has become more distinctive. It has not been shunned altogether. Rather, marriage may have been redefined as a marker of prestige and higher status for which underprivileged groups often lack the required resources. In this respect Cherlin (2010) considers marriage as 'the capstone' of family trajectories. This marriage view particularly materializes when couples feel ready to embark on childbearing as parity-specific analysis suggests stronger evidence for educational differentials in marriage intentions among childless cohabitors planning to have a first child. This finding is consistent with a study finding that the least educated group in Russia has the lowest probability of marriage following first conception (Perelli-Harris and Gerber 2011).

The results with respect to marriage intentions among those having fertility intentions are different for western European countries. Comparing marital and non-marital fertility

intentions, educational differences are limited. Our findings illustrate that the tie between marriage and parenthood has become weak for different educational groups alike in western Europe (*the equal balance hypothesis*), although low educated cohabitors are somewhat more likely to have marital fertility intentions. The limited gradient suggests varying motivations for non-marital childbearing within different educational groups countervailing one another. Some authors propose an alternative explanation for this result. Since the normative tie between parenthood and marriage has declined substantially, unmarried cohabitation may have developed into a marriage-like partnership type in western Europe. In this view, unlike the capstone model, marriage has lost its uniqueness and is just one relationship type among others (Giddens 1992). Hence, the choice to marry is merely personal and independent of specific regulations, social institutions or economic considerations (Cherlin 2004).

The findings differ from research by Perelli-Harris and colleagues (2010) observing a negative educational gradient of first births to cohabiting women relative to married women for Norway and the Netherlands. This may point at discrepancies between attitudes towards the family and actual family behaviours in western Europe. The literature identifies a range of mediating variables in the realization of intentions (Guzzo 2008; Régnier-Loilier and Vignoli 2011; Toulemon and Testa 2005). Under certain (adverse) conditions attitudes or plans might not be put into practice. Additional research that examines the realization of joint marriage and fertility intentions should provide more information on the role of these intentions.

With respect to marriage intentions <u>following childbearing</u>, we find weak educational differentials in both European regions (*the equal balance hypothesis*). We expect that particular educational groups inclined to follow traditional family formation pathways have formalized their non-martial union at an earlier stage. This outcome differs from research finding that low educated individuals are more likely to enter marriage after a first birth or once childbearing has been completed (Holland 2013).

# Limitations

The most important shortcoming of this study concerns the limited sample size the analysis draws on. This limitation particularly pertains to the models testing the interaction effects education\*parity and education\*country. Limited numbers of cases within the combined categories of these variables (e.g. the number of respondents being highly educated and having two or more children) potentially affect the ability to generalize some of our findings. Some wide confidence intervals, as presented in Figures 3-6, suggest rather imprecise estimates of the regression coefficients. To ensure that all of our conclusions hold, it would be worthwhile to address similar research questions with larger samples. Further, the analysis includes data for only seven countries because of the limited availability of comparable variables in the country-specific GGS datasets. As a result, the small number of countries does not allow to generalize our conclusions for entire European regions.

In addition, the inability to disentangle age, period, and cohort (APC) effects presents a limitation for any cross-sectional measurement of intentions. Therefore, the results cannot be interpreted with respect to cohorts (i.e. SDT-theory) or periods (i.e. relation between economic context and POD).

Finally, the analysis has not addressed the aspect of policy. The similarity between marriage and cohabitation with respect to legal regulations tends to differ between countries

(Perelli-Harris and Sánchez Gassen 2012). Studies in Sweden and Norway have also emphasized the importance of education as regards the awareness of legal differences between union types. In general, highly educated individuals show a more accurate knowledge of specific partnership regulations (Björnberg 2001; Noack 2001; Wiik, Bernhardt, and Noack 2010). Concerns about the legal protection of children in unmarried couples may differ both between diverse educational levels and countries. Research addressing the role of family policies is identified as fruitful because it may show the relevance of raising more awareness for particular groups.

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		Central & eastern Europe						Western Europe					
	No fertility intentions			Fe	Fertility intentions			No fertility intentions			Fertility intentions		
	Freq.	Prop.	Events	Freq.	Prop.	Events	Freq.	Prop.	Events	Freq.	Prop.	Events	
Education													
Low	179	34.4	91	110	19.9	68	135	17.7	39	110	11.2	66	
Middle	239	45.9	163	283	51.3	229	389	51.2	115	463	47.3	268	
High	102	19.7	66	159	28.8	138	236	31.1	77	406	41.5	221	
Current partnership													
Duration <sup>a</sup>		6.89 (4.62	)		4.04 (3.31)	)		4.45 (3.66	)		3.61 (2.84	)	
Previous family events													
No previous union	423	81.3	273	462	83.7	364	616	81.1	198	747	76.3	428	
Previous union	97	18.7	47	90	16.3	71	144	18.9	33	232	23.7	127	
Parents not separated	416	80.1	259	484	87.6	384	638	84.0	203	811	82.9	471	
Parents separated	104	19.9	61	68	12.4	51	122	16.0	28	168	17.1	84	
No children	72	13.8	32	272	49.3	225	473	62.2	138	697	71.2	432	
One child	167	32.2	106	215	38.9	167	112	14.8	28	240	24.5	104	
Two children	281	54.0	182	65	11.8	43	175	23.0	65	42	4.3	19	
Socio-demographics													
Bulgaria	200	38.6	90	158	28.6	104							
Russia	157	30.1	88	200	36.3	160							
Georgia	163	31.3	142	194	35.1	171							
Norway							204	26.9	56	229	23.4	190	
Germany							171	22.5	59	264	27.1	150	
France							211	27.7	95	222	22.7	149	
The Netherlands							174	22.9	21	262	26.8	66	
Age group 20-24	108	20.8	71	144	26.2	119	215	28.3	61	166	16.9	98	
25-29	174	33.4	113	232	42.0	182	288	37.9	98	425	43.5	235	
30-34	238	45.8	136	176	31.8	134	257	33.8	72	388	39.6	221	
Male	213	41.0	130	286	51.9	235	326	42.8	80	387	39.5	239	
Female	307	59.0	190	266	48.1	200	434	57.2	151	592	60.5	316	
N	520	100	320	552	100	435	760	100	231	979	100	555	

Table A1. Frequencies, proportions, and number of events by independent variable among cohabitors in seven European countries (aged 20-34).

Source: GGS Wave 1 Bulgaria, GGS Wave 1 France, GGS Wave 1 Georgia, GGS Wave 1 Germany, GGS Wave 1 the Netherlands, GGS Wave 1 Norway and GGS Wave 1 Russia (calculations by authors)

<sup>a</sup> For these continuous variables the mean and standard deviation are shown