The power of a spouse and fertility of a couple – a comparison of France and Poland

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EXTENDED ABSTRACT

INTRODUCTION

The dramatic fall in fertility level has been observed so far in many European countries. Some of them, mainly South and East European, has belonged to the, so called, *lowest-low fertility* countries (with the TFRs below 1.3) already for more than a decade. This phenomenon led to the particular scientific interest in the association between fertility and women's educational attainment or labour market participation. Consequently, an increase in female educational attainment and formally-achieved level of education, together with a remarkable growth in women's professional activity are one of the most common explanations of limited fertility (Becker 1991, Oppenheimer 1994, van Bavel 2012).

However, since the level of fertility varies significantly across Europe, the considered relation between socioeconomic status and reproductive behaviour seems to be more mixed. McDonald suggested that observed discrepancies among European countries are due to the differences in the support given by family institutions. Namely, when a new mentality of equal gender roles in, e.g., education or labour market, is not followed by the adjustment of family institutions, the level of fertility will decline (McDonald 2006). Additionally, the gender equity between partners was found to play an important role in contemporary fertility decision-making process (Mills et al. 2008, Brodmann et al. 2007). This equity concerns the division of housework and childcare duties (Miettinen et al. 2015), the educational level of both partners (van Bavel 2012) as well as the partners' age gap or age at marriage (Carmichael 2011). All these characteristics are treated as a proxy of power relation within a couple.

Still, there are not enough studies that could explain the association between fertility of a couple and the widely considered power relation between partners. The majority of previous studies concentrates either on female characteristics or takes into account only one of considered dimensions of the power distribution. This study aims to investigate couples' procreative behaviour with regard to the multidimensional partners' power relation. The effect of the relation between partners' educational level, the age gap and female age at union formation as well as the influence of current division of housework and decision-making responsibilities, is examined. The case study of France, as a representative of Western European countries, and Poland, post-socialist Eastern European country, is compared. Since behavioural drivers could differ among parents and childless couples, both groups will be considered.

Regarding the level of education, we expect the negative relationship between partners' education and fertility in Poland (H1a), and the U-shaped relationship in France, with medium-educated partners having the lowest level of fertility (H1b). Finally, in both countries, the negative effect of partners' education on fertility timing is expected (H1c). In Poland and France, we expect the positive effect of male involvement in housework on fertility of a couple – regarding both tempo and quantum effects (H2). What is more, we anticipate that the age gap in favour of men enhances to have children sooner and increases completed fertility (H3). Similarly, the lower female age at union formation, the sooner a couple have children and, finally, the bigger family a couple has (H4). Finally, we expect that male dominance in the decision-taking process is connected with having children sooner and increases completed fertility as compared to couples in which a woman takes final decisions (H5). Additionally, we assume that couple's reproductive behaviour differs by the various divisions of power between partners. In particular, we expect that power relation in favour of a woman accompanied by a female dominance in housework has a negative influence on fertility timing and quantum (H6).

DATA AND METHOD

The analysis is based on data provided by the Generations and Gender Survey (GGS, www.ggp-i.org). The sample of heterosexual partners aged 25 or more is considered in this study. The selected group is divided into two subsamples: the first one consists of unions in which the woman is aged 25 to 39; the second includes couples with women aged 40 or more. The first group allows to measure the

tempo effect of fertility among younger couples, while the second, in which the actual number of children could be treated as completed, allows considering the quantum effect of fertility with regard to chosen couple's characteristics. The final samples of unions with a female partner aged 25-39 consist of 1776 couples in France and 3502 in Poland, and for the other age group (female partner aged 40 or more) there are samples of 3867 and 8050 couples in France and Poland, respectively.

The measure of reproductive behaviour, which is also the response variable in this analysis is the *actual number of children* that a couple already have. Subsequently, fertility is being explained by following measures of power relations (main explanatory variables): *educational status of a couple*, *partners' age gap*, *female age at union formation*, *household tasks division* and *decision-taking division*. Several control covariates will be also included (*type of settlement*, *cohabitation*, *respondent previously married*, *woman's/man's children from previous partnerships*).

To analyse reproductive behaviour and to distinguish childlessness and parenthood as two separate states, hurdle Zero-Truncated Poisson model (ZTP) will be used (Long and Freese 2006). Two different states, driven by different processes, are distinguished in the model. The first one, called *zero state*, is generated by a binary process and occurs with the probability p (probability of being childless). The second one, *count state*, takes positive integer values and is generated by the standard Poisson model truncated in zero. Thus, the basic idea behind the model is to join two different statistical distributions: the Poisson and the binomial. The binomial part governs the binary outcome and indicates whether the count variable has a zero (with the probability p) or a positive realisation (with the probability $1-p$). If a threshold ("hurdle") is crossed, the variable takes a positive realisation and the Poisson part drives the probabilities. The analysis is based on Bayesian inference, which is justified mainly by the ability to formulate fully probabilistic conclusions about all estimated values and their linear and nonlinear functions. It is particularly relevant for the hurdle Poisson models, in which nonlinear functions (such as the probability of childlessness) are of key interest. Having the precise distributions of the parameters under study allows making the proper inference about their properties (e.g., unimodality) and moments (including, e.g., skewness). In this study, the posterior distributions of the probability of childlessness and an expected number of children by various power relations within a couple will be presented.

RESULTS

The results have showed that including different characteristics describing the power relation between a couple significantly improves the ability to describe fertility behaviour and provides a wider view of considered relations. The analysis confirmed that the couple's family model is driven by the gender power relation.

Regarding fertility timing (couples with female partners aged 25-39), the male advantage in power relation occurs to have a fertility-enhancing effect, but significant mainly in Poland (a higher educated and older man). Also, when the power relation regarding housework stays in male advantage (so a woman does more household duties than a man), it has a positive effect on couple's fertility timing in both considered countries (Table 1). However, in France, also the male dominance in household duties enhance to have the first child sooner, which suggests the U-shaped relationship between fertility timing and household tasks division. What is more, when a woman is already *double-burdened* (is more educated than the man and does more housework) it has a negative impact on reproductive behaviour and such couples clearly postpone having the first child (or more often prefer to stay childless). This effect is, however, present only in Poland. This might suggest that the family institutions in France provides enough support to reduce the load of the childcare and thus could enhance women to become mothers even if they take the majority of household duties. The other possible explanation is that in France the traditional family model in which a woman takes care of housework and childcare while a man is responsible for maintaining the family is more popular than in post-socialistic Poland. Thus for women in France, less often than in Poland, being highly educated means being involved in the labour market. Regarding power relations in decision-taking, female dominance is clearly connected with having the first child sooner (or more often) than others. In Poland, also male dominance brings closer the decision to become parents, so the U-shaped relationship between empowerment and the timing of the first child was revealed. Finally,

the expected negative effect of education on fertility timing was confirmed. Highly educated partners clearly postpone having the first and subsequent children in both countries, while partners with low educational level have the first (in Poland) and second or following children (in both countries) sooner than other unions. In France, however, lowly educated partners, although having the tendency to enlarge families sooner, are also characterised by postponing having the first child. What is more, in Poland educationally hypergamous unions are more likely to have the subsequent children sooner, while hypogamous couples in France tend to postpone having the first child.

Within the older age group (Table 2), the power relations in favour of men (more educated, older and doing less housework than a woman) are connected with higher completed fertility in both analysed countries. However, in France, the signs of female empowerment also appears. First of all, when a woman is more educated than her partner, the couple has a lower chance of childlessness than their counterparts. Additionally, when such a highly educated woman dominates in decision-taking, also the average family size significantly increases as compared to other partnerships. Finally, a couple in which the woman is *double-burdened* has a higher risk of childlessness. None of these effects is present among the older age group in Poland. Regarding the educational effect on completed fertility, the expected U-shaped relation in France and negative influence of educational level in Poland was confirmed.

Presented results suggest that the association between gender power relation and fertility differs by two presented countries. In post socialistic Poland, which is characterized by the low institutional support given to a family and low level of gender equality, the male advantage in power relation is still positively connected to fertility. However, this relation seems to change, especially in younger age group, where sings of reverse association also appear. In France, on the other hand, that gives one of the best institutional support to a family among all European countries and has a higher level of gender equality than Poland, the connection between power relation and fertility is more mixed. The positive effect of male as well as female empowerment on fertility occurs.

Table 1. The *a posteriori* expected values of parameters within zero (childlessness) and count (parenthood) state regressions. Female partners aged 25-39.

FERTILITY TIMING	Probability of childlessness (p)		Parenthood (λ)	
Variable	FR	PL	FR	PL
Educational status of a couple (Woman's – Man's):				
Low-Low	0.475	-0.652	0.168	0.260
High-High	1.127	0.813	-0.170	-0.234
Higher-Lower	0.569	-0.037	0.011	-0.089
Lower-Higher	-0.125	-0.161	0.061	0.169
Age gap:				
A man older 3+ years	-0.365	-0.220	-0.010	0.160
A man younger 3+ years	-1.080	-0.498	0.051	0.008
Female age at union formation	0.286	0.644	-0.146	-0.231
Share of housework				
Male dominance	-0.486	-0.046	0.020	0.020
Female dominance	-0.849	-0.791	0.139	0.163
Decision-taking				
Male dominance	0.133	-0.367	-0.052	-0.029
Female dominance	-0.504	-0.273	-0.001	0.047
Interactions:				
A woman is higher educated and dominates in housework	-0.229	0.997	-0.101	-0.117
A woman is higher educated and dominates in decision-taking	0.365	-0.287	-0.015	-0.035
CONTROL COVARIATES:				
Type of settlement (rural)	-0.472	-0.643	0.030	0.215
Cohabiting	1.756	1.913	-0.214	-0.042
Previously married	-1.115	-2.850	0.367	0.641
Having children from prev. partnerships	X	X	0.395	0.330
Intercept	-1.781	-1.707	0.329	-0.122
Total number of couples	**287**	**355**	**1489**	**3147**

Table 2. The *a posteriori* expected values of parameters within zero (childlessness) and count (parenthood) state regressions. Female partners aged 40 or more.

FERTILITY QUANTUM	Probability of childlessness (p)		Parenthood (λ)	
Variable	FR	PL	FR	PL
Educational status of a couple (Woman's – Man's):				
Low-Low	0.037	0.371	0.236	0.241
High-High	-0.058	-0.457	0.208	-0.261
Higher-Lower	-0.776	0.195	-0.061	-0.012
Lower-Higher	-0.057	0.303	0.093	0.083
Age gap:				
A man older 3+ years	0.265	0.085	0.055	0.069
A man younger 3+ years	0.383	-0.063	-0.105	-0.021
Female age at union formation	0.422	0.503	-0.062	-0.024
Share of housework				
Male dominance	-0.115	-0.143	0.065	0.058
Female dominance	-0.398	-0.439	0.073	0.058
Decision-taking				
Male dominance	0.217	-0.062	0.203	0.012
Female dominance	-0.575	-0.151	0.022	0.012
Interactions:				
A woman is higher educated and dominates in housework	0.725	-0.132	0.063	-0.031
A woman is higher educated and dominates in decision-taking	0.153	-0.118	0.119	0.051
CONTROL COVARIATES:				
Type of settlement (rural)	-0.064	-0.252	0.010	0.237
Cohabiting	0.199	-0.404	-0.042	-0.003
Previously married	-1.505	-2.557	0.266	0.462
Having children from prev. partnerships	X	X	0.061	0.112
Intercept	-2.329	-2.740	0.455	0.492
Total number of couples	**229**	**300**	**3638**	**7750**

Note to Tables 1 & 2:
1. When zero lies between 5% and 95% quantiles the value was marked with grey (covariate insignificant).
2. Positive values in zero state mean higher probability of childlessness. Positive values in count state means higher average number of children.

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