Extended Abstract for the European Population Conference 2012

The effect of occupational gender composition and educational and occupational status on fertility: A couple analysis

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Abstract

This study connects to the emerging body of literature that relates educational and occupational characteristics to fertility. We examine the relationship of occupational characteristics such as the extent to which the work involves unpleasant conditions, requires empathy or interpersonal contact and occupational gender segregation of both partners on fertility. We also include measures of both partners' educational attainment and occupational status in our models to explore the relative influence of male and female characteristics. The data we use come from multiple waves of a repeated cross-sectional survey of the Dutch population (Family Survey of the Dutch Population 1998, 2000, 2003) that contains information about the life course of respondents and their partner with respect to relationship, fertility, educational and occupational history. We use monthly information on transitions in these domains to construct a person-period file and apply discrete event history techniques to model the transition to first and higher order births.

Introduction

The decision if and when to have children is one of the most life-changing decisions individuals are faced with and since women have reached parity with men in terms of educational attainment, parenthood competes with educational and occupational aspirations in the life course of young women. Previous research on the relation of fertility with employment has shown that participation in paid work and childbearing are not necessarily negatively related, but effects vary strongly between institutional settings and over employment conditions (see Matysiak & Vignoli, 2007 for a review). While certain aspects of paid work, such as the number of working hours and contract type (i.e., fixed versus temporary) have been studied widely and in different institutional contexts (e.g., Del Boca, Pasquay, & Pronzatoz, 2009), occupational characteristics have only recently gained attention (Brewster & Rindfuss, 2000). In the last decade, a literature on the effect of educational (Bavel, 2010; Hoem, G. Neyer, & Andersson, 2006a, 2006b; Martín-García & Baizán, 2006) and occupational (Cooney & Uhlenberg, 1989; Martín-García, 2009; Stanfors, 2010; Strand, Wergeland, & Bjerkedal, 1996; Zabel, 2006) characteristics on fertility is emerging. The results of these studies have been surprisingly unequivocal, generally reporting a positive association between fertility and 'classical' female fields such as teaching and healthcare (Bagavos, 2010; Bavel, 2010; Hoem, Neyer, & Andersson, 2006a; Lappegård & Rønsen, 2005; Martín-García & Baizán, 2006; Neyer & Hoem, 2008). Likewise occupations related to caring and interpersonal skills such as professions in healthcare and teaching have been found to be associated with lower childlessness and higher fertility (Cooney & Uhlenberg, 1989; Martín-García, 2009; Stanfors, 2010; Strand et al., 1996; Zabel, 2006).

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The present study aims at contributing to this emerging field by examining the interrelation between occupational characteristics and fertility in a sample of Dutch couples (born 1940 to 1985). We use retrospectively registered complete life-courses of primary respondents and their partners with respect to education, occupation, religion, mobility, and partnership formation, which allows us to include detailed educational and occupational characteristics of both partners. The need to take into account not only individual characteristics but information on both partners has been increasingly recognized in demographic research (Corijn, Liefbroer, & de Jong Gierveld, 1996; Matysiak & Vignoli, 2007; Rijken & Liefbroer, 2008), but is unfortunately often hampered by data restrictions. The data we use enables us to study the relative impact of occupational characteristics of the male and female partner on fertility.

Work characteristics, occupational gender composition and fertility

The central finding of previous research that links educational and occupational fields to fertility has been that the 'classical' female occupations of healthcare and teaching are positively related to fertility outcomes. An institutional explanation for this phenomenon attributes this to the (self-) selection of women into occupations with family friendly policies and low wage losses after periods of absence and low skill depreciation (Filer, 1985; Polachek, 1981). Previous research has indeed found that a higher proportion of women within an occupation is related to a higher provision of family friendly policies on the industry (Cook & Minnotte, 2008), occupation (Charles, 2005) and workplace (Davis & Kalleberg, 2006; Goodstein, 2010) level.

On the individual level it has been argued that women in female-dominated and thus gender-typical occupations are more family oriented and have higher fertility aspirations compared to their counterparts in less gender typical occupations and that this is the result of self-selection and/or socialization within these female dominated fields of study and occupation (Bavel, 2010; Hakim, 2003; Hoem, Neyer, & Andersson, 2006a; O'Connell, Betz, & Kurth, 1989; Yaremko & Lawson, 2007).

Whether being employed in gender typical occupations also affects men has to our knowledge not been examined, probably in part also due to data constraints. In this study we will compare the effects of occupational gender segregation on fertility between men and women in order to gain more insight into which of the mechanism described above plays an important role and in how far men's occupational characteristics influence fertility. Besides information on the share of women in occupations and general information about work (working hours, supervisory status and size of company), we also include in our analysis characteristics of work that allow us to test implications of the theoretical mechanisms described above such as whether the work conditions are unpleasant (physically demanding, dangerous or monotonous, tasks and pace of work prescribed). Moreover we also have information on whether the work requires empathy and to what it extent it involves face-to-face contact with other people.

Furthermore we are interested to explore the effect of educational and occupational differences between partners by including information about the absolute level of educational and occupational resources as well as the differences between male and female partners on these measures.

Data and empirical approach

The data used for this analysis combine three waves (1998, 2000, 2003) of the Family Survey of the Dutch Population (Familie-enquête Nederlandse Bevolking, FNB), a large-scale repeated cross-sectional survey administered in the Netherlands (N. D. De Graaf, P. M. De Graaf, Kraaykamp, & Ultee, 2002, 2003, 2004). The surveys cover the Dutch population

between ages 18 and 70 with an overrepresentation of couples and is based on structured face-to-face interviews and self-completion questionnaires. The FNB is unique in that it registers the complete life-courses of primary respondents and their partners with respect to education, occupation, religion, mobility, and partnership formation through retrospective questioning.

This richness of information enable us to create a person-period file containing monthly information about the relationship, fertility, educational, and occupational state of primary respondents and their partners. The unit of analysis is the couple which implies that our observation period starts at the age the couple started the relationship.

Sample selection

The three waves contain information on 3,209 primary respondents. The subsample used in the current analysis consists of 2,242 couples (69.9% of primary respondents and their partners) where either both partners are childless or indicated the same dates of birth for their children and reported to have started their relationship prior to the birth of their first child. There are another 312 couples (9.7%) in the data where both partners were interviewed but who did not have the first child together and 655 respondents (20.4%) who do not share their household with a partner (of whom 216 had at least one child).

In order to test for possible selection effects into our analytical sample of intact couples, we will estimate our models separately for male and female respondents including all respondents with valid data and for our analytical sample. We will then, if necessary, estimate models containing information on both partners controlling for sample selection by using a Heckman selection model for binary outcomes (Miranda & Rabe-Hesketh, 2006).

Fertility outcomes

We will estimate our models for the transition to first birth and for higher order births separately. For the transition to first birth, each couple in our sample is observed from the start date of their relationship until the birth of their first child respectively until the female partner reaches age 45 or the couple is right-censored by the interview, whichever happens first. In order to avoid misspecification of the order of events, we backdate each birth by 9 month and thus effectively analyse the conception of children.

The start of the observation period for the transition to higher order births is the date of birth of the previous child and ends with the conception of the next child respectively with the female partner reaching age 45 or the couple being right-censored by the interview, whichever happens first. Because the 1998 wave of data collection only included the date of birth for a maximum of 4 children, we reconstruct the fertility history of all couples up to the 4^{th} child. However this is in our opinion not problematic because the number of respondents with more than 4 children in the data is small (75 primary respondents (2.3%), 31 couples in the analytical sample (1.3%)).

Modeling strategy

The dependent variables for the analyses of the transition to first and higher order births is measured on a monthly scale and is a binary indicator taking the value 1 in the month when conception occurred. We thus analyze the *probability of conception* occurring during the specified monthly interval (t), conditional on the fact that conception did not occur before time t.

We estimate discrete-time event history models of first and higher order births where we include frailty on the couple level to account for unobserved heterogeneity (Mills, 2011; Steele, 2005). The model for higher order births is specified as a repeated event model, implying that we analyse a multilevel model with a two-level hierarchical structure where fertility episodes (level 1) are nested within couples (level 2) (Steele, 2005).

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