New Partners, New Children in Sweden

Jennifer A. Holland[1]
Elizabeth Thomson[2]

September 15, 2008

Extended Abstract
Submitted for the 26th IUSSP International Population Conference
Marrakech, Morocco 27 September - 2 October 2009

[1] Corresponding author, Department of Sociology, 1180 Observatory Drive, University of Wisconsin-Madison, Madison, WI 53706, USA.
[2] University of Wisconsin-Madison and Stockholm University

New Partners, New Children in Sweden

ABSTRACT

The increasing incidence of childbearing with more than one partner is the feature of the Second Demographic Transition that has perhaps the greatest implications for family life. It is also a phenomenon that may be significant in the maintenance of fertility levels only moderately below or very close to replacement. In this paper, we use data from the 2000 Swedish Level of Living Survey (LNU) to update research on stepfamily childbearing in Sweden. We model parity-specific birth risks as a function of the union status of prior births to test the hypothesis that birth risks are elevated if the child will be the first in a new union or if she will be the first full sibling to the couple's shared child. We also consider differences in stepfamily childbearing by whether prior children were born in a prior coresidential partnership or to couples who did not live together. We also show how the age of the youngest stepchild alters differentials in birth risks between couples with and without stepchildren.

INTRODUCTION

The past three decades have been a time of rapid family change in Europe, often referred to as the Second Demographic Transition. European fertility rates have dropped to below-replacement levels (2.1 children per woman), individuals are marrying later and less often, cohabitation has become a precursor to and a substitute for marriage, divorce and union dissolution rates have risen, and there is an increasing incidence of childbearing with more than one partner. This last phenomenon has perhaps the greatest implications for family life and may also be significant in the maintenance of fertility levels only moderately below or very close to replacement.

In this paper, we use data from the 2000 Swedish Level of Living Survey (LNU) to extend research on relationships between partnerships and childbearing. We update previous research on stepfamily childbearing in Sweden (Vikat, Thomson & Hoem 1999). The LNU provides data covering more recent as well as older cohorts and thus a longer historical period.

PREVIOUS RESEARCH

Second and higher order births are increasingly rare events in wealthy countries. With the exception of the United States, Ireland and Iceland, total fertility rates in North America and the European Union are universally below 2.0 children per women (Population Reference Bureau 2007). Scholars have identified a number of ideational, economic and political mechanisms associated with the Second Demographic Transition that act to depress fertility (Lesthaeghe and van de Kaa 1986; Lesthaeghe and Surkyn 1988; Rindfuss et al 1988; Conrad et al 1996; Farley 1996; Bongaarts and Feeney 1998;

Lesthaeghe and Willems 1999; McDonald 2000). Changes in family contexts – increased gender equality, delayed formation of partnerships and entry into parenthood, increasing divorce and separation – are all part of the process through which fewer and fewer children are born.

On the other hand, some family changes may operate to increase fertility, or at least moderate the degree of decline. In many countries, childbearing as well as sexual activity is increasingly detached from marriage. Added to high rates of divorce and separation among parents, these changes increase the pool of single parents, thus increasing the possibilities for formation of new partnerships. In new partnerships, possibilities for further childbearing increase, resulting potentially in higher fertility rates (Thomson, Winkler-Dworak, Spielauer & Prskawetz 2007).

Griffith, Koo & Suchindran (1985) were the first to identify motivations for the birth of 'extra' children in stepfamilies. They argued that while first births are motivated by the value of *parenthood*, whereby the birth acts to confirm the adult status of the parents, and by *commitment*, where the birth establishes the legitimacy of the parents' union, higher order births are motivated only by the desire for a sibling, i.e., the perceived benefits of siblings for child well-being. If the second or higher order birth is in a new union and is the first shared child for the couple, both sibling and commitment value will work to encourage further childbearing. By specifying parity progressions in terms of both partners' shared and separate children, Thomson and colleagues (Vikat, Thomson and Hoem 1999; Thomson et al. 2002; Vikat, Thomson & Prskawetz 2004; Henz and Thomson 2005), find very strong support for the commitment value of a common child, and thus a force for increased childbearing under conditions of high instability of parental unions. In some instances, support was also found for the value of a full sibling (second shared birth). Thomson (2004) demonstrated that patterns were similar for birth intentions as for observed births, supporting the underlying motivation-based theory.

In this analysis, we update earlier research on Swedish stepfamily childbearing (Vikat, Thomson and Hoem 1999), using more recent data and modelling birth risks in ways that more fully capture differences between childbearing in stepfamilies and among couples with only shared children. In particular, we model birth risks in continuous time, estimate potential unique effects of stepchildren born to lone parents versus those born to coresident couples, and demonstrate how the timing of new unions in relation to the ages of parents and stepchildren modifies estimated stepfamily effects. We show that the Swedish case continues to support the general hypothesis that stepfamilies produce ‘extra’ children but that those effects are conditioned to a considerable extent on the point in the life course at which stepfamilies are formed.

DATA AND METHODS

Data

We use Swedish data from the 2000 Level of Living Survey (LNU). The LNU is a 1/1000 random sample of the Swedish population between 15 and 75 years of age, first conducted in 1968. The survey was replicated in 1974, 1981, 1991 and 2000. In the last two waves the lower age limit was increased to 18 and complete birth and union histories were collected.

We restrict our sample to Swedish-born respondents who have had only singleton births, did not report an adopted or a deceased child, and did not report births less than six months apart. A handful of respondents who did not report the year of each birth are also excluded.[3] The final analysis sample consists of 3,023 respondents and 3,247 unions at risk for a second birth and 2,275 respondents and 2,478 unions at risk for a third birth.

We combined union and birth histories in order to assign each birth to the respondent's union(s) or to periods of living alone. In some cases union start and end months are reported by quarter rather than month or are missing altogether. We impute union start and end months where missing or reported as a quarter; imputations were made for 267 unions and 224 respondents. Children are 'assigned' to a union if they were born within nine months of the union's end. Children not assigned to previous unions but born within 12 months prior to a new union are assigned to that union. Only children born more than nine months after a union and more than 12 months before a subsequent union are considered to be born 'out' of any union.

Methods

We estimate parity-specific birth risks (2nd and 3rd births) separately for those who have had, respectively, a first or second birth. Observations are censored at interview and at the end of the childbearing years: age 45 for women and age 50 for men.[4] In total, the 3,023 respondents with a first birth contribute 180,461 person months of observation and 2,281 second births, while the 2,275 respondents with a second birth contribute 255,807 person months of observation and 820 third births.

Lillard and Panis (2003) note that there may be numerous underlying "clocks" inherent in duration-dependent risk models. In order to fully understand duration

[3] In two instances the birth month was missing; we assigned the birth to June.
[4] As a result of censoring at age 45 for women and 50 for men, we fail to observe 11 births.

dependence of a particular event, it is necessary to be clear on the specific "clock" of interest and to disaggregate any associated "clocks" that may confound the analysis of the "clock" of interest. In addition, the meaning of a "clock" may differ for populations of interest, in our case persons with and without children from a prior partnership. For all second or third births, the usual "clock" is time since the previous birth or age of youngest child. One is not, however, at risk of a birth in a stepfamily union until the union is formed. Consequently, we specify the baseline "clock" as time since union formation in those families without a shared birth. In future analysis we will extend our model to capture the risk of a birth outside of unions with new noncorresident partners.

We model the risk of a birth in continuous time using Cox proportional hazards models (Cox 1972; Blossfeld, Golsch and Rohwer 2006). The duration variable is not parameterized and, thus, there is no assumption about the underlying shape of the baseline hazard function. Li (2006) demonstrated that the difference in pace of parity transitions among intact and stepfamilies in the United States resulted in non-proportionality in the birth hazard function. We test for interactions between the baseline hazard and duration, and relax the assumption of proportionality where appropriate. Additionally, in our final model, we add a conditional piece-wise linear spline representing the age of the youngest stepchild at and after the stepfamily union is formed.[5]

---

[5] Vikat and colleagues (1999) used piece-wise constant specifications of duration dependencies. They included union duration and age of youngest child for all birth spells but did not consider the potentially different meaning of union duration for couples with and without shared children. Their specification also does not take into account constraints on the empirical relationship between stepfamily status and age of youngest child, i.e. that stepfamilies are rarely observed before the youngest child is under three, the period during which most full siblings are born.

Our central interest is the relationship between the union status of prior births and the risk of a subsequent birth. For the second birth risk, we specify whether the union is or is not the same as that producing the first child. We also distinguish first children assigned to a previous union or to a non-union spell. For the third birth risk, we specify whether the union is the same as that producing the second child, the second and first children, or neither.

Because we do not have information on the number of children born to prior partners, we cannot estimate a 'full' parity model as in some previous analyses (e.g., Thomson et al. 2002; Thomson 2003; Vikat, Thomson & Prskawetz 2004; Henz & Thomson 2005). This is the same limitation faced by Vikat, Thomson & Hoem (1999) in their previous analysis for Sweden. Neither do we have good quality data on the coresidence of stepchildren with the respondent. Because almost all children live with the mother after parental separation, we tested differences between models for male and female respondents to infer differences between effects of coresident and non-resident step-children on the couple's subsequent births (cf. Vikat, Thomson & Prskawetz 2004).

We include marital status as a time-varying covariate in some models. Because marriage may be endogenous to the risk of a birth and therefore mask important differences between stepfamilies and couples without stepchildren in their birth risks, we present models with and without controls for marital status. We also note that in the LNU data, marital status is known only at the end of each calendar year. Because almost all Swedish couples cohabit before marriage and because marriage often follows the birth of children, we assume that all marriages take place in June or, if the union was formed in the same year of marriage, midway between the union month and December.

For both the second and third parity estimates of birth risk, Model 1 is the baseline model including indicators of the union status of prior births, i.e., stepfamily status. Model 2 adds controls for sex and age of respondent (or in the case of sex-specific models, only age of respondent). Age may matter for second birth because of biological factors and is specified with a series of time-varying splines.[6] Model 3 introduces time-varying dummy variables for period, which allow us to capture differences in the risk of a birth across time. Finally, in Model 4 we introduce a measure of age of the youngest child, a set of categorical variables conditioned on the most recent birth occurring prior to the current union. As mentioned above, for couples where all children were born prior to the union, the baseline clock in the Cox model is duration of current union. By including this interaction term, we are able to capture duration dependence related to the youngest stepchild's age.

[6] The spline specification and these particular nodes were chosen based on the estimated AIC and BIC selection criterion from several specifications (continuous, dummy variable, splines with alternative nodes), not shown here.

REFERENCES

Blossfeld, Hans-Peter, Katrin Golsch and Götz Rohwer (2006). Event History Analysis with Stata. Mahwah, NJ: Erlbaum.

Bongaarts, J. and G. Feeney. 1998. “On the Quantum and Tempo of Fertility.” *Population and Development Review* 24:271–91.

Conrad, Cristoph, M. Lechner and Welf Werner. 1996 “East German fertility after unification: crisis or adaptation?” *Population and Development Review* 22(2): 331–58.

Cox, D. R. 1972. “ Regression Models and Life Tables” Journal of the Royal Statistical *Society Series* B34: 187-220.

Farley, R. 1996. The New American Reality: Who We Are, How We God Here, Where We Are Going. New York: Russell Sage Foundation

Griffith, Janet D., Helen P. Koo, and C. M. Suchindran. 1985. “Childbearing and Family in Remarriage.” *Demography* 22:73-88.

Henz, Ursula, and Elizabeth Thomson. 2005. “Union Stability and Stepfamily Fertility in Austria, Finland, France & West Germany.” *European Journal of Population* 21: 2-29.

Lesthaeghe, R. and J. Surkyn. 1988. “Cultural dynamics and economic theories of fertility change,”. *Population and Development Review* 14: 1–45.

Lesthaeghe, R. and van de Kaa, D. J., 1986. 'Twee Demografische Transities?', in D. J. van de Kaa and R. Lesthaeghe (eds), Bevolking: Groei en Krimp. Van Loghum Slaterus, Deventer, 9–25.

Lesthaeghe, R. and P. Willems. 1999. “Is Low Fertility a Temporary Phenomenon in the European Union?” *Population and Development Review* 25(2): 211-28.

Li, Jui-Chung Allen. 2006. “The Institutionalization and Pace of Fertility in American Stepfamilies.” *Demographic Research* 14(12): 237-66.

Lillard, L. and C.W.A. Panis. 2003., aML Multilevel Multiprocess Statistical Software, Version 2.0. Los Angeles: EconWare.

McDonald, P. 2000. “Gender Equity in Theories of Fertility Transition.” *Population and Development Review* 26(3): 427-39.

McLaughlin, S. D., B.D. Melber, J.O.G. Billy, D.M. Zimmerie, L.D. Winges, and T.R. Johnson. 1988. The Changing Lives of American Women. Chapel Hill: University of North Carolina Press.

National Research Council. 2000. Beyond Six Billion: Forecasting the World's Population. Washington, DC: National Academy Press.

Rindfuss, R. R., S. P. Morgan and G. Swicegood. 1988. First Births in America: Changes in the Timing of Parenthood. Berkeley: University of California Press.

Thomson, Elizabeth. 2004. “Stepfamilies and Childbearing Intentions in Europe.” *Demographic Research* S3-4 [www.demographic-research.org]

Thomson, Elizabeth, Jan M. Hoem, Andres Vikat, Isabella Buber, Alexia Fuernkranz-Prskawetz, Laurent Toulemon, Ursula Henz, Amy L. Godecker and Vladimira Kantorova. “Childbearing in Stepfamilies: Whose Parity Counts?” 2002. In E. Klijzing and M. Corijn (eds.), Fertility and Partnership in Europe: Findings and Lessons from Comparative Research. Volume II. Geneva/New York: United Nations.

Thomson, Elizabeth, Maria Winkler-Dvorak, Martin, Spielauer and Alexia Prskawetz. 2008. "Union Stability as and Engine of Fertility? A Micro-simulation Model for France." Presented at the European Population Conference, Barcelona, Spain, 9-12 July.

Vikat, Andres, Elizabeth Thomson and Jan M. Hoem. 1999. "Stepfamily Fertility in Contemporary Sweden: The impact of childbearing before the current union." *Population Studies* 53(2): 211-25.

Vikat, Andres, Elizabeth Thomson and Alexia Prskawetz. 2004. Childrearing Responsibility and Stepfamily Fertility in Finland and Austria. *European Journal of Population* 20:1-21.