Stepfamilies in Denmark and France. Does the number of previous children from both partners and whether the previous children live with the couple influence fertility?

Prepared for the European Population Conference 2006 "Population Challenges in Ageing Societies", Liverpool, UK, 21-24 June 2006.

Session 31: Gendering family dynamics network 1

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Abstract

Based on large data sets, we compare stepfamilies' fertility in Denmark and France related to which partner brought the stepchildren, being co-resident or not, interactions with shared children, and non-monotonous variations with the number of previous stepchildren, assuming that the main results should be similar in the two countries. Stepfamilies are increasing in both countries, but are most common in Denmark. Almost all co-resident stepfamilies involve a stepfather. If the woman has one child born before the union in France, fertility is lower at shared parity 1, but not if the couple has no shared child or already has 2+ shared children. If the couple is living with a coresident child from the man, fertility is much higher at shared parity 0: these stepfamilies rapidly a first shared common child. Such a large effect is not found among French stepfamilies. It is likely that under-declaration of stepchildren occurs more often among French stepfamilies with shared children.

Background

In both Denmark and France, the past decades have shown profound changes in the patterns of fertility as well as in family formation and family dissolution. The large increase in union disruptions has not been linked with a decline in overall fertility: Births occurring in a second union seem to compensate for the lower fertility of women who end rapidly their first union. Total fertility rates in both countries are relatively high, although still below replacement level: 1.76 in Denmark and 1.89 children per woman in France in 2003. Considering completed cohort fertility, Denmark has experienced a stronger decrease since the cohorts born in the 1940s than observed in France. However, Danish women born in the late 1960s have overtaken their predecessors as regards average number of children born before age 35 (app. 1.7): Apparently women born in the 1960s began their childbearing late but still manage to have as many children as previous cohorts. In France, cohort fertility is still higher than two children per woman in average Toulemon 2003, Sardon 2004).

Living in consensual union has become more and more widespread since the late 1960s in both countries. Correspondingly, consensual unions have become more and more equal to legal marriage, regarding mutual responsibilities and rights between the two partners and between a non-married parent and the child. However, it was not until the 1980s, that cohabitants in Denmark received the same mutual legal rights as spouses, e.g., regarding inheritance. In France the difference between married and unmarried couples still remains, while the statuses of children born out of wedlock (but recognized by their both parents) or within marriage have become identical in 2005. During the 1990s, the proportion of newborns born outside marriage stabilized around 45 in Denmark; in France it went on increasing and has reached the same level in 2003. Most of these children, though, were born to women living in a consensual union with the father of the baby. The proportion born outside marriage in Denmark is still elevated among first born children compared to later born children to a couple, indicating that the parents marry after the first, or second child (Heide Ottosen 2000; Knudsen 2002; Vital Statistics 2003). The percentage born into a lone-parent family was less than 10% (Christoffersen 1993, Toulemon 1995, Algava 2005).

Marriage has remained the predominant family type for couples when all ages were considered even though a smaller proportion married before a given age in each successive cohort of both women and men (Vital Statistics 1998), while living in consensual unions has grown to be the most common family form among people in their twenties. In the beginning, cohabitation often functioned as a marriage on trial, but over the years this family form has become more popular and is now more frequently a long, stable relationship in line with a legal marriage.

A great part of the marriages occur among couples who have lived together in consensual union for some years and it has been shown for Denmark, that less than 10% of women born in 1962-73 married directly when they left their parental home before age 25 (Carneiro, Knudsen 2001). The process of leaving home has been shown to be very concentrated for women between 18 (the upper age of being a legal minor) and up till 23: In 1994 approximately 90% of the young women in Denmark had left their parental home at the age of 23 (Carneiro, Knudsen, Osório 2002). In France the young adults leave the parental home later, but the cohabitation has become nearly as common: nine first unions out of ten in the 1990s began without a marriage (Toulemon 1997).

The development of a family pattern consisting of a number of rather long-lasting partnerships during a lifetime, separated by periods as a single, is part of the second demographic transition. Cross-sectional accounts provide the impression of many people living alone, which by no means should be regarded as a new predominant way of life for the

whole lifetime, but sketches a background for a society with an increasing complexity of conjugal biographies.

With marriage being the predominant family form for people in their 30s, it is an interesting observation that marriages from the latest decade in Denmark seem to have a lower risk of dissolution than marriages contracted in the previous decades. One of the suggested reasons is that when a couple marries they have in many cases lived together for several years and may have one or more child(ren). In other words, they marry by choice and not by need. A specific investigation based on the data in the Population Statistics Register, conducted by Statistics Denmark for the year 1996, further showed a higher stability in marriages than in consensual unions: Less than 2% of men and women living in marriage, underwent divorce during 1996, while 6 and 17% of those living in consensual unions with and without joint children, respectively, experienced a break-up of their family during that same year (Vital Statistics [1996] 1998). In France unmarried cohabitation is also associated with a much higher instant risk of union disruption, and the increasing trend of unions ending with a disruption can be associated with the decline and delay in marriage, letting more and more couples "at risk" before or without a marriage (Toulemon 1997).

The new family patterns may imply that an increasing proportion of women and men (and of children) will experience several co-resident partnerships or families with or without children during their lifetime. The most general pattern in the formation of a stepfamily is that the woman brings her natural children into the new family, although some of the stepfamilies also include the men's natural children from previous partnerships. Viewed from the child's perspective, Danish vital statistics show that among children at all ages (0-17 years) a greater proportion is living with the mother and her new partner than with the father and his new partner, but also, that less than 10% (6.1%) of the children of that age (girls as well as boys) in Denmark 1 January 2000 were not living with at least one of their natural parents.

Relatively speaking, living in a stepfamily - either with the mother and her new partner or with the father and his new partner - was the case for 1% among the youngest children and 12% among the oldest children (17 years). Both categories increase the older the child is, but the proportion living with their father alone or with the father and a new partner, are much less than the corresponding proportions living with their mother with or without a new partner.

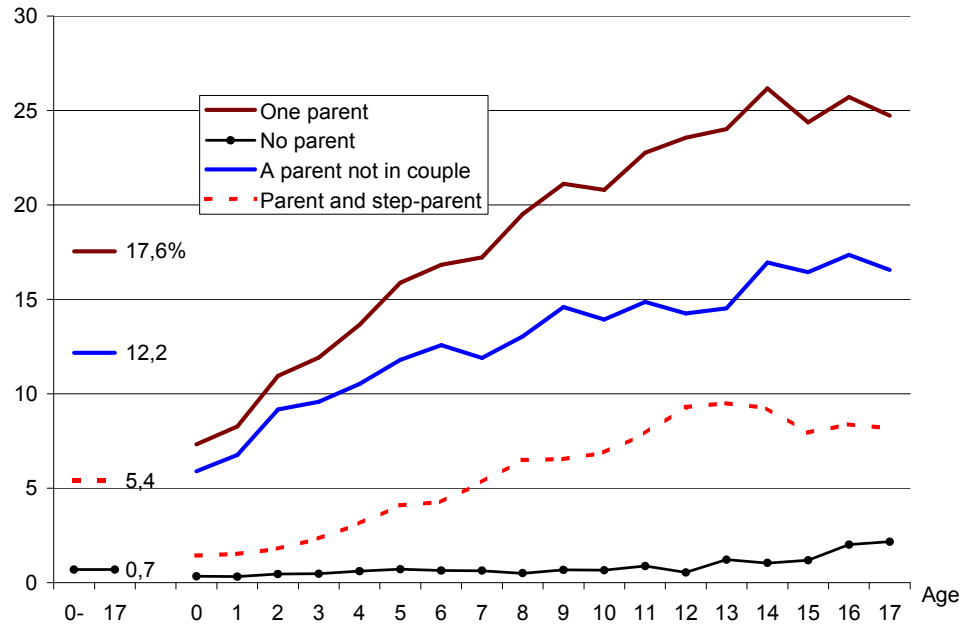
To elucidate the lifetime perspectives for the children, the cross-sectional picture can be supplemented by findings from calculations and a recent survey. Christoffersen (2002) has conducted a life-table analysis, which shows that family separation probabilities are higher for young children than for older children. This analysis was based on cross-sectional information on the family situation of children at different ages in the years 1980, 1989 and 1999. However, not all of these separations are due to family dissolution by divorce or break-up of a consensual union, as some of the children experience the death of one of the parents, which can be estimated to 2-3%. Christoffersen (2002, p. 236) refers to a follow-up of the 1973-cohort of children, which was followed from the age of 6 to 18, and among those children 2.8% lost a parent by death during that period. Findings from a survey conducted in 1994 showed that 39% of the 17-year-old children in Denmark had experienced at least one change in the composition of their family (Heide Ottosen 1997).

A recent study at the national level based on the Children's Database in Statistics Denmark, traced the family composition of all 17-year-old children in the country as of 1 January 2001, back to the time of the birth of the child. 58% of these children had lived in just one family all their life. Considering those children living with their natural mother and father in 2001, as many as 92% had lived in that family all their lives. Approximately half of those living with a

single mother or father at the age of 17, had lived in two families, which means that they most probably have lived with both their parents until a family dissolution (Børns levevilkår 2002, p. 38). The same study showed that approximately 10% of the children in each age group 0-17 lived with one or more half-sibs as of 1 January 2001 (Børns levevilkår 2002, p. 45).

In France, among children aged less than 18 in 1994, 83% were living with both parents, while the others were living with their mother, alone (11.5%) or with a new partner (3.9%). Very few children were living with their father (0.8% and 0.7% respectively. The proportion of children living with both parents was 92% among very young children (0-2 years of age) and declined with children's age, as in Denmark. But the proportion living with both parents was 74% at ages 15-17, indicating that family disruptions are less frequent than in Denmark (Villeneuve-Gokalp 2000). A recent employment survey conducted in 2004 by the national institute of statistics (Insee) includes new questions on the presence of own children and partner for all members of the household, allowing identifying the parents of each child and their partner living in the household. It indicates that 82% of children aged less than 18 live with both parents; 17.6% live with one parent only, and 5.4% with one parent and his/her new partner; 1.4% of children less than one year and 9.5% among children aged 13 live with a parent and his/her new partner (Figure 1).

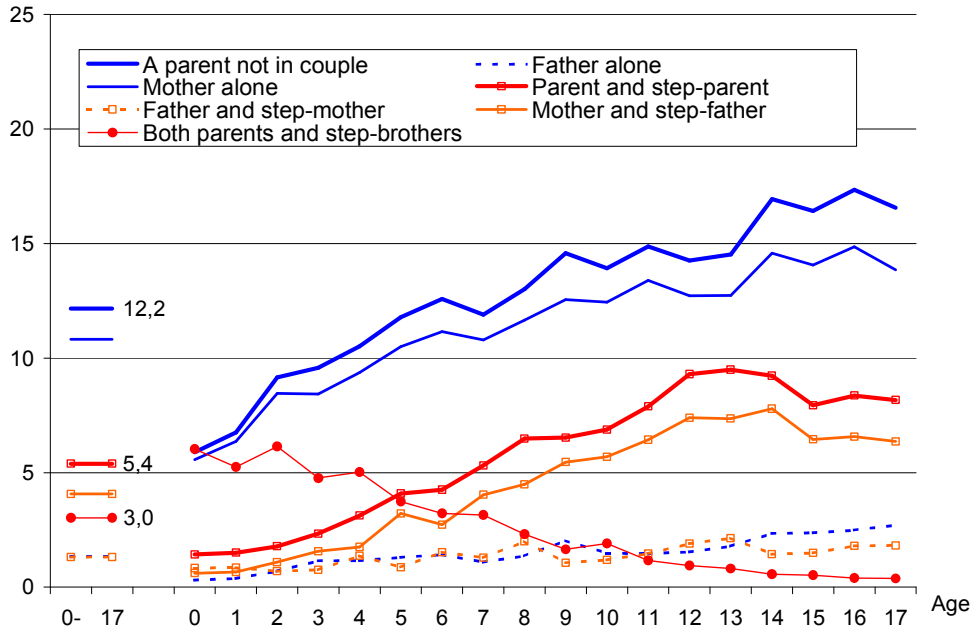
Figure 1. Proportion of children living with one parent or no parent



Source: Insee, 2004 Employment survey (own calculations)

Most children living with one parent live with their mother. Among children living in a stepfamily, 4.1% live with their mother and stepfather, 1.3% with their father and stepmother. In addition 3% children (6% at age 0) live with both parents and stepsiblings (Figure 2).

Figure 2. Proportion of children living in a one-parent family and in a stepfamily, by sex and conjugal situation of the coresident parent



Source: Insee, 2004 Employment survey (own calculations)

Purpose of this study

Both the French and the Danish data offer opportunities to study precisely the fertility of stepfamilies in relation to previous fertility histories of both partners, as well as socio-demographic characteristics.

In stepfamilies, the number of children may not be the same for both partners, and it differs from the number of children shared by both partners. Studying stepfamilies fertility allows testing several hypotheses on the value of children for men, women and couples (Thomson 1997). As most children stay with their mother in case of parental disruption, most stepchildren live with their mother and a stepfather, and very few live with their father and a stepmother. Most studies based on the FFS or equivalent surveys are thus limited by the sample size, when they test hypotheses about the variations of fertility with, on the one hand, the co-residence of stepchildren (born to one partner only) and the couple and, on the other hand, the sex of the parent (Thomson *et al*. 2002).

Previous studies on French stepfamilies have shown that the fertility of stepfamilies was strongly varying with woman's total parity, and that man's children born before the union were not associated with major changes in fertility (Toulemon, Lapierre-Adamcyk 2000). No significant result could be shown from the information whether children born before the union were living or not with the couple.

The same analysis is held on data from the two countries, in order to facilitate comparison. The French data set allows to compare men's and women's answers on their number of children and stepchildren, as well as their place of living, while the Danish register uses definitions of children and of place of residence that are linked to administrative rules. Preliminary analyses on Danish and French data indicated higher fertility in families where only the woman has one child from a previous relationship. Low fertility was seen in families where both partners had previous children and where there was already one joint child.

The aim of that paper is to take benefit of the very large sample size of our two data sets to use models isolating stepchildren living or not with the couple, and stepfamilies with one or more stepchildren from each partner. Moreover, we want to compare stepfamilies and other couples at several "shared parities", as it has been shown that there were many interactions between shared parity and number of children born before the union.

We will first present basic statistics on stepfamilies in France and Denmark, showing the increase in the number of stepfamilies with using demographic synthetic indexes. The French data set allows us to check the consistence in men's and women's answers about their stepchildren, and about the co-residence between the stepfamily and the stepchildren.

Then we will compare the result of simple models on stepfamilies fertility in Denmark and in France, in order to see how robust our results are, under the assumption that the main results should be similar in both countries.

Data used for the analysis

The analysis is based on two different data sources. In Denmark, the data are retrieved from national population-based registers, including information on 1.3 million women of fertile age as of 1994, their family composition and the number of own as well as stepchildren living in the household. For France, the analysis is based on a one-percent survey on family histories, which was part of the French 1999 census (380,000 respondents, men as well as women). The forms included questions about own children, and also on stepchildren.

Denmark

The analysis of the situation in Denmark is based on *The Fertility of Women and Couples Data set* (FWCD), which stem from national, population-based registers in Statistics Denmark (Knudsen, Murphy 1999; Kohler et al. 2002). These registers contain the unique person number, which, since April 1968, has been assigned to each person with a residential permit in Denmark. The person number includes the birthday (day, month and year) plus four digits and is used as an identifier in almost all administrative respects (Eurostat/Statistics Denmark 1995). In the creation of the data set, information regarding the same persons has been linked from various registers by use of this person number. The predominant part of the information retrieved to in the creation of the FWCD, was the *Fertility Database* (FTDB), which comprises annual data on socio-demographic characteristics on both women and men in the fertile age-span, regardless of whether or not they have children (Knudsen 1998). The oldest cohorts for whom the number of children can be considered valid are the women and men born in 1945.

In the FWCD, only women and their co-resident partners are included, which is not a shortcoming for the study of stepfamilies. The annual socio-demographic information includes both the woman's and her partners family, household and housing conditions, educational level, occupational position, income and social benefit. Moreover, the data include any births (time and number) and some birth specific information on each of the children born by any of the women or whom any of the men is fathering. [1] Consequently, this data set gives possibilities for the study of the composition of and fertility in stepfamilies.

[1] When the FWCD was created, the FTDB included socio-demographic information on the adult population in the fertile age (13-49 years for women and 13-64 for men) as of 1 January each year for the period 1980-1994. It is regularly updated and more recent data will soon be available.

The population included in the FWCD consists of all women age 13-49 who were present in the country at least at one 1 January in the period 1980-1994, both years included (which means that the oldest are born in 1930), their children and any co-resident partners of these women, as registered on 1 January[2]. Each annual population of women amounts to approximately 1.4 million persons. The information on the composition of a women's household is available as of each 1 January during the study period. For both women and their partners, socio-demographic characteristics as of each 1 January were retrieved from the Fertility Database.

Identification of children

The population of *children* includes all children in Denmark identified in the FTDB, primarily from the Central Population Register and from the Medical Register of Births and Deaths in Statistics Denmark, see Knudsen (1998). Every child who has a parental reference in the register to at least one of the adults in the population (either to a mother or to a father) is included. For these children (born up until 31 December 1994) the identifier of the child (the person number) is retrieved together with the person number of the mother or the father or both, depending on whether both are identified.

For the children, birth year and sex are known, and by use of the information in the Register of Populations Statistics is has been flagged for each year in the FWCD whether a child lives in a family with its natural mother and/or father, respectively. The variable used to settle whether a child lives with its mother, father or both, is the address code. This address code relates to the official registered place of living and is very detailed as it identifies each single apartment (based on a national register of buildings and dwellings) and as such it is used as a unique identifier of any dwelling and thereby any household in Denmark (Eurostat/Statistics Denmark 1995). In cases in which the child lives with both parents, for instance one or two weeks each place, maybe because the parents keep joint custody over the child in case of divorce, the child will be notified in the registers as living with that of the parents who lives at the same address as the child[3]. By use of the pointers from children to parents, the number of children to whom each member of the adult population is a natural parent, was counted up until each 1 January.

Identification of co-resident partner

The co-resident partner is defined as the male counterpart in a *family* as defined in the public statistics, in which a family is defined in such a way that consensual unions are included as a separate category, distinguishing between couples with at least one joint child and couples with no joint child[4]. Statistics Denmark classifies two co-resident persons who have no joint child and who are not married as a couple in all cases in which 1) they are of different sex, 2) the age difference is less than 15 years, 3) they are not biologically related, and 4) if there are no other adult people, apart from a natural child of either one or both of the people, living at

[2] Updated data will allow to study Danish stepfamilies up to 2001, but we could not manage to use them in due time.

[3] The address is the official place of living, registered by the local authorities, and a child can only be registered in one place, even in case of shared custody.

[4] The register data also provide a possibility to distinguish women living with a female partner, as the form: registered partnership between homosexuals have been legal in Denmark since 1989. However, these partnerships are quite few and, moreover, not of main interest in the general picture of stepfamilies, even though some of these families may include one or more child from a previous relationship.

the same address, as defined by the address code mentioned above. Further, a married couple living at the same address is considered a family too (Vital Statistics [2003] 2004).

If a woman in the study population lives in a family with a male *partner*, as defined here, socio-demographic information relating to the partner, similar to that of the women, is available each year from the FWCD.

Co-parents

The identification of the male partner has been extracted and compared with the identification of the father(s) of the children the woman has, in order to distinguish between joint and own children of the two parents in the family. Thereafter, information on whether a child lives in a family with both or only one of its natural parents has been used in the construction of the types of family.

Consequently, for any family it is possible to identify any children born by the woman and whether the current co-resident partner is a natural parent or a stepparent. The total number of children born by any of the adults in the household can be included in this analysis. The identification of whether the partners were co-parents too, has been done for this present study.

Definition of type of family

The type of family is defined by variables characterizing the relations between the individuals living in the family at the time in question. For each of the adult persons in the family, the number of natural children living in the same family has been counted by using the information telling whether a child lives with it's mother, respectively it's father that year. Subsequently, the families have been distinguished by whether all the children in the family were natural children of both adults (shared children), or whether some of the children (or all) were natural children of only the woman, or only of the man. It should be noted that the main criteria for this grouping is not the total number of children born, but the number of children actually living with one or both of their parents. Further, the number of children of the man and the woman, who are not living in the family, can also be calculated.

France

French data come from the Study of Family History Survey, a one-percent survey that was conducted within the 1999 General Population Census. For the first time, this large-scale survey (380,000 respondents) included men as well as women, aged 18 and over, without any upper age limit. The forms included questions about own children, and also on stepchildren (children from a spouse/partner that the person has brought up). See Appendix for an extract of the questionnaire.

A retrospective survey

A sample of individuals received specific survey forms, in addition to the census forms. For a matter of simplicity, some census enumerators gave specific forms to all the women, others to the men. The form included several questions about present and past family situation: children, stepchildren, and partners. French data are thus subject to memory errors or more widely, reluctance to give information about past episodes. Some respondents may have preferred not to give any information about previous unions (Toulemon, Mazuy 2003). Men and women were given “gendered” forms, but the questions were the same in both forms.

Brought-up stepchildren

The forms included questions about own children (biological and adopted children) as well as about stepchildren. Questions about own children were grouped in a table, one line per child, one column per question: about the sex of each child, month and year of birth, date of arrival into the household (for adopted children), place of birth, age at leaving the parental home and place of residence (if the child was gone); eventually date of death (if the child was dead).

Two sets of questions were asked about stepchildren. On the one hand, the questions about the own children were followed by a general question on brought-up step children: "*In addition to your own children, have you brought up, or are you still bringing up, children of your spouse (or partner) or from a previous marriage (partnership)? If yes, how many?*". A new table included the same questions than for the own children of the person.

Other stepchildren

On the other hand, questions were also asked about partners (the first and the last); some of theses questions were dealing with stepchildren. For each partner, two questions were asked about the children: "*before living with you, did your partner/spouse already have any children? If yes: How many of them came to live with you?*"

It is then possible to separate the stepchildren into three groups: the first group includes stepchildren that the person considers to have brought-up; the second stepchildren who "came to live" with the person, but are not included in the first group as they were not declared as such; finally, step children who did not come.

The date of arrival and of departure of the "brought-up stepchildren" are known, while for the second category no date was collected, nor the number of stepchildren. We thus assumed that the number of stepchildren was 1 or 2 (as the number of brought-up step children is 1.56, most often 1 or 2), and that the stepchildren came to live with the couple immediately after the union formation.

In order to be as comparable with Danish data, anyway, we did consider these stepchildren as co-resident stepchildren: if the person does not write that s/he brought-up the stepchildren, but that the stepchildren "came to live" in the household, it is likely that they would have been registered in the household if the couple was living in Denmark.

Little information is included about the third group of stepchildren, those who did not come and live with the respondent. We only know, for each partner, whether he/she had some children born before the union, and the number of these children who came and live with the couple. This allows us to identify "non-resident stepfamilies", with no stepchildren who came and live with the couple.

Methods

Period total stepfertility rates and total stepfamily union rates

Synthetic indexes are computed as sum of age-specific rates for each period of time, and are therefore directly comparable to period total fertility rates. For each sex and each year, the *Period total stepfertility rate* is computed as the sum of age-specific stepfertility rates. At each age, stepfertility is defined as entering a union with a partner who is already parent, thus gaining one or several stepchildren. For each sex, age-specific stepfertility rates are computed as the ratio of new stepparents by the total number of persons of the corresponding age.

Stepfertility rates may be computed with including all stepchildren, only stepchildren who came, or only stepchildren who are declared as having been brought-up; the unit is the number of stepchildren per person (for his/her lifetime).

The *Period total stepfamily union rates* are computed with taking into account all stepfamily unions, i.e. those where one or both of the partners are already parent. A person may thus enter a stepfamily with becoming stepparent, or with entering a union while being already parent (the partner then becomes a stepparent). Period total stepfamily union rates can be computed with separating unions where own children or stepchildren are present, and with considering only resident children or all children.

Hazard models and logistic regressions

Variations of fertility rates will be estimated by use of Hazard models. The main covariates are the number of shared children and the number of children born before the union, with separating man's and woman's children, children living with the couple and children living elsewhere. For each couple with no shared child, the duration since couple formation is calculated and used as the duration variable, while duration since last birth is calculated and used for couples with one or more shared children. Control covariates such as year of couple's formation and level of education of both partners may also be introduced, but are not used in the present descriptive paper.

We present results from three samples: Danish women or couples from the register data; men and women's samples, from the French Family History Survey. The Danish register extract includes couples where woman is aged less than 50; 800,000 couples are included. For France, we use comparable sub samples of couples where the respondent is aged 18-49: information is available for 82,000 couples from women's sample and 52,000 couples from men's sample. Couples are observed during five years (1994-98 in France, 1990-94 in Denmark). We first present analysis taking into account only co-resident children, for France and Denmark. The occurrence of a birth during the year is estimated with logistic regressions, age and year being used as controls, as our duration variable is not yet available from the Danish register. Our variables of interest are thus the number of shared children (born to the couple) and the number of children born before the union, living with the couple, born to the man only or to the woman only. All these parity variables are coded with three categories: 0, 1, 2+. Control variables are only age and year.

The variations of stepfamilies fertility according to the occurrence of non-resident stepchildren are presented only for France, as the complete Danish dataset could not be used. Other covariates such as spell duration, and level of education are omitted here, as their inclusion did not change the results in the French samples.

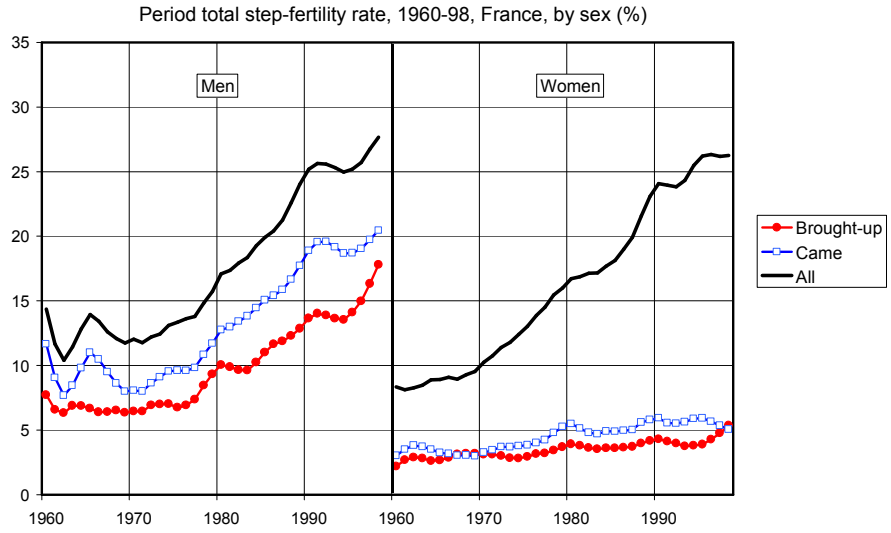
The increase in the number of stepfamilies

Men's and women's stepfamilies in France

Reliable rates and synthetic indexes can be computed for the period 1960-1998, as for previous years it may be assumed that the answers of people still alive and present in 1999 may not be representative. The total stepfertility rate is increasing during the period 1960-1998, for men as well as for women. During the 1960s it is estimated as 12 stepchildren per man and 9 stepchildren per 100 women (Figure 3). Since the beginning of the seventies it is on the increase, and reaches 25 stepchildren per 100 persons (men or women) during the 1990s.

The overall level of stepfertility is similar for men and women, but the distinction between coresident and non-coresident stepchildren introduces a major difference. During the 1990s, 100 men would have 25 stepchildren, but they would not live with all of them. Nevertheless, they would live with 20 stepchildren, and would bring up 15 stepchildren: most stepfathers are living with their stepchildren, and they often declare to have brought them up. The figures are very different for women: women have as many stepchildren than men, but the level of the total period stepfertility rate for women is no more than 5 brought-up stepchildren for 100 women, without any noticeable increase since the 1960s.

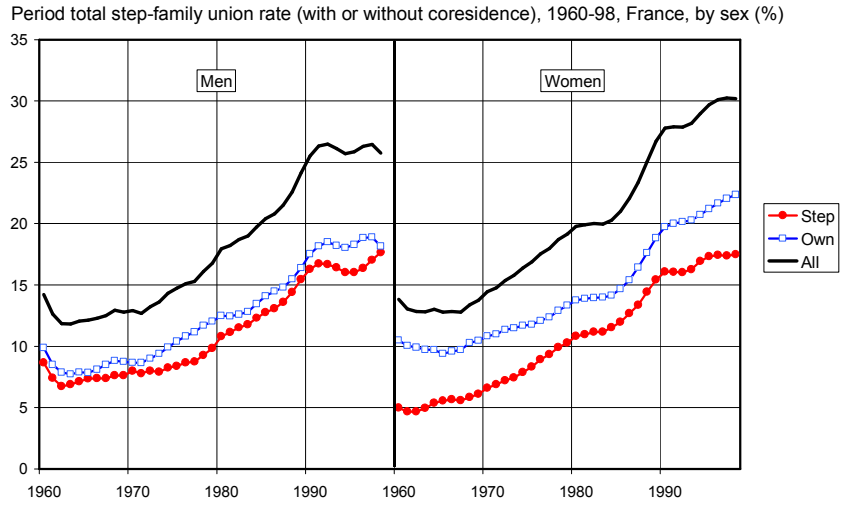
Figure 3. Stepfertility in France, 1960-98. Stepchildren per 100 men and 100 women



The total stepfamily union rate exhibits similar trends, but gives a different image of stepfamilies (Figure 4). The number of stepfamilies per 100 men or women increases with time like stepfertility: from 10 stepfamily unions pet 100 men or women in the 1960s to 25 in the 1990s. On the one hand stepchildren often come by two, and the frequency of becoming a stepparent is lower than stepfertility: in the late 1990s the level reaches 17 stepfamily unions per 100 men or women. On the other hand entering a stepfamily is also possible with "offering" stepchildren to the partner: people already parent who enter a union are creating a stepfamily. This computation just reflects both sides of the token: stepfamilies seen from the point of view of the stepparent or of the parent. The comparison of estimates from the male and female samples indicates that women probably under-declare their stepchildren.

According to the total period stepfamily union rates, 10 stepfamily unions for 100 men or 100 women would include children born before the union from both partners. As a consequence, the two indexes of entering a stepfamily as a parent or as a stepparent do not add.

Figure 4. Stepfamily unions in France per 100 men and 100 women, 1960-98

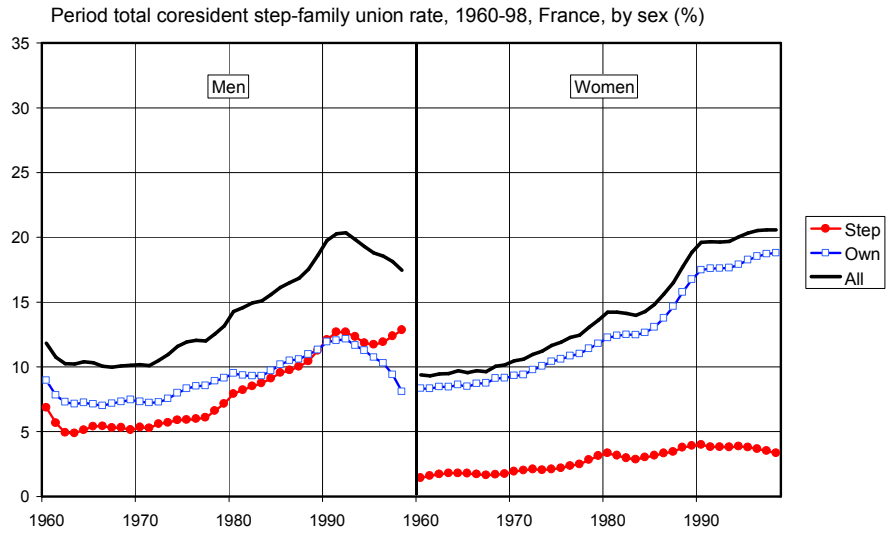


All stepfamilies are not coresident, as some stepchildren may never live with their stepparent. Looking only at coresident stepfamilies, the overall level of stepfamily unions is 20 per 100 men or women (Figure 5). Here again, the figures are completely different for men and women: an average man experiences as often living in a stepfamily as a stepfather (with a partner and her children) than as a father (with a partner and his own children), while women are very few to experience being a coresident stepmother: in almost all cases they live with their own children and a new partner.

It is likely that men overdeclare the past coresidence with their children: the total coresident step family union rates during the 1990s is unlikely, and it may be explained by a declaration bias: most recent data are more reliable. The census form was filled at the same time than the survey form, so that children who were not registered in the census as living in the same household are not likely indicated as living with the couple in the survey form. But it is likely that men report that their children used to live with them after the disruption of the union with the other parent, even if the children just came to visit their father from time to time.

For women, living is a stepfamily most often means living with their own children and a new partner, as for children coresident stepfamilies are most often made of their mother and stepfather. It could be that women overestimate the coresidence with their own children. As a matter of fact, 10% of children whose parents are separated share their time between the two parental homes (Villeneuve-Gokalp 2000). It is likely that these children are declared as coresident by their parents but not by their stepparents, if they have some.

Figure 5. Coresident stepfamily unions in France per 100 men and 100 women, 1960-98.

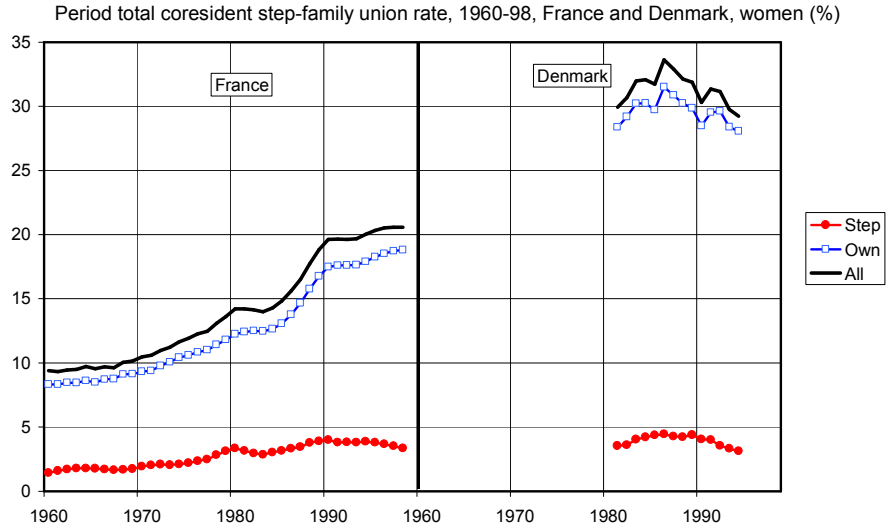


Stepfamilies are more frequent in Denmark

Some inconsistencies are found between "male" and "female" estimates for France, indicating that the notion of stepchildren, and especially of co-resident stepchildren, is not straightforward. These inconsistencies may not occur in Danish data, as children must be registered at one single home.

Danish data, available for the years 1981-94, indicate that stepfamilies are much more common in Denmark than in France. The frequency of stepfamilies where the stepmother and stepchildren are living together remains rare, and almost all co-resident stepfamilies involves a stepfather (Figure 6). The data do not exhibit any increase during the period under consideration.

Figure 6. Co-resident stepfamily unions per 100 women, France and Denmark



Relative fertility of stepfamilies

The study of stepfamilies fertility, compared to couples with no child born before the union, allows us to answer several questions. First, the idea that children can have different kinds of value for their parents can be tested among couples where the number of children ever born is not the same for both partners. Elisabeth Thomson and colleagues proposed to disentangle these values, with isolating three values of children, and therefore three effects that lead couples to have children: the "union commitment effect", the "parental status" effect and the "sibling relationships" effects (Thomson 1997; Vikat, Thomson, Hoem 1999; Thomson et al. 2002).

At the macro level, second unions can be described as a "fuel" for higher fertility, if most people enter a second union after a union disruption, and if most couples want to have at least one child in the new union (union commitment) or two (full sibling).

Comparative studies on stepfamilies fertility did not show very stable results (Thomson *et al* 2002). More sophisticated models indicate that the fertility of stepfamilies could be underestimated due to hidden heterogeneity, if fertility is controlled for total parity (children form both partners) (Henz, Thomson 2005).

We first present the changes in fertility in France and Denmark, according to the number of coresident stepchildren.

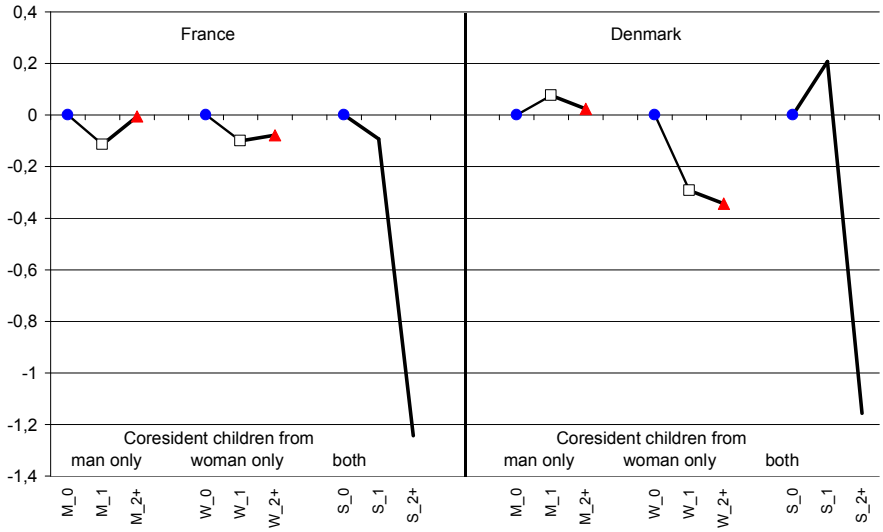
The impact of coresident stepchildren in Denmark and France

An overall limited impact

Among the three parity variables, the number of shared children has a major impact, in France as well as in Denmark: the log-odds are less than -1, indicating that fertility is divided by three when the couple already has two children, compared to couples with non shared child. The occurrence of a first shared child is linked with a higher fertility in Denmark, where the second child often come close to the first, while in France the impact is very limited.

The occurrence of children born before the union is associated with lower and less stable overall changes in fertility. In Denmark fertility rates are reduced by a fourth when the woman is already mother, while children born to the man are associated with a (slightly) higher fertility; in France couples with co-resident stepchildren seem to have a lower fertility, but the contrasts are small (Figure 7).

Figure 7. Log-relative fertility, France (women's answers) and Denmark, all parities combined, coresident children.

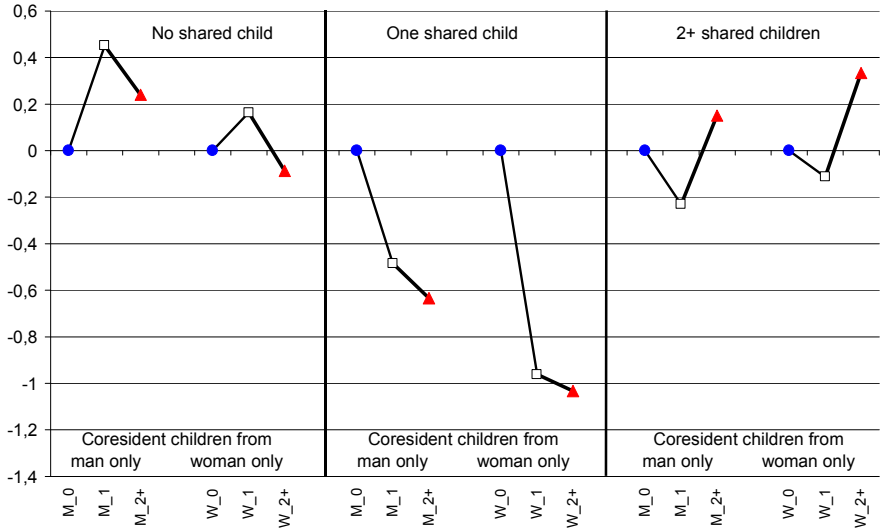


In Denmark, at least one common child in the stepfamily

The changes of fertility associated with the occurrence of stepchildren are linked with the couple's shared parity. Models including an interaction between the number of shared children and the number of stepchildren led to complicated results, and we separate the presentation of results from our three samples.

Among Danish couples with no shared child, fertility is higher if the couple is living with one stepchild, especially if the stepchild comes from the man. But this difference vanishes when the couple lives with two children born to a partner before the union (Figure 8, left).

Figure 8. Log-relative fertility, Denmark, by occurrence of stepchildren from the man and from the woman. One model for each shared parity, with no interaction, coresident children.



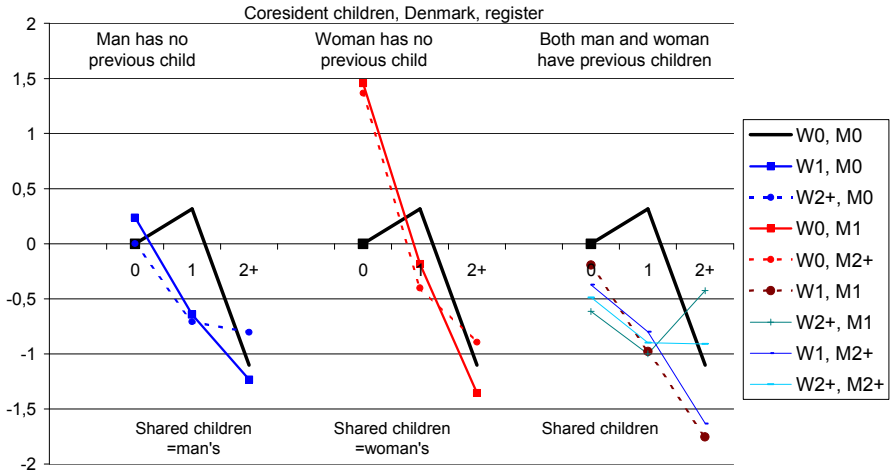
Among couples with one shared child (Figure 8, middle), the occurrence of stepchildren is associated with a much lower fertility. Couples are reluctant to move from two to three resident children, even if the children are stepbrothers (no "full siblings effect"). The contrast

is a little stronger if the stepchild comes from the mother, and if there are two stepchildren. For couples with two shared children (Figure 8, right), the effects are limited, and just go to the opposite direction than for couples with no shared child: one stepchild is associated with a lower fertility, two stepchildren with a higher fertility.

These figures appear to be more complicated when we look at interactions between the changes associated with stepchildren from both partners. Figure 9 presents the changes of fertility with the number of shared children (0,1, 2+), each curve corresponding to a certain type of stepfamily: The category (W0,M0), couples with no child born to the woman before the union (W0) and no children from the man (M0) is used as a control. The eight other categories correspond to stepfamilies with 0, 1 or 2 children born to each partner: (W1,M1) for stepfamilies with one child to the mother and no child from the man; (W2+,M0) couples with two or more woman's children and no child from the man, (W1,M1) couples with one child born to each partner, etc.

The curves of Figure 9 are divided in three sets: on the left couples where the man has no previous child; in the middle couples where the woman has no previous child; on the right couples where both partners have a child. The control category (W0,M0) is present in each set; the reference group for all curves is couples with no child at all (W0, M0, no shared child).

Figure 9. Log-relative fertility, Denmark, by shared parity and occurrence of stepchildren from the man and from the woman. Model with interactions, coresident children.

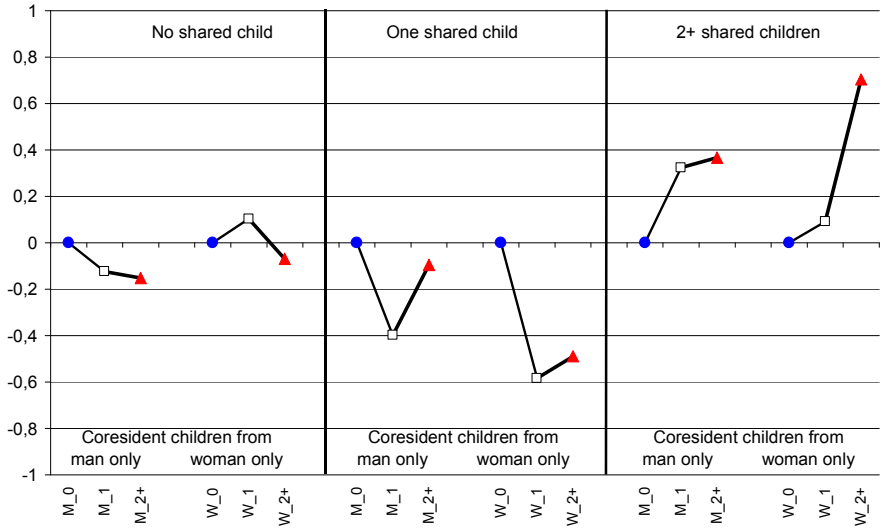


Among couples with no shared child, fertility is much higher if the man has a stepchild of his own or two (red curves, Figure 9, middle) but to a much limited extend if the woman has one child (blue curve, Figure 9, left). If both partners already have a child, couple's fertility is not much lower than if both partners are childless (Figure 9, right). If the couple already has one shared child, fertility is lower if the woman already had a child, irrespective of the number of stepchildren from the man, while stepchildren from the man only does not make a large difference.

French women sample confirm the "union commitment effect"

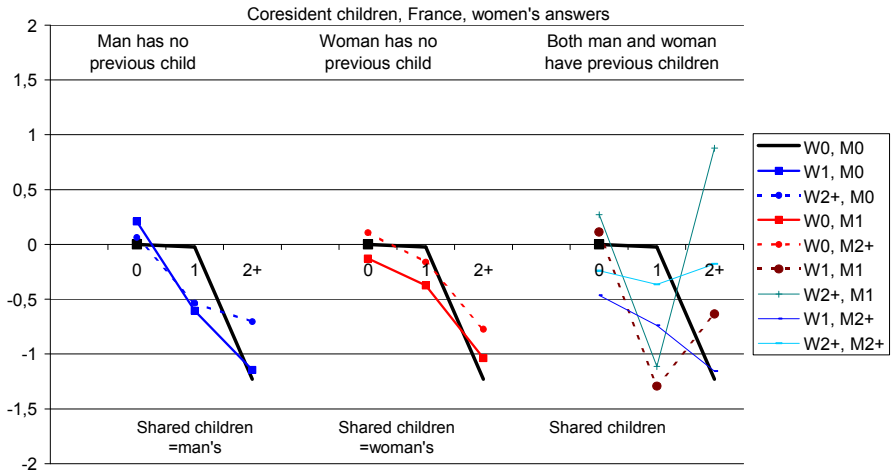
According to French women's sample, the effects are similar than in Denmark, but less pronounced (Figure 10, to be compared to Figure 8). The selection effect appears to be more pronounced: among couples with 2 shared children or more, the occurrence of stepchildren is associated to a higher fertility (Figure 10, right).

Figure 10. Log-relative fertility, France (women's answers), by occurrence of stepchildren from the man and from the woman. One model for each shared parity, with no interaction, coresident children.



The most complete model including interactions leads to simpler results: if the woman has no child born before the union, the occurrence of stepchildren from the man does not make any difference in the couple fertility behavior (Figure 11, center). If the woman has one child born before the union, the fertility is slightly higher at shared parity 0 and much lower at shared parity 1, while the contrast is small (compared to couples with no stepchildren) if the couple already has two shared children or more (Figure 11, left). If the woman has two children born before the union, the fertility is almost the same than among couples with no previous child at shared parity 0, lower at shared parity 1 and higher if the couple already has two shared children.

Figure 11. Log-relative fertility, France (women's answers), by shared parity and occurrence of stepchildren from the man and from the woman. Model with interactions, coresident children.



Exactly the same results were found for Denmark, and could be due to a selection process of women with already 3 children (compare Figure 11, left and Figure 9, left). A similar trend can be seen among couples where both partners had children born before the union:

stepfamilies fertility is lower at shared parity 1, while the other contrasts are not systematic. This indicates that the "union commitment effect" leading couples to have at least one shared child, irrespective of the occurrence of stepchildren, is dominating the picture.

French men sample: a likely omission of step children born to the partner when the couple has one shared child

The results from the French men's sample (figure 12) indicate that the higher fertility for couples with no shared child, if there is one stepchild from any partner, is better seen when the stepchild comes from the respondent (Compare Figure 12, left, Figure 10, left and Figure 8, left). The comparison is more visible on Figure 13, which superpose Figures 10 and 12 (French men and women sample). If the stepchild comes from the partner, the respondent may omit the occurrence of a stepchild (or omit the coresidence of this stepchild with the couple, leading to an artefactual lower fertility: respondents may be reluctant to speak about their stepchildren if the couple has a common child.

Figure 12. Log-relative fertility, France, by shared parity, coresident children. Men's answers

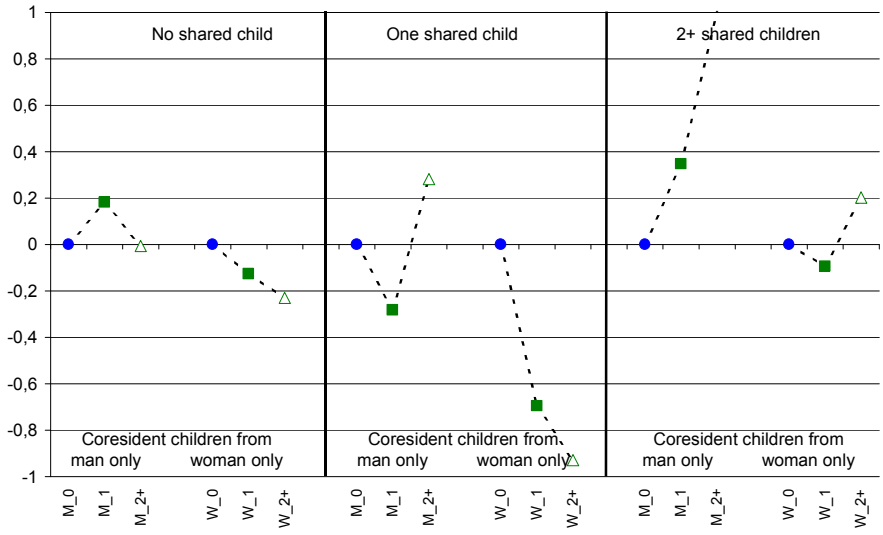
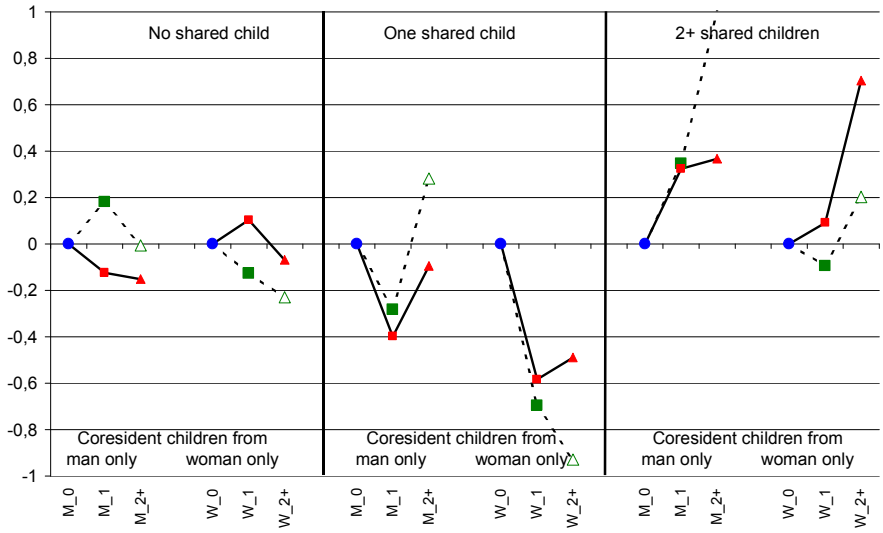
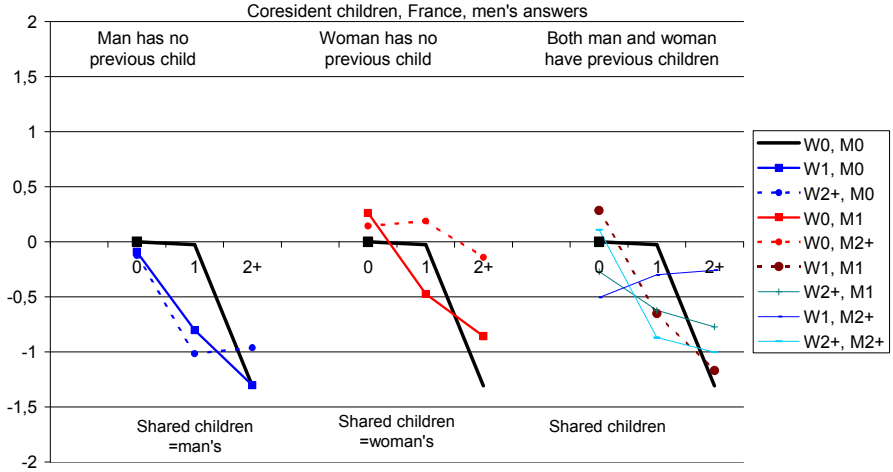


Figure 13. Log-relative fertility, France, by shared parity, coresident children. Women's answers (plain curves) and men's answers (dashed curves)



Nevertheless, the complete model exhibits strong similarities with results from French women's sample and Danish data (compare Figures 14, 11 and 9).

Figure 14. Log-relative fertility, France (men's answers), by shared parity and occurrence of stepchildren from the man and from the woman. Model with interactions, coresident children.



Taking non coresident stepchildren into account

We saw that the fact that the reluctance of respondents to speak about their stepchildren may be more pronounced when the couple has one shared child or more introduces a downward bias in the relative fertility of stepfamilies: when the couple has a shared child, the respondent "forgets" to refer to his or her stepchildren, and the couple falsely appears to have no stepchild, while if the (same) couple has no shared child, the respondent refers to his/her stepchildren.

A likely bias from men's answers

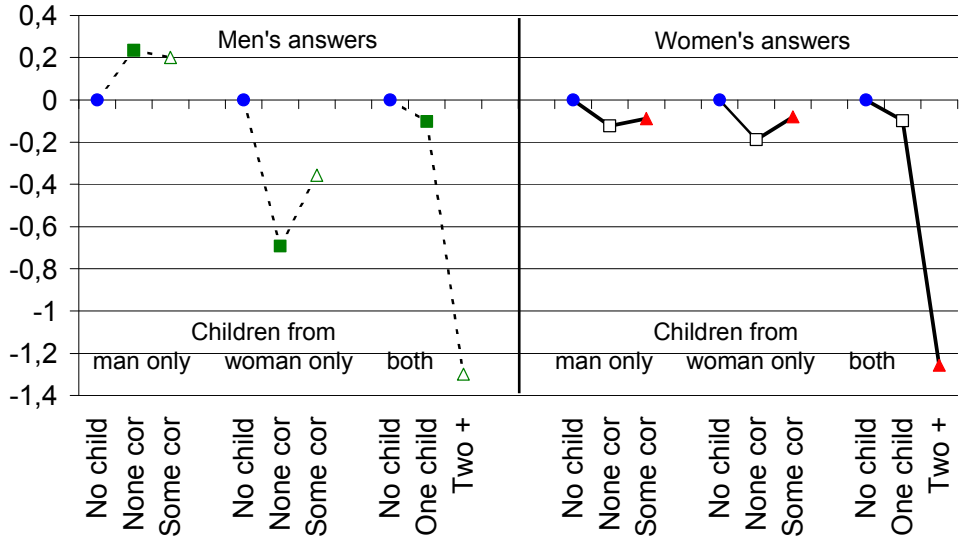
This bias may be more severe for non-coresident stepchildren. This is a likely feature of the contrasts presented in Figure 15. In this figure two covariates are used, in addition to age, year

and shared parity, indicating whether each partner has some children born before the union. In the next figures men and women's answers are put in the same graphs, in order to show the magnitude of the likely bias.

Three categories are built to identify coresident and non-coresident stepchildren from each partner: 1) the person has no child born before the union (no child); 2) children born before the union, none of them living with the couple (none cor), 3) children born before the union, some of them living with the couple (some cor).

Figure 15 presents the changes in fertility according to shared parity, and the occurrence of stepchildren form the man and from the woman. The decline of fertility at shared parity 2 is still dominating the picture. According to men (Figure 15, left), stepchildren from the man are associated to a higher fertility, no matter whether they are living or not with the couple; stepchildren from the woman are leading to a lower fertility, especially if none of these stepchildren is living with the couple. This last result is likely the consequence of a bias in referring to the stepchildren if the couple has some shared children. According to women (Figure 15, right), children born before the union have a small negative effect on fertility, the effect being larger in none of the children born before the union are living with the couple.

Figure 15. Log-relative fertility, France (men's and women's answers), by shared parity and occurrence of stepchildren from the man and from the woman, according to men (dashed curves) and to women (plain). Model without interactions, coresident and non-coresident children. Couples at all shared parities



Among couples with no shared child, a coresident stepchild from the respondent is associated with a higher fertility is associated to a slightly higher fertility, while a coresident stepchild from the partner has a small apparent negative effect (Figure 16.a). This result is similar to what was already visible on Figure 13; in all cases, non-coresident stepchildren are associated to a lower fertility.

Among couples with one shared child, this negative effect of a non-coresident stepchild vanishes, and couples with non-coresident stepchildren have a fertility in between those of couples with no stepchild and couples with coresident stepchildren. (Figure 16.b).

Figure 16. Log-relative fertility, France (men's and women's answers), by occurrence of stepchildren from the man and from the woman, according to men (dashed curves) and to women (plain). a. Couples with no shared child

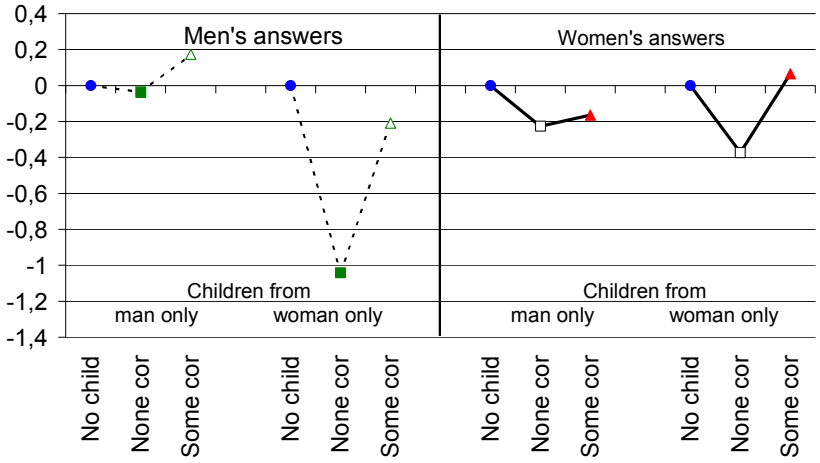


Figure 16. b. Couples with one shared child

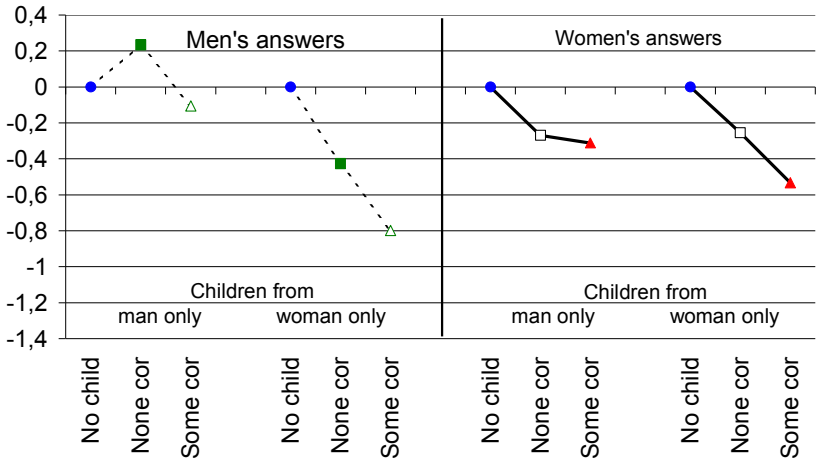
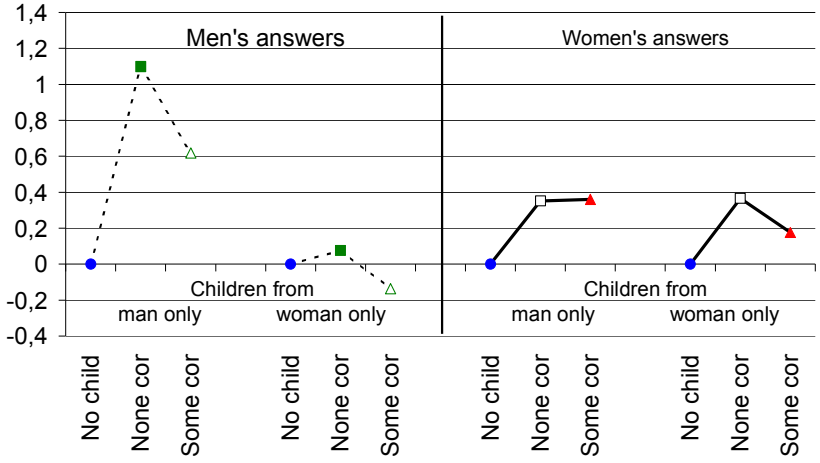


Figure 16. c. Couples with two shared children

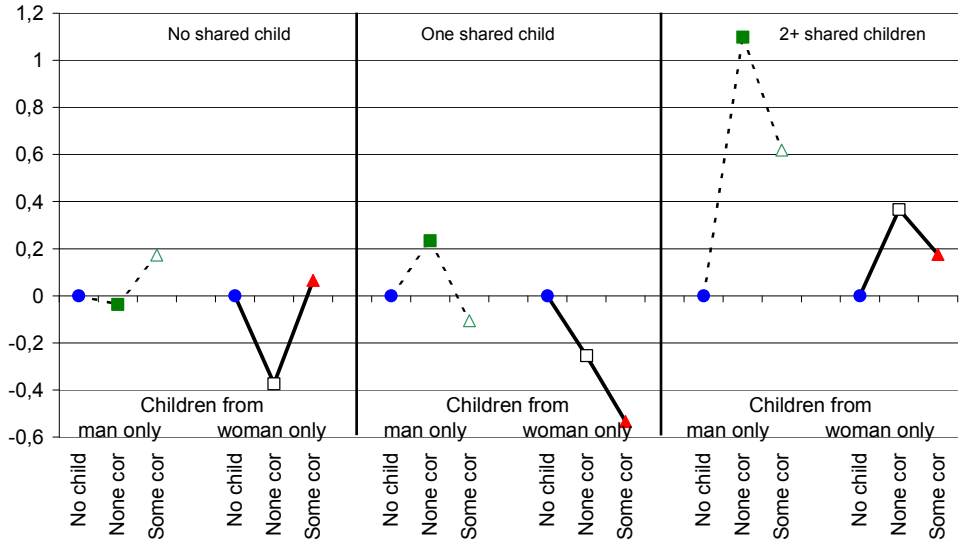


Finally, the higher fertility of stepfamilies among couples with two shared children or more that was presented in Figure 13 holds also for couples with non-coresident stepchildren (Figure 16.c).

Non coresident stepchildren are associated with a higher fertility, except for the first shared child

The results are simpler, and probably more reliable, if we describe the changes of fertility in stepfamilies according to the parent of the stepchildren. Figure 19 thus summarizes the changes in fertility associated with the occurrence of stepchildren, using the male sample (respectively the female sample) to estimate the changes associated to stepchildren from the man (respectively the woman).

Figure 19. Log-relative fertility, France, by shared parity, coresident and non-coresident children. Women's answers (plain curves) and men's answers (dashed curves)



Among couples with no shared child, the small positive effect of stepchildren on couples' fertility is not present if the stepchildren are not living with the couple. On the contrary, stepfamilies with one shared child or more have a higher fertility if the stepchildren are not living with the couple. Among couples with two shared children or more, the higher fertility associated to stepchildren is stronger if the stepchildren are not living with the couple.

Models with an interaction between the occurrence of coresident and non-coresident stepchildren from both partners exhibit very unstable patterns (not shown).

Conclusion

Using large samples makes it possible to look at uncommon conjugal situations, like stepfamilies with resident stepchildren from the man, or non-coresident children from the woman. We make the assumption that Danish and French couples may exhibit similar patterns, allowing to use comparison to check the results.

To a certain extent, Danish and French datasets lead to similar results. In both countries, if the woman has no child born before the union, the occurrence of stepchildren from the man leads to a higher fertility for the first child. If the woman has one child born before the union, couple's fertility is much lower at shared parities 0 and 1. Among couples with two shared children or more, the occurrence of stepchildren is associated with a higher fertility. This

indicates that a "union commitment effect" leads stepfamilies to have at least one shared child, irrespective of the occurrence of stepchildren.

Our main result is that the contrasts are very complex, which explains why results obtained from samples of moderate size, like the FFS, exhibit unstable patterns, and are very sensible to the implementation of couples' parity (Thomson et al. 2002). Unfortunately, results from the French sample are probably strongly biased by a differential misreporting of stepchildren, respondent having children in the current union being less prone to refer to their stepchildren, especially if they did not live with the couple. When the Danish data are available, we will go further in this comparison.

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Appendix: The French questionnaire

The complete questionnaire (4 pages) is available at http://www-ehf.ined.fr, as well as the survey as a whole.

This appendix is extracted from a PDF version of the questionnaire that may be downloaded at http://www-ehf.ined.fr/questionnaires/english/1999/Quest1999en.pdf.

The dataset is available for comparative research. The interested readers may contact the author at toulemon@ined.fr.

Own children

3 **DESCRIPTION OF EACH CHILD'S SITUATION, BEGINNING WITH THE ELDEST**
(one line per child) Do not include here the other children you may have brought up

	First name	Sex	Date of birth		If you have adopted this child, when did s/he begin to live with you?		Was the child born in France?	If s/he is not living in the household		If s/he is deceased	
								How old was s/he when s/he stopped living with you?	Does s/he live in France at present?	Was s/he stillborn?	If not: How old was s/he when s/he died?
		M for Male, F for Female	*Month*	*Year*	*Month*	*Year*	*Yes or No*	*Age in years*	*Yes or No*	*Yes or No*	*If less than one year write 0 year*
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											

If you have had more than nine children, please complete another form

Brought-up stepchildren

OTHER CHILDREN CURRENTLY LIVING (or who have lived) WITH YOU

4 **IN ADDITION TO YOUR OWN CHILDREN, HAVE YOU BROUGHT UP, OR ARE YOU STILL BRINGING UP, CHILDREN OF YOUR SPOUSE (or partner) OR FROM A PREVIOUS MARRIAGE (relationship)?** YES ☐ 1 *If yes:* **HOW MANY?** ____ NO ☐ 2 *If not, please go to question 6*

5 **INFORMATION ON THESE CHILDREN, beginning with the eldest, *one line per child***

First name	Sex	Date of birth		When did s/he begin to live with you?		Was the child born in France?	If s/he is not living in the household		If s/he is deceased
							How old was s/he when s/he stopped living with you?	Does s/he live in France at present?	How old was s/he when s/he died? *If less than one year*
	M for Male, F for Female	*Month*	*Year*	*Month*	*Year*	*Yes or No*	*Age in years*	*Yes or No*	*write 0 year*
1.									
2.									
3.									

If you have brought up more than three children from a spouse, please complete another form

Partnerships and other stepchildren

STAGES OF YOUR FAMILY LIFE

12 **HOW OLD WERE YOU WHEN YOU STOPPED LIVING WITH YOUR PARENTS, for the first time?**
Do not consider boarding school as a departure at the age of… ____
If you still live with your parents, check this box: ☐

13 **DO YOU CURRENTLY LIVE WITH A PARTNER, married or not (even if your spouse/partner lives in another household for occupational reasons)?**
YES ..... 1 → *Go to question 14*
NO, but you lived with a partner in the past 2
NO ..... 3 → *In that case, go to the next page*

14 **MAIN DATES OF YOUR PARTNERSHIP AND MARRIAGE**

By "partnership," we mean sharing the same household, for six months or longer, with or without marriage

- ***If you have had only one partnership period, fill in the first line***
- ***If you have had several partnership periods, list only the first and latest***

PARTNERSHIP PERIOD, with or without marriage	Approximately when did this partnership period begin? approximately …		Before living with you, did your spouse/ partner already have any children?	*If yes:* How many of them came to live with you?	If you have married this spouse/ partner, what was the date of marriage?		If the union has broken up				If your spouse is deceased	
							About what date did you and your spouse/ partner separate?		If you were divorced, what was the date of divorce?		What was the date of his death?	
	Month	*Year*	*Yes or No*		*Month*	*Year*	*Month*	*Year*	*Month*	*Year*	*Month*	*Year*
The first												
The last												

If you have brought up more than three children from a spouse, please complete another form