Abstract, 1 Graph, 3 Tables, and References.

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TOWARD A CHILD-CENTERED LIFE COURSE PERSPECTIVE ON FAMILY STRUCTURES: MULTI-STATE EARLY LIFE TABLES USING FFS DATA[i]

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Abstract

Research on child wellbeing has underscored the need to better document children's living arrangements, in particular to recognize the growing importance of cohabitation and to study transitions over the life-course. In this paper, we describe the reconstruction of children's biographies from adult's partnership and fertility histories in eighteen FFS surveys. We underscore the limitations of some national surveys for our project and discuss some conceptual and methodological issues associated with the reconstruction process in the other countries. We also discuss how the reconstructed biographies can yield national multi-state life tables of children's living arrangements.

(94 words)

The dramatic contemporary changes in Western family patterns have generated popular and scholarly concern over their impact on children and their subsequent social consequences. The individual- and family-level effects of divorce or single parenting on children experiencing particular family structures have been studied extensively. Even though the effects are neither universal nor necessarily large when controlling for other family characteristics, there appears to be real consequences of growing up in different family structures (Cherlin 1999; McLanahan and Sandefur 1994; Cherlin and Furstenberg 1994; Amato and Keith 1991; Furstenberg and Cherlin 1991).

Meanwhile, the paucity of international data on living arrangements during childhood limits the potential of comparative research on these issues. We contend, in particular, that cross-national vital and marital statistics are poorly suited to study the impact of family changes on children and that we need (a) to assess these changes over a child's life course, and (b) to account for the increasing prevalence of child-raising within cohabitation. In this paper, we discuss whether FFS data can be used to develop a child-centered, life course perspective on recent family changes that would recognize the most important living arrangements. More specifically, we describe our methodology for constructing childhood biographies of living arrangements from birth and partnership histories in FFS data. Multi-state life table techniques will be applied to these biographies to reconstruct the living arrangements of children from birth through late adolescence across the different countries.

Background

Only a few decades ago, the nuclear family composed only of married parents and their biological children appeared as the characteristic living arrangement of Western societies, and even as the universal "model" of modern family for the rest of the world (Goode 1970). Ironically, the Western family was then undergoing profound transformations, and the nuclear family soon lost its centrality to a more complex mix of living arrangements.

Marital disruption is most frequent in the U.S., where about two thirds of first marriages end in separation or divorce (Castro Martin and Bumpass 1989). At these rates, about two fifths of children born to married mothers will experience the marital disruption of their parents (Bumpass and Rindfuss 1979, Furstenberg et al. 1983, Bumpass 1984). As the proportion of children born to unmarried mothers continues to increase (Smith, Morgan and Koropeckyj-Cox 1996), one half of recent American birth cohorts are expected to spend some of their childhood in a one-parent family (Bumpass 1984, Bumpass and Raley 1995). Children’s experience of single parenthood are further complicated by multiple family transitions (although see Wojtkiewicz 1993). About half of the children living with a single mother see her marry during their childhood (Bumpass and Sweet 1989) and about half of those children experience the disruption of that marriage still in childhood (Bumpass 1984).

But vital statistics show that in the early 1990s the proportion of out-of-wedlock births was as high or higher than in the United States in several European countries: the United Kingdom (32%), France (35%), Norway (44%), Denmark (47%), and Sweden (51%). These statistics mask important differences in children’s living arrangements, however (Sandefur and Mosley 1997, Bumpass and Raley 1995). When in Europe most births to single mothers in fact occur within cohabitation, the proportion is only estimated at one third in the U.S. (Bumpass et al. 1991). For instance, we found that the proportion of own children reported by FFS female respondents as born out-of-wedlock was 24% in Austria, 31% in France and 46% in Sweden. These out-of-wedlock fertility ratios are respectively lower than, similar to, and higher than recent ratios in the U.S. (European ratios refer to all births in the FFS survey and national out-of-wedlock ratios in recent years would be even higher). According to FFS data, however, the proportion of out-of-partnership births is 14% in Austria, 8% in France, and 6% in Sweden. First, the rankings of the three European countries are reversed when cohabitation is taken into account. Moreover, the estimated proportion of children born out of a partnership appears uniquely high in the U.S. (above 20% in recent years), even though the out-of-wedlock birth ratio is not. International comparisons thus appear in a different light depending on whether cohabitation is account for.

While changes in cohabitation, marriage, divorce, and childbearing are common to all Western countries, important differences are hidden below the surface of these uniform transformations. Moreover, a cross-sectional perspective does not fully translate the impact of such changes on childhood experience. In particular, past research has clearly established the relevance of a life course approach to children's experience of marital disruption. Because it fails to satisfactorily describe the experience of children, cross-sectional data makes the relationship between family structures and children outcomes harder to specify and assess. Preliminary analyses of FFS data suggest that European cohabiting unions may be almost as stable as U.S. marriages. Among a Swedish female birth cohort, only 36% of their first partnerships that were consensual unions were dissolved after 15 years. This is an underestimate of the proportion of unions actually separated after 15 years, because marriage censors the risk that a consensual union will be dissolved. Cohabiting unions converted into marriages that end in divorce are not accounted for but the proportion of consensual unions “regularized” by marriage that were dissolved 12 years after marriage is only 17%. These preliminary results suggest that about one half of all first cohabiting partnerships in Sweden have likely ended after 15 years, which appears to be less than the proportion of first marriages that are dissolved in the U.S. after 15 years (Castro Martin and Bumpass 1989).

States of Interest

We contend that understanding the impact of these family changes on children requires an extension of the life course perspective that has been applied to marital disruption, for instance, in several important respects. First, international differences in the meaning of cohabitation require that we also study the family life course of children born out-of-wedlock. It is clearly unsatisfactory to treat out-of-wedlock births as a single category, under the assumption that these children will grow up with a single parent during their entire childhood and adolescence. Many may live first with cohabiting parents, who may marry and possibly divorce later. International variations in the frequency of these different sequences should be better documented. Second, past life table approaches to family changes from the perspective of children have concentrated on a single transition at a time, most often parental divorce, and occasionally remarriage after a parental divorce or an initial cohabitation. As changes in family structures have become more frequent, the number of transitions that may be experienced throughout childhood is increasing for recent birth cohorts and the sequences of living arrangements are becoming increasingly varied. In such diverse contexts, the entire family experience during childhood and adolescence cannot be properly accounted for by analyzing a few transitions one at a time.

In the interest of reliability, however, the number of transition to be jointly estimated needs to be kept to a minimum. Our review of the literature on child well-being and family structures suggests a primary distinction between living with only one or two biological parents, and therefore, these should be the two different states to be distinguished. Past research is less clear about whether the marital status of the parents affect child well-being directly, but consensual unions are typically less stable than marriages. When a child lives with both biological parents, we should account for their marital status, if only as a determinant of parental separation. When a child lives with one parent only, we should distinguish between whether that parent is the mother or the father. Although mothers typically have custody, limited evidence suggests that the children outcomes –particularly economic status- associated with parental break-up differ for children living with their father after the separation. Finally, research indicates that the subsequent partnerships of the custodian parent have mixed effects on children. We should also distinguish between living with only a single parent or a single parent and his or her live-in partner.

These primary distinctions between living arrangements require us to model six different states for co-resident children living (a) with both parents who are married; (b) with both parents who are cohabiting; (c) with the mother and no partner; (d) with the mother and her partner (who is not the biological father); (e) with the father and no partner; (f) with the father and his partner (who is not the biological mother). Two additional states pertain to children: (g) living without either parent and (h) deceased. Of course, further distinctions within these eight states might be of interest, such as whether non co-resident children live with relatives (grand-parents in particular), whether the custodian parent is married with his or her new partner, or whether the parents' marriage is a first marriage. While some of this information is tractable from FFS data, we need to limit the number of states to keep the estimation of transition rates manageable.

Selected States and Observable Statuses

From FFS adult respondents' record of past partnerships and childbearing, we can reconstruct a biography of each child living arrangements (*statuses*) from birth to the end of co-residence with the respondent. These *statuses* are congruent with, but not identical to, the final states of the life tables. (To avoid confusion, we will refer to *statuses* for the living arrangements reported by parents and *states* for the final states sought in the life table). As shown in Figure 1, these statuses are (1) living with parents, married; (2) living with parents, cohabiting; (3) living with respondent (parent), no partner; (4) living with respondent (parent) and his/her partner (not the other parent); (5) living away from the respondent (parent); and (6) deceased.

Our analyses of 18 of the 23 FFS countries so far proved these steps less straightforward that one might have thought.[ii] The trouble begins with the first question, whether a child is a co-resident. The question about co-residence at the time of the survey does not appear in the SRF in Lithuania making the study of children's living arrangements almost impossible. In two other countries, Canada and Norway, the date at which non co-resident children left is not reported so that living arrangements can be studied at the time of the survey but not followed precisely across a child biography. Note that even if we have information on whether the child left, and, if so, when, we can only assume that children have been living with the respondent continuously from birth (female respondents) or from first partnership with the mother (male respondents) to that date. We may thus overlook a few cases of multiple transitions in and out of the respondent's house but this assumption should be valid for the vast majority of cases.

The second set of problems relates to the completeness of the partnership histories. In Bulgaria and Portugal, information was only collected about one partnership, the most recent one we presumed, so that it is generally not possible to assess whether a child is born within a partnership or not. We do for children born within that current partnership but retaining only those children would obviously bias the estimates as we would then select on the dependent variable. At this point, we are left with only 13 of the 18 countries we started with. Note that even in those 13 countries, various completeness and consistency checks at the respondent level exclude up to 7% of all reported own children (Table 1).

For these countries with sufficient birth and partnership information, the main difficulty becomes the identification of the non-responding parent. At birth, parental reports only indicate if a child is born within a partnership, and, if so, whether the parents are married or not. We can reasonably assume that when a child is born within a partnership, the two partners are the parents. When a child is born outside a partnership, it is less straightforward to determine if the mother's next partner is the father or an unrelated adult, since it is plausible that the first partnership following a birth is between the two biological parents. Several pieces of information may guide this decision: the age of the child at the time the new partnership forms, whether the partnership is preceded by marriage, and the number of children each partner brings into the partnership. We expect that a union with the other parent will be formed sooner after the birth, that it is more likely that the union will be preceded by marriage, and that the partners are more likely to bring the same number of own children into the new partnership.

The timing of birth and new union formation appears to be the strongest indirect evidence, however, and our current decision rule is to code first partnerships after birth as between parents (rather than between a single parent and another partner) if it occurs within a year of the child's birth. This rule has the advantage of simplicity and more complex schemes typically affected few marginal cases only.

Also note that there is most often very little information on a child that is not residing with the reporting parent. Since parental households after break-up are not matched, it is not possible to identify at the individual-level whether these children live with their other parent and transitions after living the respondent. As a result, a complete living arrangement biography cannot always be reconstructed for each individual child. These child biographies must be treated as censored at the time co-residence ends rather than at the time of the interview. We could not observe, for instance, sequential transitions between maternal and paternal household for an individual child. This limits the potential for individual-level investigation, but appropriate life table techniques still provide unbiased estimates of the rates of transition across states in each population.

Estimating Rates of Transition between Statuses

To handle the joint estimation of such internal transition probabilities, the techniques of multi-state life tables (Rogers 1975, Land and Rogers 1982, Schoen 1988), are most adequate. Although these techniques have largely originated from an interest in modeling internal migration in regional demography, their applicability and potential for other demographic issues has been quite clear from the outset. In particular, these techniques have been applied early on to the different marital statuses for instance single, married, divorced, widowed (Schoen and Nelson 1974).

To apply these techniques to the different parental statuses that a child will experience during childhood does not pose any particular problem as long as the data has been reformatted as described above to provide children's transition rates between the different states. The accounting framework for the multi-state life tables remains the same (Palloni 2000):

$$l_i(x+1)=l_i(x)+\Sigma_j\ {}_1d_{jix} - \Sigma_j\ {}_1d_{ijx}$$

$${}_1d_{ijx}={}_1m_{ijx}*{}_1L_{ix}$$

$${}_1L_{ix}=.5*(l_i(x)+l_i(x+1))$$

with the following life table notations

- $l_i(x)$ is the number of children in state i at exact age x;
- ${}_1d_{ijx}$ is the number of children changing from state i to state j between ages x and x+1;
- ${}_1m_{ijx}$ is the rate of transition from state i to state j between ages x and x+1;
- ${}_1L_{ix}$ is the number of person-years lived by children in state i between ages x and x+1.

With the convention that the six parental states are numbered from 1 to 6 and that child death is state 0, then i can take any value from 1 to 6, while j can take any value from 0 to 6 but i, and any ${}_1d_{0ix}$ must be equal to 0. The starting point of the estimation of $l_i(x+1)$ and ${}_1L_{ix}$ are the previous values of $l_i(x)$ and the observed period rates of transition ${}_1M_{ijx}$

$${}_1M_{ijx}={}_1D_{ijx} / {}_1N_{ix}$$

making the usual assumption of life table construction that the observed rates are equal to the equivalent rates in the life table:

$${}_1M_{ijx}={}_1m_{ijx}$$

where

- ${}_1D_{ijx}$ is the observed number of child's transitions from state i to state j between ages x and x+1 in a given period;
- ${}_1N_{ix}$ is the number of person-years lived by children in state i between ages x and x+1 in the same period (typically approximated by the length of the period folds the mid-period number of children in state i between ages x and x+1).

Since this is a large system of equations, it is advantageous to switch to matrix notation in which

$$\mathbf{l(x+1)=l(x)-D(x)}$$

represents the following 36 equations:

$$\begin{pmatrix} {}_{x1}l_1(x+1) & {}_{x1}l_2(x+1) & \dots & {}_{x1}l_6(x+1) \\ {}_{x2}l_1(x+1) & {}_{x2}l_2(x+1) & \dots & {}_{x2}l_6(x+1) \\ \dots & \dots & \dots & \dots \\ {}_{x6}l_1(x+1) & {}_{x6}l_2(x+1) & \dots & {}_{x6}l_6(x+1) \end{pmatrix} = \begin{pmatrix} {}_{x1}l_1(x) & 0 & 0\dots\dots & 0 \\ 0 & {}_{x2}l_2(x) & 0\dots\dots & 0 \\ \dots\dots & \dots\dots & \dots\dots & \dots\dots \\ 0 & 0\dots\dots & 0\dots\dots & {}_{x6}l_6(x+1) \end{pmatrix} - \begin{pmatrix} \Sigma_j d_{1jx} & -d_{21x} & \dots\dots & -d_{61x} \\ -d_{12x} & \Sigma_j d_{2jx} & \dots\dots & -d_{62x} \\ \dots\dots & \dots\dots & \dots\dots & \dots\dots \\ -d_{16x} & -d_{26x} & \dots\dots & \Sigma_j d_{6jx} \end{pmatrix}$$

and where

- ${}_{xi}l_j(x+1)$ is the number of children in state i at age x and state j at age x+1 (and the convention that ${}_{xi}l_i(x)$ is simply $l_i(x)$).

The estimation of the next age group starts with the $l_i(x+1)$, which are simply the sum on j of the six ${}_{xj}l_i(x+1)$. The typical problem of closing the life table does not apply here because our last age group is not an open-ended age interval but a closed one, using an arbitrary age (e.g. 18 years) as the end of childhood. If we define two additional matrices,

$$M(x) = \begin{pmatrix} \Sigma_{j1}M_{1jx} & -{}_1M_{21x} & -{}_1M_{31x}\ldots & \ldots-{}_1M_{61x} \\ -{}_1M_{12x} & \Sigma_{j1}M_{2jx} & -{}_1M_{32x}\ldots & \ldots-{}_1M_{62x} \\ \ldots\ldots & \ldots\ldots & \ldots\ldots & \ldots\ldots \\ -{}_1M_{16x} & -{}_1M_{26x} & -{}_1M_{36x}\ldots & \ldots\Sigma_{j1}M_{6jx} \end{pmatrix}$$

and

$$\mathbf{L(x)}=.5*(\mathbf{l(x)}+\mathbf{l(x+1)})$$

then the solution to the system of equation can compactly be written as:

$$\mathbf{l(x+1)=l(x)*[I-.5*M(x)][I+.5*M(x)]^{-1} = l(x) * P(x)}$$

With retrospective data, the right-hand side survival matrix, **P(x)**, could be directly estimated for birth cohorts but only up to their age at the time of the survey. Solving the above system, however, allows the completion of period life tables up to the end of childhood using the most recent data.

Multi-State Life Table Construction from Status Transition Rates

National life tables can be completed by (1) "splicing" together rates of *status* transition estimated from mothers' and fathers' reports and (2) using incidence and prevalence estimation techniques. Table 2 indicates how the different transition rates across *states* will be estimated, from which parent, and from which change in *status*. Transition rates out of a dual-parent home can be estimated from both male and female samples, rates out of a single-parent home can only be derived from either the male or female sample. To enforce consistency, we will follow the conventional "female-dominant" approach in demography, which consists of estimating the rates of transitions reported by both males and females from female reports only, because those are generally considered to be more accurate. Most incidences of *status* transition will thus be estimated from maternal reports, including the most frequent transitions that typically involve continued residence with the mother (*states* (a) to (d) above). Because women do not provide information on the partnerships of custodian fathers, transitions between *states* (e) and (f) can only be estimated from father's reports.

Finally, transitions out of the mother's residence require a two-step estimation procedure. First, the incidence rate of moving out of *state* (a), (b), (c) or (d) can be estimated from maternal reports. The exit rate then needs to be apportioned between the possible receiving *states* (e) to (h). Since this cannot be accomplished on observed incidences, we will use the prevalence across the corresponding *statuses* reported by fathers as pro-rating factors. This procedure enforces the internal consistency of mothers' and fathers' reports at the aggregate level, because the volume of such transitions derives from maternal reports and only the distribution across receiving *states* derives from paternal reports. We also note that this is the "default" approach that we will use when no further information is available on the child. In a majority of countries, respondents provided additional information about a non co-resident child's next destination (e.g., whether he currently lives with his other parent). This information will be used to limit the number of potential receiving *states*.

Discussion

However desirable, the goal of producing child-centered, life-course perspectives on living arrangements in a large number of countries has, until recently, remained elusive since appropriate data sources were only available for a few countries that had implemented either longitudinal or retrospective surveys of fertility and family behavior. In the absence of real longitudinal data, one alternative is to turn to retrospective data and the FFS project provides this opportunity by collecting histories of past fertility and partnerships (Macura and Klijzing 1992).

Reconstructing children's living arrangements from parental records raises a number of issues. The first one is whether the sample of children reported by a nationally representative sample of adults is itself representative, especially for past periods, since only children with a parent still living in the country at the time of the interview will be represented. This is a very general concern when data are collected indirectly from kin, especially in high-mortality settings (Heuveline 1998). In the countries of interest here, differential survival is unlikely to introduce a serious bias in the sample of children. In most developed countries, migration is likely a more important issue and selective migration poses similar threats. Typical age patterns of migration in developed countries are reassuring because they suggest that mobility is most frequent in young adult years and at the time of retirement. Overall, the fact remains that the surveys were not designed to provide nationally representative samples of children in past periods, but the extent of potential biases is likely within acceptable limits.

Relying on retrospective data also raises the possibility of recall errors, most importantly, from omitted events and misreported dates. In the comparatively well-educated populations considered here, it seems reasonable to expect fairly accurate information on childbearing, especially from mother. The quality of partnership data is more of a concern, but marriage and cohabitation are memorable events, especially when children are involved. It is possible that short-lived premarital partnerships might be omitted, but as long as these partnerships take place before first birth their omission would not affect our assessment of children's living arrangements. As shown in Table 1, there are very few omitted dates, although male respondents more frequently omit partnership dates.

Splicing rates from both samples, however, requires an acceptable comparability of the male and female responses. FFS male and female samples are not comparable in respect to important characteristics such as the respondent's age. As a result, the corresponding age structures of the sample of children reported by males and females also differ. This should not concern us here since life table calculations are based on age-specific rates. More importantly, Table 3 also shows that male- and female-provided data on children's living arrangements are reasonably comparable in FFS. Our main concern with male respondents was the omission of non-resident children but it is fairly reassuring to compare the proportion of resident children reported by their mother as not living with their father and the proportion of non co-resident children reported by their father (Table 3, columns (4) and (5).) In most countries, the proportions are fairly close and there does not seem to be an extensive under-reporting of non co-resident children by their fathers. (Belgium and Germany exhibit very different male and female distributions because in these countries the age range of adults in the sample is 20-40 and the number of children 15 and older is quite small.)

Moreover, the splicing of life table rates only apply to *states* that involve children not living with their mother. Table 3 indicates that the vast majority of children live with their mother (in states (a) to (d)) from birth to adolescence (Table 3, column (7) last one to the right). Living with other *states* remain fairly rare and the most important life table indicators should not be severely biased as a result of possible reporting errors by fathers. The important implication is that for countries that did not include a male sample, an abridged life table can still be derived with little information loss, by lumping together the states corresponding to children who are alive but do not reside with their mother (*states* (e) to (g).)

Reconstructing child histories from adult respondents' partnerships and fertility histories raises a number of conceptual and methodological issues. At the conference, we will also present national Multi-state Early Life Tables completed at that time, and discuss their potential uses.

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Figure 1: Observed Living Arrangement Statuses

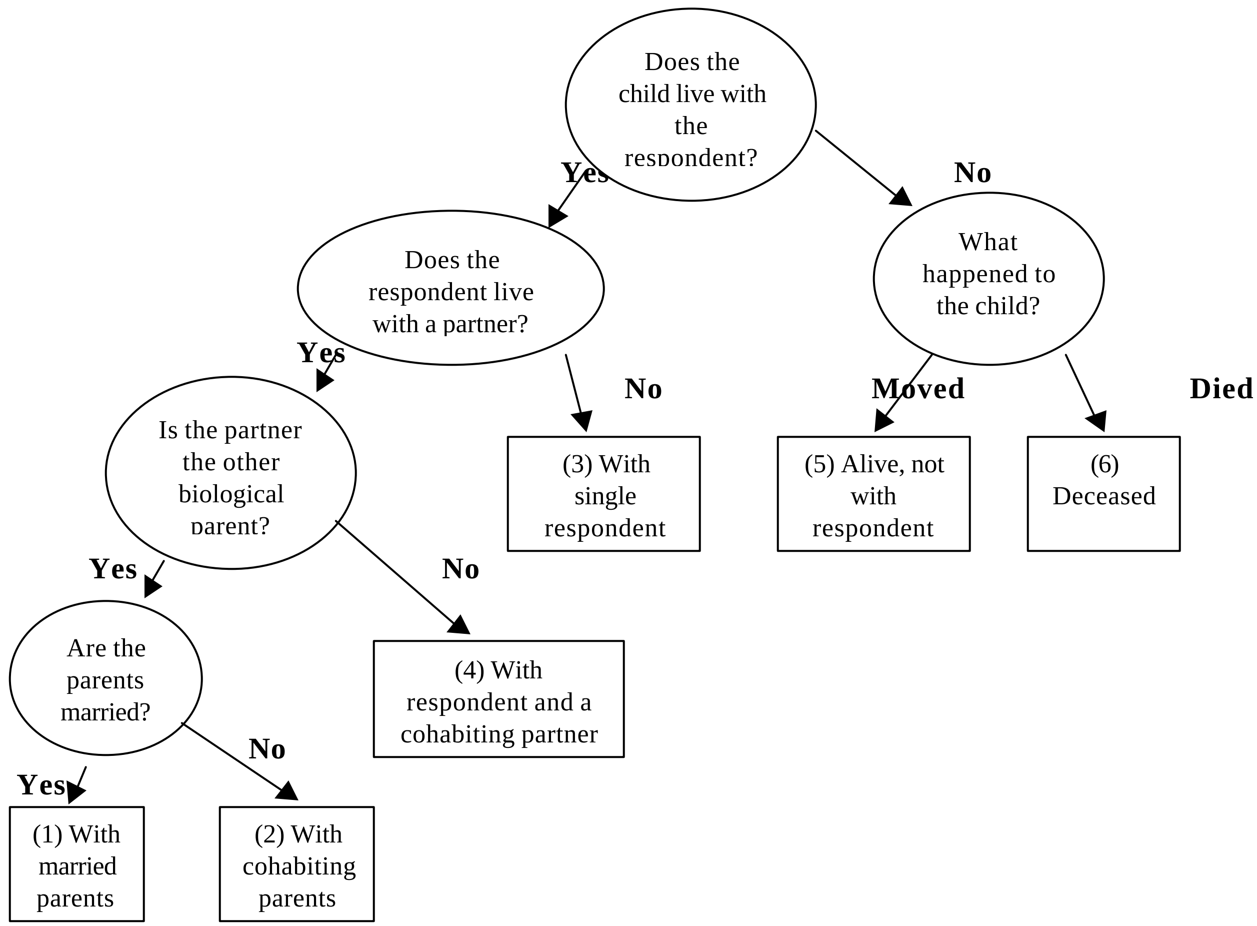

Table 1: Effects on Sample Sizes of Completeness and Consistency Checks

Country	Completeness and Consistency Check							
	Total natural children (1)	Date of Birth (2)	Co-residence (3)	End date of co-residence (4)	Co-reside with father with no partnership dates (5)	Negative duration (6)	Col. (1) - col. (6)	Col. (6) as % of col. (1)
Austria	8,680	8,680	8,669	8,669	8,655	8,645	35	99.6%
Belgium	5,824	5,815	5,815	5,699	5,695	5,695	129	97.8%
Bulgaria *								
Canada	9,182	9,129	9,129	n/a				
Czech Republic	3,573	3,573	3,573	3,573	3,573	3,570	3	99.1%
Finland	8,541	8,538	8,535	8,495	8,495	8,492	49	99.9%
France	6,746	6,746	6,746	6,746	6,745	6,714	32	99.4%
Germany	8,710	8,549	8,335	8,277	8,113	8,067	643	99.5%
Hungary	7,053	7,053	7,053	7,053	7,052	7,046	7	92.6%
Italy	6,455	6,451	6,451	6,434	6,422	6,420	35	99.9%
Latvia	5,744	5,743	5,743	5,734	5,733	5,728	16	99.5%
Lithuania	6,068	6,068	n/a					
Norway	7,134	7,133	7,133	n/a				
Portugal *								
Poland **	7,043	7,038	7,038	6,968	6,966	6,961	82	89.9%
Spain	6,897	6,897	6,896	6,893	6,893	6,884	13	98.8%
Sweden	6,815	6,814	6,814	6,813	6,805	6,797	18	99.8%
Switzerland	7,993	7,987	7,895	7,869	7,865	7,864	129	99.7%

* In Bulgaria and Portugal, partnership histories are incomplete so that the living arrangement at the time of birth can only be estimated for a biased sub-sample of children.

** In Poland, the male sample does not have partnership histories.

Note: Column (1) is the total number of children identified as "own" children by both male and female respondents. In Column (2), we excluded children without a complete date of birth. In Column (3), we further excluded children for whom the co-residence status is unknown. In Column (4), we further excluded children who are no longer co-resident but for whom the date of departure is unknown (right censoring.) In Column (5), we excluded for those, children who are reported as co-resident by their father but he reported no partnership dates. In such cases, we do not know when the co-residence started (left censoring.) Finally in Column (6), we excluded children for whom the date of birth and date of departure were incompatible, that is the date of departure was earlier than the date of birth.

Table 2: Correspondence Between State Transition Rates and Status Transition, by Respondent (Mother vs. Father) and Estimation Technique (Incidence v. Prevalence)

<table>
<tr><th></th><th colspan="7">Transition from state</th></tr>
<tr><th>To:</th><th>(A)
With both parents, married</th><th>(B)
With both parents, cohabiting</th><th>(C)
With mother only</th><th>(D)
With mother and her partner</th><th>(E)
With father only</th><th>(F)
With father and his partner</th><th>(G)
Without either parent</th></tr>
<tr><td>(A)</td><td>x</td><td>M.-I.
(2)→(1)</td><td>M.-I.
(3)→(1)</td><td>M.-I.
(4)→(1)</td><td>F.-I.
(3)→(1)</td><td>F.-I.
(4)→(1)</td><td>n/a</td></tr>
<tr><td>(B)</td><td>M.-I.
(1)→(2)</td><td>x</td><td>M.-I.
(3)→(2)</td><td>M.-I.
(4)→(2)</td><td>F.-I.
(3)→(2)</td><td>F.-I.
(4)→(2)</td><td>n/a</td></tr>
<tr><td>(C)</td><td>M.-I.
(1)→(3)</td><td>M.-I.
(2)→(3)</td><td>x</td><td>M.-I.
(4)→(3)</td><td rowspan="3">F.-I.
(3)→(5)
& M.-P.
(3) to (5)</td><td rowspan="3">F.-I.
(4)→(5)
& M.-P.
(3) to (5)</td><td>n/a</td></tr>
<tr><td>(D)</td><td>M.-I.
(1)→(4)</td><td>M.-I.
(2)→(4)</td><td>M.-I.
(3)→(4)</td><td>x</td><td>n/a</td></tr>
<tr><td>(G)</td><td rowspan="3">M.-I.
(1)→(5)
& F.-P.
(3) to (5)</td><td rowspan="3">M.-I.
(2)→(5)
& F.-P.
(3) to (5)</td><td rowspan="3">M.-I.
(3)→(5)
& F.-P.
(3) to (5)</td><td rowspan="3">M.-I.
(4)→(5)
& F.-P.
(3) to (5)</td><td>x</td></tr>
<tr><td>(E)</td><td>x</td><td>F.-I.
(4)→(3)</td><td>n/a</td></tr>
<tr><td>(F)</td><td>F.-I.
(3)→(4)</td><td>x</td><td>n/a</td></tr>
<tr><td>(H)
Dead</td><td>M.-I.
(1)→(6)</td><td>M.-I.
(2)→(6)</td><td>M.-I.
(3)→(6)</td><td>M.-I.
(4)→(6)</td><td>F.-I.
(1)→(6)</td><td>F.-I.
(2)→(6)</td><td>n/a</td></tr>
</table>

Note: M.-I. (1)→(2) indicates that the corresponding rate is the incidence of transition from status (1) to status (2) estimated from mothers' reports. Correspondingly, F.-I. (3)→(4) indicates that the corresponding rates is the incidence of transition from status (3) to status (4) estimated from father's reports.

M.-I. (1)→(5) & F.-P. (3) to (5) indicates that the corresponding rate is the incidence of transition from status (1) to status (5) estimated from mothers' reports and prorated using the prevalence of statuses (3) to (5) in fathers' report. For instance, the transition rate from state (A) to state (E), X_{AE}, is estimated from the estimated rate of status transitions M_{15} from (1) to (5) in mother's report and the prevalence of statuses (3) to (5) F_3, F_4, and F_5 from fathers' reports, as:

$$X_{AE} = M_{15} * (F_3/F_3+F_4+F_5)$$

n/a indicates rates that cannot be estimated in the majority of countries.

Table 3: Observed Distribution of Children by Living Arrangement at Age 15, Male and Female Reports (in percent)

Country	Respon-dent's sex	Children above 15 (1)	Living with married parents (2)	Living with cohabiting parents (3)	Living with mother only (4)	Not living with father (5)	Living with father only (6)	Not living with mother (7)
Austria	M	777	65.3	0.4		23.3	9.3	
	F	3.15	69.9	0.0	25.2			3.8
Belgium	M	215	44.7	0.0		46.5	5.6	
	F	376	72.9	0.5	14.9			5.1
Czech Republic	M	396	66.7	0.0		26.3	4.8	
	F	677	69.3	0.0	25.3			2.1
Finland	M	1.08	73.6	0.4		19.4	4.9	
	F	2.47	73.9	0.3	18.8			3.8
France	M	860	55.5	0.3		34.1	10.1	
	F	1.58	54.1	1.9	37.1			6.9
Germany	M	481	23.7	4.4		61.7	8.9	
	F	764	48.0	1.1	42.9			6.0
Hungary	M	590	63.9	0.0		26.9	5.3	
	F	1.09	67.2	0.0	22.5			4.3
Italy	M	305	88.9	0.0		5.2	4.9	
	F	2.31	88.1	0.3	7.9			1.3
Latvia	M	700	58.0	0.1		35.3	4.7	
	F	1.37	58.2	0.6	33.1			2.3
Poland	M	None						
	F	2.44	79.0	0.9	13.6			1.3
Spain	M	495	85.1	0.2		10.3	2.0	
	F	1.69	85.8	0.0	8.9			1.8
Sweden	M	756	38.1	3.6		40.7	17.6	
	F	1.21	46.4	4.8	41.2			7.6
Switzerland	M	584	69.3	0.2		24.8	3.6	
	F	1.66	72.8	0.2	18.4			5.9

Source: Computed from FFS data.

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[ii] At this time, we have not yet received the SRFs for Estonia, the Netherlands, New Zealand, and the United States and we have processed 18 of the 19 SRFs received so far (with the exception of Slovakia).