

Title: Marriage timing and childbearing in Sweden
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Sessions: 202 Family Change and Continuity (Goldscheider)
207 Marriage (Lichter)

ABSTRACT

Increasingly marriage and childbearing have become decoupled. More than half of all children in Sweden are born outside of marriage. However, it is likely that the presence of children is still linked to marriage, as the vast majority of children who are born to cohabiting couples will experience the marriage of their parents. The temporal ordering of childbearing and marriage may be informative as to people's intentions and the meaning of marriage. In this paper I explore three possible meanings of marriage vis-à-vis childbearing: marriage as a *legitimizing*, *reinforcing* and *capstone* institution. I model marriage risks among Swedish cohabiters with specifications of parity and age of youngest child in order to identify these three typologies of marriages. I further investigate whether temporal, social and economic variations in the timing of marriage are consistent with the typologies of marriage proposed here.

EXTENDED ABSTRACT

Marriage is a core institution of family life. Even in Sweden where cohabitation is normatively considered a suitable union for childbearing and cohabiting couples are granted nearly the same legal rights and responsibilities as marriage, the vast majority of Swedes aspire to marriage and will eventually marry (Bjornberg 2001; Bernhardt 2002; Bernhardt 2004; Wiik, Bernhardt et al. 2008). Lifelong cohabitations are rare in Sweden, particularly once a couple has shared children (Bernhardt 2002). Increasingly, however, marriage occurs at later ages, nearly all marriages are preceded by a lengthy period of cohabitation and cohabiting couples are slower to formalize their unions through marriage (Bracher and Santow 1998; Duvander 1999; Heuveline and Timberlake 2004; Wiik, Bernhardt et al. 2008). Furthermore, childbearing is increasingly likely to occur outside of marriage: more than half of all children in Sweden are born outside of marriage, although nearly 84% of those are born to cohabiting couples (Duvander 1999; Bernhardt 2004). It is likely, however, that the presence of children is still linked to marriage, as the vast majority (81.6%) of children who are born to cohabiting couples will experience the marriage of their parents (Heuveline and Timberlake 2004).

Exploring the extent to which marriage has become decoupled from childbearing may provide insight into what Swedish couples are trying to achieve through marriage. The temporal ordering of childbearing and marriage may be informative as to people's intentions and the meaning of marriage. In this paper I explore three possible meanings of marriage: marriage as a *legitimizing*, *reinforcing* and *capstone* institution. Where marriage is a *legitimizing* institution, marriage is a necessary prerequisite for childbearing and should occur prior to or in tandem with a first birth. Marriage some time after the first birth, but before subsequent births indicates that, while marriage is not a prerequisite for childbearing, there is added symbolic security and stability to be gained from *reinforcing* a union through marriage. Finally, where marriage occurs after second or higher order births, it may be considered the *capstone* of family life; family building is complete and now the couple will label their achievement through marriage.

I model marriage risks among Swedish cohabiters with specifications of parity and age of youngest child in order to identify these typologies of marriages. I further investigate the extent to which social and economic variation in the risk and timing of marriage are consistent with the typologies of marriage proposed here.

THEORETICAL BACKGROUND

Union formation and parenthood are interrelated processes. Social norms and social policy dictate that a child's parents are the primary parties responsible for the care, socialization and support of their children. Furthermore, norms dictate that stable, committed unions (either marital or cohabiting) are the most appropriate context for bearing and raising children (Roussel 1989).¹ Within unions, both parents have direct access to the child for both socialization and transfers of resources. Furthermore, time resources and parental support to children can more easily be balanced by two residential parents. Children seem to benefit from this access: a wide range of empirical evidence suggests that children fare better in two-parent families (for examples see: Thomson, Hanson et al. 1994; McLanahan and Sandefur 1994 ; Wu 1996; Ginther and Pollak 2004; McLanahan 2004).

As a consequence, union formation is an integral part of the procreation process and "individual desires for children [seem to] influence union formation and its timing," as partners strive create the economic and social conditions for childbearing (Baizán, Aassve et al. 2004). Bennett and colleagues (1995) and Lichter and Graefe (2001) show that pre-union childbearing increases the likelihood of forming an informal union. Premarital pregnancies and births also increase the risk of marriage, particularly among cohabiting couples (Goldscheider and Waite 1986; Manning and Smock 1995; Berrington 2001), however this relationship may vary within populations (Manning 1993; Harknett and McLanahan 2004).

Historical, social and demographic data covering the early 20th century suggest a stigmatization of childbearing outside of unions, and outside of marriage more specifically. In general, sex occurred only within marriage and a premarital pregnancy led to marriage (Axinn and Thornton 2000). In the later half of the 20th century, however, marriage and childbearing have become increasingly distinct family experiences. Family activities, such as coresidence, sex, childbearing and childrearing, once associated solely with marriage, today occur before, during and after marriage (Axinn and Thornton 2000). Over one-third of all births in the United States occur outside of marriage, a large share of which occur in cohabiting unions and this share has been increasing faster than the share of births to unpartnered mothers (Bumpass and Lu 2000; Sigle-Rushton and McLanahan 2002). Similarly, non-marital births are increasingly common in Europe. In Sweden, more than half of all births and two-thirds of first births occur outside of marriage, and by-and-large these births are to cohabiting parents (Bernhardt 2004). Indeed, births to cohabiting parents in Europe are on the rise: in the 1970s, fewer than one in ten births occurred to non-married cohabiting couples in Northern, Central, Eastern and Anglo-Saxon Europe; by the beginning of the 21st century, approximately half of all births in Scandinavia, one-third in France, over one-quarter in the UK and Austria, and just under one-fifth in the Netherlands, Hungary and Russia were to cohabiting couples (Duvander 1999; Bernhardt 2004; Perelli-Harris, Sigle-Rushton et al. 2009).

This rise in non-marital births can be attributed to a number of factors: ideational change and shifts toward individualism and secularism associated with the Second Demographic

¹ Hobcraft & Kiernan 1995?

Transition (Lesthaeghe and van de Kaa 1986; Bumpass 1990; Lesthaeghe 1995; van de Kaa 2002), increasing economic independence of women and the declining economic status of men (Goode 1963; Becker 1981; Oppenheimer 1994), and the increasing acceptability of childbearing within cohabiting unions (Bumpass 1990; Casper and Bianchi 2002; Heuveline and Timberlake 2004). While “shot gun” marriages may be increasingly less common, childbearing may still create incentives couples to reinforcing their existing union by adding a legal dimension to the union through marriage.

It is possible as well that marriage may no longer be an integral part of the childbearing process. As cohabitation becomes a less selective intimate union and family form, scholars suggest that it may become an alternative to or indistinguishable from marriage (Rindfuss and VandenHeuvel 1990; Kiernan 2001; Heuveline and Timberlake 2004). At this stage in the evolution of family forms, cohabitation becomes a culturally approved union type in which to bear and rear children and there is greater institutional support for cohabiting unions (Heuveline and Timberlake 2004). Both individuals and their children increasingly spend a larger proportion of their lives in cohabiting unions. Sweden has been identified as one context where cohabitation has reached this stage in the evolution of family life.

Within these contexts marriage may take on a new symbolic meaning, distinct from family formation and procreation. While recent cohorts of Swedish young adults express overwhelming support for childbearing and rearing within cohabitation, both married and unmarried young people express positive feelings about the marital union (Bernhardt 2002; Bernhardt 2004). While marriage is seen as more traditional, it is also associated with romance and shows that a couple is “really serious about the relationships” (Bernhardt 2004, 3). Seriousness may be associated with a longer-term commitment or security and stability for these young adults. Alternatively, marriage may symbolize the capstone of the family building process; whereas marriage used to be “something to which one routinely accedes” and “the foundation of adult personal life, ...[now it may be] something to be achieved through one’s own efforts” (Cherlin 2004, 855).

HYPOTHESES

Considering the timing of marriage relative to the timing of childbearing and parity provides insight into the salience of these different meanings of marriage. Where marriage occurs before or in tandem with childbearing, it is likely that these marriages are *legitimizing* unions. For these couples, marriage represents an expression of permanency and a long-term commitment. Such an expression is considered necessary for the transition to parenthood. Traditionally legitimate births occurred only within marriage, thereby transferring filial rights and obligations to both parents. In Sweden today, however, filial rights and responsibilities are transmitted to parents regardless of their marital status. Consequently we can include births occurring in the 12 months after a birth in the *legitimizing* marriage category; although “shot-gun” marriage is not normatively necessary, the marriage is still closely linked to the birth of the couple’s first child. Therefore, *legitimizing* marriages may be defined as those which take place previous to or within 12 months after the first birth.

[Table 4.1 Here]

Where marriage occurs a year or more after a first birth but before subsequent births it may be taken as an indication of *reinforcement*. For these couples, the transition to parenthood

may be an explicit expression of seriousness and commitment. These couples do not see marriage as necessary for childbearing; however, the legal nature of the marital contract may provide an added sense of security, stability or permanency of the union. The introduction of a child into the union changes the couples' circumstances in such a way that marriage becomes desirable. Because of norms about child spacing, couples with singleton children aged 12 and 60 months are considered at risk for a *reinforcing* marriage.

Marriage may also occur sometime after the completion of childbearing. This type of marriage may be viewed as the *capstone* of family formation: now that the family is complete, the couple will marry (Cherlin 2004). Marriage is not associated with the mere presence of children, as with *legitimizing* or *reinforcing* couples, but rather with achieving a desired family size. The long-term commitment of these unions is considered self-evident, demonstrated by childbearing. The *capstone* marriage demonstrates an achievement and is a symbol of success (Cherlin 2004; Edin and Kefalas 2005). I identify *capstone* marriages as those which occur when mothers reach the end of the childbearing years (age 40), once a singleton child reaches 5 years old, or marriages which occur after a second or third birth.

Even if one of the three typologies of marriage is found to be dominant, it is likely that all three marriage patterns may exist simultaneously within a population. Indeed, there is evidence that the symbolic meaning of marriage may differ by class and culture. Consequently it is important to capture individual differences that may be related to the timing of marriage and childbearing, such as economic (earnings and labor force attachment), educational characteristics, regional variation and cultural background (parental leave take-up and foreign born status) (Oppenheimer 1988; Sweeney 2002; Baizán, Aassve et al. 2004).

DATA AND METHODS

Data for these analyses come from Swedish population registers, which contain administrative data on all individuals residing in Sweden. The registers include information on births, civil status changes,² education, employment and income, and foreign-born status. From these data I build longitudinal, discrete-time duration records for unmarried, childless women over the age of 16. In order to test the three hypotheses about the meaning of marriage, I jointly model the risk of marriage, separation and in-union conceptions leading to live births of parity 1, 2, and 3. By modeling conceptions and separation jointly with marriage, I take into account selection processes that may condition marriage risk. For example, if marriage is a *reinforcing* institution and is most likely to occur between first and second births, a couples must have experienced a first birth and must not have separated after that birth. It is important to estimate the marriage, separation and birth risks for all parities jointly, allowing for correlation between within-individual, unobserved characteristics that may influence processes being modeled (Lillard 1993; Kravdal 2001).

I observe different types of spells in each equation. In modeling marriage, unmarried, childless women are considered to be at risk for marriage beginning at age 16. Spells are censored if the first birth is out of union (to a non-cohabiting partner), if the first birth occurs with a partner who has children from a previous union or if there is a post-first birth separation.³

² The civil status register include information on marriage and divorce (opposite-sex couples), registered partnership formation and dissolution (same-sex couples), and widowhood.

³ Among individuals with at least one child, I can approximately identify cohabitation with the child's other parent. Register data identify the parent of each child and also the house, apartment building or complex in which each

The population at risk for estimates of a first conception leading to a live birth includes all childless women age 16 or older. Models for second and third in-union conceptions, include women who have experienced a first or second birth, respectively. In these equations, spells are censored at separation date. It is important to note that the samples for models of 1st, 2nd or 3rd conception include both married and unmarried women. The model of separation include cohabiting (married and unmarried) couples with at least one shared birth.

I estimate five simultaneous random effects, semi-parametric multiprocess models using the aML statistical package:

$$\begin{aligned}
 \ln h^M &= \gamma^M x_i^M + \Phi^M \mathbf{w}_{ii}^M + \beta^M \mathbf{z}_{ii}^M + u_i^M + e_{ii}^M \\
 \ln h^{B1} &= \gamma^{B1} x_i^{B1} + \beta^{B1} \mathbf{z}_{ii}^{B1} + u_i^{B1} + e_{ii}^{B1} \\
 \ln h^{B2} &= \gamma^{B2} x_i^{B2} + \beta^{B2} \mathbf{z}_{ii}^{B2} + u_i^{B2} + e_{ii}^{B2} \\
 \ln h^{B3} &= \gamma^{B3} x_i^{B3} + \beta^{B3} \mathbf{z}_{ii}^{B3} + u_i^{B3} + e_{ii}^{B3} \\
 \ln h^S &= \gamma^S x_i^S + \beta^S \mathbf{z}_{ii}^S + u_i^S + e_{ii}^S
 \end{aligned} \tag{1}$$

Superscripts M, B1, B2, B3 and S indicate marriage, first, second and third conception leading to a live birth, and separation, respectively. The primary duration dependence (“clock”) of interest, x , is specified differently for each process: for marriage and first birth, duration is expressed as age; for second and third birth equations, duration is expressed as time since previous birth (age of youngest child); and for separation, duration is expressed as time since first birth. Each x is specified as a piece-wise linear spline, with γ capturing the effect of duration on the intensity of each process.

In order identify different meanings of marriage, I include in the marriage equation a vector of time-varying covariates (\mathbf{w}) corresponding to characteristics associated with each of the marriage typologies: in indicator of pregnancy (9 months before a live birth), age of youngest child, parity, and interactions between parity and the pregnancy and age of youngest child variables. Each model includes individual-specific random effects (u) and time-varying residuals (e). I allow for correlation between $u^M, u^{B1}, u^{B2}, u^{B3}$ and u^S , and between $e^M, e^{B1}, e^{B2}, e^{B3}$ and e^S .

Even if one of the three typologies of marriage is found to be dominant in a society, it is likely that all three marriage patterns may exist simultaneously within a population. Consequently it is important to capture individual differences that may be related to the timing of marriage, childbearing or separation, such as economic and educational characteristics, regional variation and cultural background (Oppenheimer 1988; Sweeney 2002; Baizán, Aassve et al. 2004). These time-fixed and time-varying characteristics are captured in the vector \mathbf{z} . Demographic characteristics include age of father (less than 25 years, 25-29, 30-34, 35-39, 40 and higher) once a partnership has been identified (i.e. after a first birth) and, in models of conception and separation, age of the mother. I include a time-varying indicator or level of education completed by the woman and, for the risk of 2nd or higher order conception and separation, man are specified as a set of dummy variables distinguishing between primary and

parent lives at the end of a calendar year. If we assume that parents of a common child living in the same building or complex are living in the same dwelling unit, we have an annual indicator of parents' coresidence. Consequently, couples can only be identified and be at risk of separation once they have a shared birth.

lower secondary education (low), upper secondary and less than two years of post-secondary education (medium) and more than two years of post-secondary education (high). Additionally, I include a dummy variable to indicate current enrollment.

With respect to economic characteristics, I include information about logged annual disposable income for women and, after a first shared birth, their partner in a series of spline variables, with nodes at \$8,500, \$17,000, and \$25,000. I also include an indicator if the woman or her partner (after a first birth) is currently unemployed and an indicator for unemployment in the previous 12 months. Also, for estimates after a shared first birth, I include interaction terms for individual and partner education and income variables to identify more economically egalitarian couples. To capture gender ideology, after a first shared birth I include measures of parental leave use: one variable captures who used the leave (neither, woman, man, or both) and a measure of the ratio of family leave benefit to total household income.

I capture potential cultural differences in marriage and cohabitation behavior by identifying foreign born individuals with a set of dummy variables indicating country of origin: Nordic countries; Western and Anglo-Saxon Europe; Central Europe; Southern and Eastern Europe; Russia; Turkey; United States and Canada; Mexico, Central and South America; North Africa; Middle East; East Asia; South-East Asia; South Asia; and the rest of the world. I include a set of dummies indicating urban, suburban or rural residence. Background characteristics associated with the risk of marriage, conception and separation are also included in models; I include indicators of “grandparents” civil status (cohabiting versus married), parents dissolution, age of first birth of the “grandmother” and number of siblings.

Table 4.1 Describing Meaning of Marriage Typologies				
	Age of Mother	Pregnant	Age of Youngest	Number of Children
Legitimizing	-	Yes	-	0 children
	-	-	0-12 months	1 child
Reinforcing	-	-	12-60 months	1 child
Capstone	40+ years	-	-	-
	-	-	60+ months	1 child
	-	-	-	2, 3 children

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