Marital Changes and Fertility Differences among Women and Men in Urban and Rural Mali

Solène Lardoux
University of Pennsylvania
Population Studies Center
3718 Locust Walk, 239 McNeil Bldg
Philadelphia, PA 19104-6298

Abstract

The aim of this study is to investigate the relationship between types of marriage celebration, time to cohabitation of spouses and age at first birth. The data are derived from a national survey conducted in Mali (Bamako, other urban and rural areas) in 2000. The study showed that the delay of age at marriage (i.e. age at first marriage celebration) is greater for men than for women in Bamako only. In other urban and rural areas, the direction of change in age at first marriage does not seem to differ much between women and men. The religious ceremony is systematically celebrated and the customary ceremony often corresponds to the start of cohabitation. The civil ceremony becomes more often practiced in Bamako in particular. The most frequent sequence of marriage ceremonies is the sequence of the three ceremonies observed together in Bamako; and of the two religious and customary ceremonies in other urban and rural areas. First births occur in the majority after the two or three celebrations and after cohabitation started. However, premarital births are increasing among younger generations in Bamako in particular, and are associated to higher education and later age at first marriage of men and women. Finally, women who are the eldest of their siblings (on their mother’s side) have a slightly shorter time until first marriage in Bamako and rural areas than women of other ranks. For men, rank does not have any impact on age at first marriage. Rank of birth of women and men has a significant impact on time to first birth in other urban areas in particular.

Introduction

Marriage is quasi-universal in Mali; the percentage of women and men who have never been married is very small at the age of 50 (less than 5%). Polygynous marriage is frequent. Age at first marriage is very early for girls and divorced or widowed women quickly remarry. Mali is a country where age difference between spouses is greater than 10 years, and exceeds 15 years in polygynous unions. These numbers do not show all the considerable changes that have taken place in family dynamics in Mali. Most of previous research used cross-sectional data, whereas the EDFEEM-2000 survey (Survey on Family Dynamics and Education of Children) makes possible the study of biographies of women aged between 30 and 54 years and of men aged between 35 and 59 years at the date of the survey.

The principal aim of the present research is to study the changes over time of two main indicators of entry into adulthood: age at first marriage and age at first birth. In Mali like in some other West African countries, marriage is
characterized by several stages which make its measurement difficult for the researcher. The process of entry into marriage may correspond to the observation of three types of marriages (religious, customary, civil); cohabitation, consummation of marriage and birth of the first child are other stages of entry into marriage. In demographic research, marriage is often used to define the time when regular sexual relations of partners begin (Bledsoe and Cohen, 1993; Lesthaeghe, 1989). However, partners may enter into first union, start cohabitation (i.e. co-residence) and have their first sexual intercourse (i.e. consummation) without the observation of at least one of the three types of marriage (religious, customary, civil).

In the present study age at first marriage is measured by the age at the first ceremony of marriage for several reasons. First, the survey has the originality of reporting the time at each marriage celebration; it is thus possible to know the month and the year of the first celebration of marriage. Second, in Mali the religious marriage has often been the first to be celebrated and Islamic rules recognize the responsibility of the husband towards his wife once the bridewealth is paid (at least partially) and the marriage sealed by the imam. Third, marital practices of the Peul, a semi-nomadic ethnic group, can be an instance of the importance of recording the time at first marriage celebration. Results from my qualitative interviews in Mali showed that the Peul may observe a period of non-cohabitation of two to three years after the religious ceremony. During this interval, between the first marriage celebration and the start of cohabitation, the spouses may spend nights together in the hut of the wife in her parental homestead (when the husband is not gone with his herd for several months). Every night, the husband comes when it is dark and leaves very early morning not to be seen by his parents-in-law. The first birth may occur during this interval, before the spouses start to live together in the husband’s household and before any other ceremony of marriage is observed. Evans-Pritchard (1992 [1951]) observed a similar practice among the Nuer of southern Sudan.

The data permit the comparisons across places of residence (Bamako, other urban, rural) of characteristics of entry into marriage and timing of first birth of women and men (the questionnaire is the same for both sexes). The study of the links between nuptiality and fertility across generations in Mali should help better understand the reasons for the high and quite constant levels of fertility in the country, but also how the marital context of births may have changed over the past generations (TFR of 6.8 children per woman (Basséry et al., 2002)).

Marcoux et al. (1995) presented the major transformations that characterized entry into first marriage in Bamako during the period 1960-1990. Their research showed an important delay of age at first marriage in the capital city of Mali. The authors also reported that practices in terms of marriage celebrations
(religious, customary, civil) changed in urban places. Polygyny was still a widely practiced type of union and it was even increasing. The context of economic hardship may be unequally felt depending on whether individuals live in the capital, other urban or rural areas. Authors of a National Research Council publication (Bledsoe and Cohen, 1993) emphasized the problems of definition of marriage and the difficulties of comparison of age at the first marriage across African countries. The authors presented the diversity of forms of unions, as well as the problem of defining the status of births; but they did not develop characteristics of the ceremonies of marriage which are not only useful to anthropologists but are of great interest for demographers too. Meekers (1992) used the 1980-81 Côte d’Ivoire Fertility Survey and showed that the sequencing of events in the union formation process was useful to better understand marriage in Côte d’Ivoire. Further, the present study of entry into first marriage includes responses for women and men. Hertrich (1998) argued that men may have a better knowledge of the characteristics of the marriage process than women (of the older generations in particular) since they are more involved than women into initiating the different stages of entry into marriage.

The main hypotheses of the present study are the following. First, in periods of economic crisis the delay of age at first marriage may be greater for men than for women since the entry into marriage may be more dependent on economic necessity for men than for women (Amin, 1998; Borgerhoff, 1995; Cain, 1982). Before they marry, men are supposed to be able to have a dwelling, agricultural land, cattle and enough economic resources to support their future children (Timaeus and Graham, 1989). Second, the interval between the religious ceremony and cohabitation may be associated to the age at the first marriage ceremony. In particular in rural areas cohabitation may not start until several years after the religious marriage. In Bamako and other urban areas, the first marriage may occur later and thus the interval between the first marriage ceremony and cohabitation may be short. Third, premarital births may be associated to a later age at marriage, a higher level of education and a different pattern of entry into marriage than for women who had a first child born after the first celebration of marriage.

The fourth hypothesis has rarely been tested in the literature; it concerns the birth ranks of interviewed women and men among their mother’s children. As for women, their age at first marriage when they are the eldest child in the mother’s lineage may be higher than if they were of another birth rank. Indeed, the eldest sister may have to help in the household for a longer period of time than her younger sisters when they reach the same age. As for men, their age at marriage when they are the eldest may be younger than if they were of another rank since the parents consider the marriage of the eldest son as a priority. In this patrilineal society, the new wife of the son generally moves into her husband’s household and helps her husband’s mother and younger sisters.
Background

In Africa where public institutions are often unstable and precarious, the family plays more than anywhere else a role of primary importance in the transmission of social norms and in the support of individuals who are at different stages of their life cycle. Laslett and Wall (1972) recalls the ambiguity of definition of the terms “family” and “household” and the difficulty in choosing inclusion or non-inclusion of some members. Laslett and Wall (1972) studied local lists of inhabitants that existed before national censuses in Europe, North America and Japan; he kept three characteristics that the groups had in common. Firstly, a location criterion: persons live under the same roof. Secondly, a functional criterion: individuals participate in the same activities. Thirdly: individuals have kinship ties, i.e. they are linked by blood or by marriage.

In the present research, the term “family” corresponds to the extended family and is not limited to the nuclear family. To study the family crisis can be equivalent to asking the question of the existence of a decline of family ties (Weisner, 1997). The expression “family crisis” suggests the decline of traditional values. In a context of international exchange and of increase of poverty, the young adults who represent the greatest proportion of the population challenge the contradictions between traditional modes of subsistence and elements of the modern sector. Amin (1998) refers to Kabeer (in Amin, 1998) who argues that poverty weakens the system of family support and promotes more autonomous lifestyles, for instance, of women who seek other roles than wife and mother. Even though Mali is a patriarchal society, woman’s economic independence may have increased in this society. Migration of some members of the family to the city or abroad is motivated by the diversification of sources of income in order to minimize the risk of poverty.

In addition to migration, family changes in the city in particular are noticeable at several levels with a delay in the age at marriage, a delay in the age at first birth, an increase of celibacy, marital or non-marital unions without cohabitation, divorces and separations. A longer time spent at school may postpone first marriage. In urban areas in particular, a higher education, a higher participation of women in the formal sector of the economy and a more common use of contraceptives than in rural areas may explain later ages at first birth among young generations than among old generations of women. Changes over time are often more important in urban than in rural settings. As regards men, changes in age at first marriage may reflect economic hardship since it is a common practice that the future husband needs to prove to the future bride’s parents that he has enough wealth to support his wife and her future children. Moreover, Cain (1982) argues that changes in economic factors may be of greater importance in causing fertility decline in the poorest societies than in relatively affluent societies in the developing world where the economic cost of children
may be more easily absorbed. Amin (1998) also assumes that poverty weakens family ties and increases the relative cost of rearing children. Urban and rural areas contrast in their level of development, of household’s possession and access to public facilities. Rural areas tend to experience stronger economic hardship (Bledsoe and Isiugo-Abanihe, 1989) and to be more traditional than other places. In this study, urban and rural areas will serve as proxies for levels of development and access to resources.

Celebrations of marriage are of three types and may not happen at the same time. The religious, customary and civil marriage each has a specific role that confers specific rights to the new bride and groom as well as to their respective kinships. The religious marriage is often the first to be celebrated and has an important symbolic value; the religious chief, the imam, recognizes and seals the union of the bride and of the groom. There is no minimum age for this celebration. In rural areas in particular, the bride may be very young. The bride and the groom may not attend the religious ceremony; instead they each have at least two male family members that represent them (Hampâté Bâ, 1994; Shaukat-Ali, 1987). Before the religious marriage (which differs from the betrothal) or at the same moment, the bridewealth or a portion of it is given by the representatives of the groom to the family of the bride. The amount of the bridewealth in urban areas is fixed to 10,000 Francs CFA for a woman who was never married and to 5,000 Francs CFA for a woman who is widowed or divorced (Marcoux et al., 1995). It is common that a portion of the bridewealth remains unpaid. In rural areas, the bridewealth is more often paid in nature and consists of cattle and various goods; its composition varies greatly by ethnic group.

The payments of the bridewealth and of the trousseau do not occur at the same time especially in places where there is an interval between ceremonies. While the bridewealth is generally given by the groom at the religious ceremony or before, generally the first celebration; the trousseau is brought by the bride when she enters into her new household to live with her husband. In general the customary celebration corresponds to the start of cohabitation (Marcoux et al., 1995). The trousseau is often composed of kitchen utensils, blankets, cushions and other types of furniture for the new dwelling. The customary ceremony is characterized by many purification rituals (Marcoux et al., 1995) and the festivities last either three days or, more traditionally, a week. Everyone in the village or in the neighborhood is invited to join the customary celebration of the marriage. This ceremony is the most expensive for the families of the bride and of the groom. However, it is the custom that the persons invited offer food to share with the others in exchange because either they had their own marriage celebrated before or they will have it later. Many presents are also brought to the new couple. During the week of the customary celebration, the bride and the groom wear the same white clothes. While the groom is allowed to step outside
the nuptial room and can spend time with his family and friends or even go to work, the bride is forbidden to do so and should not be seen by anyone except her husband and the old lady (magnamagan in Bambara) who takes care of the newly married during the whole week (Kéita, 1994).

The civil marriage became mandatory in 1962 and the minimum legal ages at marriage are 15 years for girls and 18 years for boys. According to the law which was issued from the Napoleonic Code, the civil marriage has to be celebrated before any other form of marriage is observed (Marcoux and Piché, 1995; Gourlet, 1976). But in practice it is not often the case, and civil marriage is rarely observed in rural areas because of the lack of a place to register.

The Demographic and Health Surveys use the term of union in the sense that a union exists when two partners are regular sexual partners. The existence of a union does not imply that ceremonies of marriage were celebrated; rather most DHS questionnaires refer to cohabitation and consummation as indicators of the existence of regular sexual relationships between partners who thus form a union. However, there may be instances of visiting unions where partners are in a union but they do not live together.

Marriage may be defined without differentiation as a formal union, an official union or a legal union. In the present survey, three types of celebrations define marriage. A marriage becomes an official union when it is tied in front of a religious chief (religious ceremony); when it is declared by a representative of the state (civil ceremony); and by festivities that make the marriage widely known to the people (customary ceremony). These ceremonies may not happen at the same time and may not all be celebrated but the process of entry into marriage begins when at least one is observed.

However other characteristics define a marriage such as the time at consummation and at the birth of the first child (Evans-Pritchard, 1992 [1951]). The consummation corresponds to first sexual intercourse between the partners (in the tradition, the marriage is consummated during one of the first nights of the customary ceremony and festivities permit to spread the news of the marriage to the people at large). Moreover Islamic rules forbid sexual intercourse of the future spouses before marriage. The future bride has to be a virgin at the moment of first marriage. But it becomes common among younger generations that partners have sexual intercourse before the first marriage celebration, in urban areas in particular. A consequence of this is an increase of premarital births that may not always be attributed to the future husband but to another partner. Unfortunately, the present survey did not ask any question about sexuality or consummation. As for the birth of the first child, informants who participated to my qualitative interviews in various regions of Mali declared themselves “fully married” after they had their first child.
Shaukat Ali (1987) notes that, according to Islamic rules the validity of a marriage depends primarily on the consent of the parties (i.e. the bride and the groom or their representatives) and on the presence of witnesses. A specific ceremony or any document is not necessary. Further, the author remarks that it is not clear in the Koran how the consent of the bride is obtained (in particular when she is a child).

Thus in the present research, partners are considered to have contracted a first marriage when at least one of the three forms of marriage was celebrated. The quantitative data permit to locate the start of cohabitation and the timing of a first birth within the sequences of entry into first marriage. The start of cohabitation of partners is defined as the time when partners start to live together, regardless of whether they had at least one marriage ceremony or not. In the present survey, the questions in the survey assume that cohabitation happened at the same time as one of the three ceremonies of marriage. The informants were asked to give one type of marriage (religious, customary or civil) that corresponded to the start of cohabitation. However a fourth category of response was named “other” and may gather the informants who had a first marriage but who started to live with their spouse at no particular celebration of marriage or the informants who started to live with their partner but who did not declare any marriage ceremony. By consequence, the data of the present survey permit us to know the date at the beginning of cohabitation only for informants who started to live with their partner at the moment of a particular marriage ceremony.

Marital fertility in sub-Saharan Africa has been widely studied and premarital fertility or fertility before first marriage has been less analyzed. Although the definition of first birth within marriage is quite straightforward, the definition of premarital fertility is less clear. In most surveys there is no indication of the male partner with whom the woman had her first child (either her future husband or not). The nature of a first birth before marriage differs for men in comparison to women. For men, a first birth before marriage may be an unacknowledged child or a child towards whom the man has paternity rights. Thus it is difficult to study the relationship between a first birth before the first marriage and the characteristics of the first marriage. Births before an official marriage may accelerate a planned marriage or rather, when the father was for instance a stranger, a migrant, the first birth before marriage may lead to a rapid marriage organized by the parents in order to cover the premarital birth or the woman can be dismissed from her family.

Mali is a country in sub-Saharan Africa where population growth from natural increase is important and where the fertility rate is constant or even tends to increase slightly, in rural areas in particular. The total fertility rate (TFR) was of 6.9 in the 1987 EDSM-I (Traoré et al., 1987), 6.8 in the 1987 RGPH.
(national census) and 6.7 in the 1995-96 EDSM-II (Coulibaly et al., 1996); the EDSM-III of 2000-01 (Basséry et al., 2002) reported a TFR of 6.8 children per woman. Thus, the fertility of women does not seem to have experienced a noticeable decrease between 1987 and 1995-96 and even until 2001. The total fertility rate at the time of the EDSM-III (Basséry et al., 2002) in 2000-01 was as follows in the three areas of residence: 4.9 in Bamako, 6.3 in the other towns and 7.3 in rural areas.

The surveyed populations of the three birth cohorts of women and men for the EDFEEM-2000 have been in an environment characterized by political changes and economic difficulties. In 1968, militaries took power after a coup. In 1979, the General Moussa Traoré became the chief of the unique party and was in power until 1991 when a popular movement forced him to quit (Marcoux and Piché, 1998). Moreover, the drought of the 1970s and the degradation of the terms of exchange in the beginning of the 1980s provoked important setbacks in the economy. The decade 1982-1992 was one of the hardest periods in Mali (Marcoux and Piché, 1998). The big drought of 1983 provoked a decrease of the farming production and the prices for the exportation of cotton dropped. In 1981 the World Bank and the International Monetary Fund (IMF) started a vast program of structural adjustment in Mali and in other countries. In 1984, the workers faced a 50% decrease of their purchasing power which corresponded to the time of the devaluation of the Malian Franc.

The present research attempts to emphasize the changes in family formation at the demographic level, in particular in entry into marriage with a first celebration, timing at start of cohabitation of the spouses and first birth.

Data

The data come from a national survey conducted in 2000 that collected biographies of a random sample representative of each stratum (Bamako, other urban and rural areas) of more than 5,000 men and women. At the date of the survey, women were aged between 30 and 54 years and men were between 35 and 59 years old. The retrospective survey EDFEEM-2000 on Mali (Survey on Family Dynamics and Education of Children) was directed by the researchers from CERPOD (Research Center on Population and Development) in Bamako and by researchers from the Department of Demography at the University of Montreal in 2000. This project was the second part of the Programme Population et Développement au Sahel (PPDS-2), financed by the Canadian Agency for International Development.

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1 Enquête Dynamiques Familiales et Education des Enfants au Mali.
2 Centre de Recherche sur la Population et le Développement.
Although retrospective surveys have the advantage of permitting the study of sequences of events in the lifetime of a same individual, this type of surveys presents several limitations. Memory biases are a first limitation. The quality of declaration of ages probably increased for the most recent cohorts because of more widely available civil registration and better levels of education of respondents from younger cohorts (van de Walle, 1993). Thus, distributions of age at first marriage can be affected by differences in the quality of declaration across cohorts. Lesthaeghe (1989) showed that older women more often overestimated their age at first marriage. Errors of declaration of ages can imply an underestimation of changes in the prevalence of first marriages (Calvès, 1999; Leridon, 1990). The bias introduced by the difficulty of recalling a date is important, especially when the questionnaire asks for an indication of the month when an event took place. A second limit is the difference of definition and perception of marriage for women and men of the oldest birth cohort in comparison to women and men of the youngest cohort. Bledsoe and Cohen (1993) argue that women of older cohorts may refer to unions (the authors use the term “union”) that are socially recognized, whereas younger cohorts may declare a union in accordance to its legitimacy according to legal codes and religious ceremonies. Finally, retrospective surveys are often of great length and this may have some impact on the quality of the responses of interviewees. In terms of data quality in event history analysis, however, the respect of the chronology of events is more important than the exact dating of events. Those data limitations should be kept in mind when stating conclusions on the differences of ages at first marriage and at first birth across generations of women and men.

A flaw in the questionnaire design is the absence of question on sexuality and more specifically on the age at first sexual intercourse. This last information would be of great interest to see how sexual activity and procreation are linked (Michel Bozon, personal communication). However, once the religious marriage is sealed, often the first celebrated with the bridewealth payments, the consummation of the union is tolerated, even though the spouses have not started to live together (Marcoux et al., 1995). Thus in the present article, for the study of fertility, the time at first marriage celebration is taken as the indicator of the start of a regular sexual union. Another shortcoming of the present research lies in the consideration of the place of residence at the time of the survey. By consequence, the study of age at first marriage by place of residence may be biased. Biases may occur in particular in the cases of women or men who grew up in rural or other urban areas and migrated to Bamako to marry, who were still living in Bamako at the date of the survey. Changes in Bamako may be underestimated. However, in a preliminary comparison, I included the strata at the moment of first birth but results did not differ much.
About marriage the Demographic and Health Surveys DHS-I (Traoré et al., 1987), DHS-II (Coulibaly et al., 1996) and DHS-III (Basséry et al., 2002) of Mali only report the date at first cohabitation of the woman with her husband and do not permit the study of union formation as a process. Furthermore, many surveys in Africa rely on respondents’ self-assessed marital status (Bledsoe and Cohen, 1993). In contrast, the EDFEEM-2000 survey dates the entry into first marriage by recording the month and year of each celebration, as well as the celebration which also corresponded to the start of cohabitation. The sequencing of celebrations with timing at cohabitation and first birth is thus possible. The total duration of the period of entry into marriage may be of 0 to several months or years. This does justice to most African practices of marriage that do not correspond to a single date.

**Methods**

The study is conducted at two levels: the place of residence at the time of the survey (Bamako, other urban, rural) and the birth cohort of interviewed women and men (1945-1954, 1955-1962 and 1963-1970 for women, and 1940-1949, 1950-57 and 1958-1966 for men). The sample of women and men in each stratum is representative of the populations of Bamako, other urban and rural areas, separately. The stratum “other urban” refers to any urban area other than Bamako, as defined in the 1987 general census of the population. The three generations or birth cohorts are calculated from the dates (month and year) of birth. In the present analysis of biographies, differences across cohorts reflect changes over time. The third cohort of women born between 1963 and 1970 is an open cohort for the present study. Although first marriage and first birth usually happen before the age of 30 years for women and 34 years for men, the proportion of women who had not married by the time of the survey is higher among women of the youngest cohort. Some women of this cohort have not been exposed to the risks of marriage and of birth for a long enough period of time (Table 1).

The use of event history analysis methods permits the construction of nuptiality and fertility tables. Curves of proportions of women and men in function of age at first marriage are drawn from the computation of these tables.

The definition of the populations exposed to the risk of getting married or having a birth is very important. For the study of the timing of first marriage (i.e., time at first celebration of marriage), I assume that all women over 10 years (men over 16 years) are exposed to the risk of getting married – I chose to start at ages 10 and 16 because the numbers at these early ages started to be high enough. The period of time when women and men are exposed to the risk of marriage is from age 10 (age 16 for men) to the age at first marriage celebration.
if there was a marriage. In cases where the event under study does not occur, the period of exposure to the risk is extended until the date of the survey.

For the study of fertility, Cox regressions are used to test the role of several variables on the risk of a birth occurring after the first marriage celebration and of a birth prior to the first celebration, separately. The populations under the risk of experiencing the event differ by type of birth. In the case of births before first marriage celebration, all single women aged 10 or more (single men aged 16 or more) are exposed to the risk of having a birth during the period from their 10\textsuperscript{th} birthday (16\textsuperscript{th} birthday for men) until they have a first birth, until they marry (have a first marriage celebration) or until the date of the survey if they did not have a birth nor married. In the case of births within marriage, all married women or men who did not have a birth prior to marriage are exposed to the risk of having a first birth until the time of their first birth or until the time of the survey if they did not have a birth before.

The final Cox regressions measure the impact of the characteristics of interviewed women and men on the pace until the entry into first marriage on the one hand and on the time until first birth (prior to marriage and within marriage, separately) on the other hand. One regression controls for the place of residence and three other regressions are conducted for each place of residence, the cohort variable being a control variable. Results of the regressions by stratum are meant to underline the differences or similarities in each place of residence of the role of the characteristics of women and men.

Thus, on a methodological point of view, I will present descriptive tables of the female and male populations in each place of residence in terms of marriage, fertility and education. Second, I will show tables of median ages at first marriage and at first birth. Third, curves from life tables will describe age at first marriage. Finally, I run Cox regressions to test the impact of several variables on entry into first marriage and occurrence of first birth for women and men.
Table 1: Selected Characteristics of the Female Population under Study, by Cohort and Place of Residence at the Time of the Survey

<table>
<thead>
<tr>
<th>Birth cohort</th>
<th>Characteristics</th>
<th>Bamako</th>
<th>Other urban</th>
<th>Rural</th>
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<tbody>
<tr>
<td><strong>Age at survey (years)</strong></td>
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<td>46-54</td>
<td>38-45</td>
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<td>46-54</td>
<td>38-45</td>
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<td><strong>Women</strong></td>
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<td>N</td>
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<td>Surveyed (total)</td>
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<td>220</td>
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<td>Had at least one marriage celebration</td>
<td>99</td>
<td>98</td>
<td>87</td>
<td>99</td>
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<td>Cohabited with first husband</td>
<td>99</td>
<td>97</td>
<td>87</td>
<td>98</td>
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<td>Had a first birth</td>
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<td>% of births before 1st marriage celebration</td>
<td>15</td>
<td>23</td>
<td>35</td>
<td>8</td>
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<tr>
<td>% of births before 1st cohabitation</td>
<td>15</td>
<td>24</td>
<td>31</td>
<td>8</td>
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<td>Rank of birth among mother’s children (% in col.)</td>
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<td>Attended modern school (% in col.)</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>41</td>
<td>48</td>
<td>57</td>
<td>10</td>
</tr>
<tr>
<td>Type of marriage (% in col.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Polygynous</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Monogamous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>26</td>
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<tr>
<td></td>
<td>74</td>
<td>79</td>
<td>76</td>
<td>72</td>
</tr>
</tbody>
</table>

Sources: EDFEEM-2000, women. Notes: 1 Modern School: French or Arabic "Medersas" School
2 At Start of Cohabitation (Women May Not Know if the Husband Has other Wives until They Start Cohabitation)
Populations under Study

The distribution of the characteristics of the interviewed adult female population (Table 1) shows that the proportions of women who married at least once are very high; between 86 and 99 percent of surveyed women report the date of first marriage celebration. Almost equal proportions of women had started cohabitation. The proportions differ by generation and by place of residence at the time of the survey. In particular in the three strata of residence, women from the youngest cohort born in 1963-70 were less likely to have married at least once. This lower proportion may be explained because women were exposed to the risk of getting married during a shorter period of time than women of older cohorts and did not start cohabitation before the time of the survey, or by higher celibacy within younger generations.

Between 91 percent and 98 percent of the surveyed women had a first birth. The percentage of women who had a first birth is slightly lower in Bamako than in the other urban places and in rural areas. The percentage is also lower for the youngest cohort than for the older cohorts except in rural areas. However, as for births before first marriage celebration, women from the cohort born in 1963-70, regardless of place of residence, declare a higher proportion of premarital births than women of the other cohorts. This result may be a consequence of the postponement of age at marriage, an increase of the prevalence of unions not marked by a celebration, and by earlier age at first intercourse (although the data do not permit to check on these last two points). The impact of some factors on the time to premarital births will be tested with Cox regressions.

Islam is the dominant religion in Mali, thus the study of marriage in Mali may also help better understand the specificities of the Muslim marriage in this West African country. The Bambara form the main ethnic group in Mali. As for schooling, almost all women of the three generations in rural areas did not attend modern school. In contrast, in Bamako, slightly less than 50 percent of the women of the two older generations attended modern school. In contrast, in Bamako, slightly less than 50 percent of the women of the two older generations attended modern school. In other urban areas, schooling improved over generations and the highest proportion of women schooled is among the youngest cohorts (25 percent of these women attended modern school). Although in a majority women start to live in a monogamous union when they enter their first marriage, the prevalence of polygyny at start of cohabitation does not vary much by generation in the three places of residence (Table 1).

As for first marriage, I present characteristics of women in details and these distributions are very close to those of men (such as variables of rank, religion, and education). This is the reason why I do not present in more details characteristics of men. Figure 1 gives the proportion of married women (Figure
1a) who declared a religious, customary and/or civil ceremony. Among the celebrations that mark the start of cohabitation, the customary celebration is the most often cited regardless of generation and place of residence (Figure 1b). The religious celebration is the second most cited. As expected, across places of residence, it is in Bamako that the civil ceremony is the most often practiced. The practice of the civil marriage in rural areas is lower than in other places of residence; however, the proportions of women who had a civil marriage ceremony seem to be too high (this result should be considered with caution).

Fig. 1a: Women
In order to better understand the type of celebration at cohabitation (Figure 1b) it is useful to consider the most frequent sequences of celebrations (in Table 2). Figure 1b shows that in Bamako, the proportions of women who started cohabitation at the customary celebration are lower than in rural and other urban areas, regardless of generations (the proportions in rural and other urban areas are equal). This result can be explained by the fact that in Bamako the three marriage ceremonies are more often celebrated within the same year and month; thus in Bamako in particular, respondents may have given one ceremony or the other to the question asked about the ceremony that marked the start of cohabitation. By contrast, in other urban and rural areas the two most often cited sequences of celebrations are the three celebrations happening at the same time (i.e. in the same year and month) and the two celebrations, religious and customary together. In rural areas there are cases where the religious celebration was the only ceremony of marriage (Table 2). The number of children ever born to women of the 1945-54’s cohort (women who are 46-54 years at the time of the survey) equals 6.5 children per woman in Bamako, 6.6 in the other urban areas and 6.9 in rural areas (Table 2). Women of the two other generations may have smaller number of children for two main reasons: first, a slight fertility decrease has probably started; second, the youngest generations are still in their childbearing years and they remain exposed to the risk of conception. Thus the raw data permit to conclude on a decline of fertility based on the two older cohorts of women.
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Bamako</th>
<th>Other urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at survey (years)</td>
<td>46-54</td>
<td>38-45</td>
<td>30-37</td>
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<tr>
<td>Children ever born</td>
<td>6.5</td>
<td>5.4</td>
<td>4.0</td>
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### First marriage

<table>
<thead>
<tr>
<th>Most frequent sequences of celebrations and cohabitation (% in col.)</th>
<th>Bamako</th>
<th>Other urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relig./Custo./Civil/Cohab.</td>
<td>65</td>
<td>71</td>
<td>57</td>
</tr>
<tr>
<td>Relig./Custo./Cohab.</td>
<td>17</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>1. Religious/Custo., 2. Civil</td>
<td>8</td>
<td>6</td>
<td>4</td>
</tr>
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<td>1. Religious, 2. Customary/Cohab.</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1. Religious, 2. Cust./Civil/Cohab.</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Religious only/Cohab.</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Customary only/Cohab.</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other sequences</td>
<td>6</td>
<td>9</td>
<td>13</td>
</tr>
</tbody>
</table>

### First birth

<table>
<thead>
<tr>
<th>Most frequent sequences of birth and celebrations (% in col.)</th>
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<th>Other urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before relig./custo./civil</td>
<td>9</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>After relig./custo./civil</td>
<td>56</td>
<td>56</td>
<td>43</td>
</tr>
<tr>
<td>Before relig./custo.</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>After relig./custo.</td>
<td>16</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>After religious only</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>After customary only</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>After relig./custo., before civil</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other sequences</td>
<td>13</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td>No celeb. and no cohab.</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

Notes: 1 The three Marriage Celebrations and Start of Cohabitation of Spouses Occurred in the same Month and Year
Sources: EDFEEM-2000, Women
The study of the sequences of marriage celebrations with cohabitation shows that most women celebrated two or three marriage ceremonies and started cohabitation at the same time (Table 2). The proportion of women who declared a sequence with the three marriage ceremonies and cohabitation is higher among women of the middle birth cohort (born in 1955-62) than of the oldest cohort in Bamako and other urban areas. This may be explained by a wider practice of civil marriage among younger generations. In rural areas in cases where there is an interval between the religious and the customary celebrations, cohabitation starts at the moment of the customary celebration of marriage. Moreover, in rural areas in particular, the religious ceremony may be the only one celebrated and cohabitation occurs thus at the same time. The highest percentage of “other sequences” in Bamako and in other urban areas confirms the greater diversity of forms of entry into marriage and in cohabitation in urban places than in rural areas (in particular for younger generations). The distribution of women across the sequences of marriage celebrations and births shows that most of the first births occurred after the celebrations of two or three ceremonies. However, for the youngest generation in Bamako and other urban, a non-negligible proportion of women had a first birth before the first marriage celebration. In rural areas, women declared a first birth after they observed only one marriage celebration (religious or customary). As shown in Table 2, these women started cohabitation too. Not much difference appears across generations of women in rural areas. The comparison of the most frequent sequences of first birth and marriage celebrations for women across places of residence and cohorts confirms that births occur at different times during the marriage process (Table 2). In contrast to religious and customary celebrations, the civil marriage celebration does not seem to be related to first births.

The study of the characteristics of the male adult population aged 34 to 59 years at the time of the survey (Table 3) shows that as for women, marriage is widely practiced. Moreover, since it is common that spouses have at least 10 years of age difference, the comparison of women and men by generation should take into account a difference of one generation. In general, distributions are almost similar to the ones observed for the women (Table 1), except for education where in Bamako a majority of men attended modern school; proportions of men in other urban and rural areas who attended school is higher than for women. In Table 3, not surprisingly (in particular because of the men’s later age at first marriage) that occurred before first marriage celebration and before start of cohabitation are higher than for women. These proportions are also higher for younger generations of men and they are the highest in Bamako, regardless of the generation. This result should be however considered with caution since the questionnaire does not permit to know if the first births that men declared were only births of the first child for whom they have paternity rights or if this also includes unacknowledged children.
Table 3: Selected Characteristics of the Male Population under Study, by Cohort and Place of Residence at the Time of the Survey

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Bamako</th>
<th>Other urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Birth cohort</strong></td>
<td>1940-49</td>
<td>1950-57</td>
<td>1958-66</td>
</tr>
<tr>
<td><strong>Age at survey (years)</strong></td>
<td>50-59</td>
<td>42-49</td>
<td>34-41</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surveyed (total)</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had at least 1 marriage celebration</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohabited with first wife</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had a first birth</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of birth before 1st marriage celebration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of birth before 1st cohabitation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attended modern school (^1) (% in col.)</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of first marriages that became polygynous</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: \(^1\) Modern school: French or Arabic "medersas" school. Source: EDFEEM-2000, men.
**Results of Cox Regressions**

In the present research, three types of approaches permit to better understand entry into first marriage and occurrence of a first birth. First, the computations of median ages at first marriage celebration by characteristics of individuals give indications of trends by place of residence and birth cohorts. Second, life tables permit to obtain curves that describe the end of celibacy or inversely the proportion of women and men who enter into first marriage. One advantage of the curves is to contain more information than the simple computation of median ages; the curves describe the whole age range of entry into first marriage rather than limit the observation to median ages only. Third, Cox regressions permit to test the effect of some variables on the time to first marriage on the one hand and to the occurrence of a first birth on the other hand.

Table 4 gives median ages of women and men at first marriage celebration and first birth for each generation. The median age at first marriage represents the age by which half of the population of women who had a first marriage, was married. For both sexes, results show that median ages are higher in Bamako than in rural areas. In Bamako and other urban areas women’s median ages at first marriage do not differ by cohort. This result confirms Westoff (2003). The author used DHS data and found that in Mali, women of the birth cohort 1970-1974 were the first to declare younger ages at first marriage. (The EDFEEM-2000 data used in the present research do not include this recent cohort.) In Bamako, the median age at first marriage of men is higher for men of the youngest generation (born in 1958-1966) than of the oldest cohort. In contrast, in other urban and rural areas, the median ages at marriage are the lowest for men of the cohort born in 1958-1966. In general, comparisons of median ages suggest that there are slightly more changes in the age at first marriage of men than of women over cohorts. These changes across cohorts are even more evident for ages at first birth.
Table 4: Median Age and Age at Last Quartile for First Marriage Celebration and First Birth of Women and Men, by Place of Residence and Cohort

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Median age</th>
<th>Last quartile(^1)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Bamako</td>
</tr>
<tr>
<td>Women</td>
<td></td>
<td></td>
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<tr>
<td>Age at first marriage celebration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1945-1954</td>
<td>18.0</td>
<td>17.8</td>
</tr>
<tr>
<td>1955-1962</td>
<td>18.2</td>
<td>17.8</td>
</tr>
<tr>
<td>1963-1970</td>
<td>18.3</td>
<td>17.0</td>
</tr>
<tr>
<td>Age at first birth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1945-1954</td>
<td>19.2</td>
<td>20.0</td>
</tr>
<tr>
<td>1955-1962</td>
<td>18.7</td>
<td>19.1</td>
</tr>
<tr>
<td>1963-1970</td>
<td>19.2</td>
<td>18.5</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age at first marriage celebration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940-1949</td>
<td>28.2</td>
<td>27.8</td>
</tr>
<tr>
<td>1950-1957</td>
<td>29.3</td>
<td>27.9</td>
</tr>
<tr>
<td>1958-1966</td>
<td>29.3</td>
<td>26.7</td>
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<tr>
<td>Age at first birth (^2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940-1949</td>
<td>28.0</td>
<td>28.8</td>
</tr>
<tr>
<td>1950-1957</td>
<td>30.1</td>
<td>28.5</td>
</tr>
<tr>
<td>1958-1966</td>
<td>29.9</td>
<td>27.5</td>
</tr>
</tbody>
</table>

Notes:  
\(^1\) 75\% of the Interviewees Had their First Marriage Celebration and their First Birth before this Age.  
\(^2\) These Results Imply that there Are Births before the First Marriage Celebration.  
Sources: EDFEEM-2000, women and men.

Ages at first marriage of the last quartile in each place of residence show greater differences across cohorts of women and men than for median ages. This result suggests that time of entry into first marriage differs across cohorts at ages past the median age. The same is observed for age at first birth of the last quartile.

Life tables of time until first marriage celebration permit us to draw survival curves that describe in details entry into marriage at all ages of women and men. Curves of proportions of women by age at first marriage celebration permit the study of the differences across places of residence and cohorts.
The first marriage of women occurs at later ages in Bamako than in other urban areas and in rural places regardless of the birth cohort (Figure 2a). The same is observed for men, but the difference of ages between other urban and rural areas is smaller than for women (Figure 2b). The median ages at first marriage of women are equal to 18.2 years in Bamako, 17.5 years in the other urban places and 16.9 years in rural areas. Even though median ages slightly differ by generation of women, differences appear at ages past the median ages. In
Bamako, women of the youngest cohort have higher ages at first marriage than women of the two older cohorts (Figure 3a). Results in other urban places are almost similar to those in Bamako, except that in other urban areas women of the middle cohort (born in 1955-60) married at earlier ages, past the median age. Note that at the very young ages, women from the cohort born between 1963 and 1970 married earlier than women of the two other cohorts.

Fig. 3a: Bamako, Women

Fig. 3b: Other Urban, Women
In rural areas, there seems to be very little change and women of the youngest cohort seem to marry at a slightly younger age than women of the oldest generation. Thus in each place of residence, the curves show that differences of age at first marriage across generations of women are more evident at ages older than the median age (Figure 3a to 3c).

The study of the curves of proportions of men by age at first marriage shows that median ages at first marriage differ across the three strata (regardless of cohort): 29.0 years in Bamako, 27.0 years in the other urban areas and 26.1 years in rural areas (Figure 4 and Table 3). In Bamako, the median age at first marriage of the oldest cohort (men born between 1940 and 1949) is younger than for the two other cohorts. In contrast in other urban areas there is almost no difference between birth cohorts except that past the median age, men of the youngest generation marry at younger ages than men of the two older generations. In rural areas the result is surprising; men of the youngest cohort (born in 1958-66) marry at younger ages than men of the two other cohorts.
Figure 4. Proportion of Men by Age at First Marriage Celebration and Birth Cohort, in each Place of Residence

Source: EDFEEM-2000, Men
Table 5: Estimated Hazard Ratios for Time to First Marriage Celebration, by Place of Residence. Results of Cox Regressions, Women and Men Separately (Eight Regressions in Total)

<table>
<thead>
<tr>
<th></th>
<th>General model</th>
<th>Bamako</th>
<th>Other urban</th>
<th>Rural</th>
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<td>hazard ratio</td>
<td>std error</td>
<td>hazard ratio</td>
<td>std error</td>
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<tr>
<td><strong>Women</strong></td>
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<td></td>
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<td></td>
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<tr>
<td><strong>Place of residence</strong></td>
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<tr>
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<td>1945-1954 (Ref.)</td>
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</tr>
<tr>
<td>1955-1962</td>
<td>-</td>
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<td>1.02</td>
<td>0.11</td>
</tr>
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<td>1963-1970</td>
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<td>1.09</td>
<td>0.11</td>
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<td><strong>First birth before first marriage celebration</strong></td>
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<tr>
<td>No (Ref.)</td>
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<td>-</td>
<td>0.30*** β</td>
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<td>**Birth rank, mother’s side **</td>
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<tr>
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<tr>
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<td>-</td>
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<tr>
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<td>-</td>
<td>-</td>
<td>0.51***</td>
<td>0.04</td>
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<td><strong>N</strong></td>
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<td>641</td>
<td>678</td>
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<td>18786.06</td>
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Men

Place of residence

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<th>Rural (Ref.)</th>
<th>Other urban</th>
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</tr>
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<tr>
<td></td>
<td>1.00</td>
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<td>0.63***</td>
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Cohort

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First birth before first marriage celebration

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<tbody>
<tr>
<td></td>
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<td>1.00</td>
<td>0.27***</td>
</tr>
<tr>
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<td>0.04</td>
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</table>

Birth rank, mother’s side

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<th>Other rank (Ref.)</th>
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Attended modern school

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Caste

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N: 1923, 396, 455, 1051

Log likelihood: 12571.70, 1851.63, 2245.04, 6156.19

Reading:

- Women in Bamako enter into first marriage (i.e. celebrate their first marriage ceremony) at a significantly lower rate than women in rural areas (the rate in Bamako is about 0.6 times greater than in rural areas).

- In Bamako, women who had a first birth before first marriage celebration enter their first marriage at a lower rate than women who did not have a birth prior to the first celebration of marriage.

- In other urban areas, women from the birth cohort 1963-70 enter into their first marriage at a rate which is about 1.4 times higher than women from the birth cohort 1945-54.

Note: Interaction with rank of birth on father’s side did not have a significant effect

Source: EDFEEM-2000, women and men
Results of Cox regressions (Table 5) confirm that first marriage celebrations of women occur at a lower rate in Bamako and other urban than in rural areas; hazard ratios are highly significant. The rate of entry into first marriage does not differ by cohort in Bamako; by contrast in other urban and rural areas, women of the two youngest generations (born in 1955-1962 and in 1963-1970) have a lower rate of entry into first marriage than women of the oldest cohort (1945-1954). Women who had a birth before the first marriage celebration have a lower rate of entry into first marriage than women who did not have a birth before marriage (the result is highly significant in the three places of residence). This result may be explained by the association of a premarital birth with a higher age at first marriage. In Bamako and rural areas, birth rank of women among mother’s children is associated to a slightly higher rate of entry into first marriage for women who are the eldest than for women of other birth ranks.

Women who attended school enter first marriage at a significantly lower rate than women who did not go to school in Bamako and in other urban. Results for men (Table 5) show that men in Bamako enter first marriage at a significant lower rate than in rural areas (regardless of cohorts). The same as for women, men who had a first child before first marriage celebration enter first marriage at a lower rate than men who did not have a first child before marriage. In Bamako education is associated to a lower rate of entry into first marriage.

Results of the Cox regressions on the occurrence of a first birth after first marriage celebration show that in Bamako, women have a first birth after marriage at a higher rate than women in rural areas (Table 6). Age at first marriage is a control variable. It is only in rural areas that the rate of occurrence of a first birth after marriage differs by generation: it is higher for the youngest generation of women than for the oldest. It is only in other urban areas that birth rank is associated to the rate of occurrence of a birth after the first marriage celebration was observed. Women who are the eldest have a first birth after marriage at a rate that is about 1.5 times the rate of women of other birth ranks. In Bamako, women who are the eldest among their mother’s children have a longer time until first birth after the first marriage than women of other ranks. In contrast, in other urban areas where the coefficient is also significant, the time to first birth is shorter for the eldest than for women of other ranks. In Bamako, women who attended modern school had a significantly higher rate to first birth than unschooled women. Births before first marriage occur at a higher rate in Bamako and in other urban than in rural areas. In the three places of residence, women of the youngest generation have a first birth before marriage at a higher rate than women of the oldest generation. As for birth rank, women who are the eldest of their siblings experience a rate to a first birth before first marriage celebration that is 1.5 times higher than women of other birth ranks. In Bamako, education is associated to a higher rate of occurrence of a first birth. This result confirms the findings of Johnson-Hanks (2003).
Table 6: Estimated Hazard Ratios for Time to First Birth, by Place of Residence. Results of Four Cox regressions for Each Type of Birth, Women.

<table>
<thead>
<tr>
<th>Birth after first marriage celebration¹</th>
<th>General model</th>
<th>Bamako</th>
<th>Other urban</th>
<th>Rural</th>
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<tbody>
<tr>
<td></td>
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<td>hazard ratio</td>
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<tr>
<td>Place of residence</td>
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<td></td>
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<td>1945-1954 (Ref.)</td>
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<td>Birth rank, mother’s side</td>
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Birth before first marriage celebration

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<td>1.50** 0.31</td>
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Cohort

<table>
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<tbody>
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<td>1963-1970</td>
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Birth rank, mother’s side

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Attended modern school

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<td>3.29*** 0.84</td>
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</table>

N 2744 651 684 1409
-Log likelihood 1925.33 682.82 367.42 548.54

*** p<0.001 ** p<0.05 * p<0.1

Notes: 1 The population at risk is women who had a first marriage celebration and no first birth before this celebration. The duration of exposure is from the first marriage celebration until the first birth or until the survey if there was no first birth.
2 The population at risk is women older than 10 years. The duration of exposure is from 10th birthday until first birth or first marriage celebration, or until survey if there was no birth before.
Reading: a Women in Bamako have a first birth after first marriage celebration at a rate which is about 1.2 times significantly higher than in rural areas.
In Bamako, women who attended modern school had a first birth after first marriage celebration at a rate that is about 1.5 times the rate of those who did not go to school.
The rates of occurrence of a first birth after the first marriage celebration in Bamako and in other urban areas do not differ from what is observed in rural areas (Table 7). In Bamako and other urban areas, hazard ratios do not show any difference of time until first birth between the two youngest and the oldest cohorts. In contrast, in rural areas, the rate of occurrence of a first birth after first marriage for women of the youngest cohort is about 1.3 times higher than for men of the oldest cohort, and the difference is slightly larger for men born in 1950-57 than for those born in 1940-1949. There does not seem to be an association between birth rank and time to first birth in all three strata of residence. Belonging to a caste is associated with a lower rate of occurrence of first birth after marriage than not belonging in other urban and rural areas only. As for schooling, the association is significant in Bamako: men who attended modern school have a rate to first birth after first marriage celebration that is about 1.6 times the rate of those who did not attend school.

Regressions for the study of birth before first marriage celebration (i.e. premarital births) show that the rate to a first birth prior to first marriage celebration is about 3 times higher in Bamako than in rural areas. In other urban areas the rate is 2.3 times the rate in rural areas. The results of Cox regression in Bamako do not show that the two younger cohorts of men have different times to first premarital births than men of the eldest cohort. In contrast, in other urban and rural areas, men of the younger generations have significantly higher rates to first premarital births than men of the oldest generation.
Table 7: Estimated Hazard Ratios for Time to First Birth, by Place of Residence. Results of Four Cox regressions for Each Type of Birth, Men.

<table>
<thead>
<tr>
<th>Birth after first marriage celebration¹</th>
<th>General model</th>
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<th>Other urban</th>
<th>Rural</th>
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<tr>
<td>Place of residence</td>
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Birth before first marriage celebration

**Place of residence**

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**Cohort**

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**Birth rank, mother’s side**

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**Caste**

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**N**

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**-Log likelihood**

|            | 1613.65  | 463.17   | 443.43   |

*** p<0.001 ** p<0.05 * p<0.1

Notes: ¹ The population at risk of having a first birth is men who had a first marriage celebration and no first birth before this celebration. The duration of exposure is from the first marriage celebration until the first birth or until the survey if there was no first birth.

² The population at risk of having a first birth is men who are older than 16 years. The duration of exposure is from the 16th birthday until the first birth or until the first marriage celebration or the survey if there was no birth before.

Reading: " Men in Bamako have a first birth before first marriage celebration at a rate which is about 3 times significantly higher than in rural areas.

Source: EDFEEM-2000, men
Conclusion

The EDFEEM-2000 survey is original in several ways. It contains retrospective information on various domains of women and men’s lives. It was possible to link files of marital, birth and migration histories in order to better understand the context where the different forms of marriage were observed and where fertility took place. Retrospective data permit us to follow the biographies of the same individuals; the study of the sequences of events is thus possible. Moreover, to combine information on men and women is original and improves the quality of the description of the marital situations since it takes into account the spheres in which men are more involved than women on one side (in general men are more involved in initiating first marriage) and the spheres were women are more concerned than men (declarations of a first birth by women are often more accurate than for men). To be able to compare urban and rural places of residence with the same data set is of great interest because it recognizes the diversity of situations in relation to the environment where individuals live in. Finally, the questionnaire permits us to find original information.

The principal aim of the present study was to investigate the relationship between types of marriage, time at cohabitation of spouses and age at first birth by testing four hypotheses. The study showed that for men and women in Bamako there is no difference of time to first marriage between the oldest cohort and the younger cohorts separately. In the two other strata of residence (other urban and rural), results show that there may be a younger age at first marriage for women and men that is more obvious for men. The religious ceremony is systematically celebrated and the customary ceremony often corresponds to the start of cohabitation. Regardless of the place of residence, cohabitation of partners almost always starts at the same time as the first marriage is celebrated. The most frequent sequence of marriage ceremonies is the sequence of the three ceremonies observed together in Bamako; and of the two religious and customary ceremonies in other urban and rural areas.

First births occur in majority after the two or three celebrations and after cohabitation started. However, premarital births are increasing among younger cohorts in Bamako in particular; and are associated to higher education and later age at first marriage of men and women. A relatively important number of births happen either before marriage, or in rural areas in particular, they happen after the religious marriage and before cohabitation starts with the customary marriage. Another result has been rarely tested in the literature and concerns the birth rank of women and men among the mother’s children. Results show that women who are the eldest of their siblings on their mother’s side have a slightly shorter time until first marriage in Bamako and rural areas than women of other ranks. For men, rank does not have any impact on age at first marriage.
Bibliographic references

Westoff C. F. 2003. *Trends in Marriage and Early Childbearing in Developing Countries*, DHS Comparative Reports No. 5, ORC Macro, Calverton, Maryland.