

Fatherhood in Sub-Saharan Africa

Patterns, Trends and Differentials in Men's Age at First Birth

Bruno Schoumaker and Felly Kinziunga

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1. Background and objectives

Becoming a parent is a major event in people's lives, with far-reaching social, psychological and economic consequences. The age at which this transition occurs may influence the well-being of children and parents (e.g. health, education). It is also related to the demographic dynamic (Bongaarts and Blanc, 2015), and to the timing of other life events with which it interacts. The transition to parenthood is also influenced by cultural, social and economic circumstances. In Sub-Saharan Africa, having a first child is not just about parenting. Having children is especially important for continuing family descents in African societies (Caldwell & Caldwell, 1987), and becoming a parent is highly valued. Changes (or absence of changes) in age at first birth are thus also a marker of the way fertility is perceived and/or influenced by cultural, social and economic changes.

In sub-Saharan Africa, entry into motherhood is often described as early (Tabutin and Schoumaker 2004; Lloyd et al. 2005; Schoumaker 2016). The onset of childbearing has been delayed in a number of countries, but overall changes have been limited and adolescent fertility rates remain high in a substantial number of countries. Even though age at marriage has slightly increased, later marriage has not necessarily translated into delayed childbearing because of premarital childbearing (Cohen 1993; Garenne and Zwang 2006). While a substantial amount of research has been devoted to the onset of fertility among females and to changes over time in age at first birth, research on men's age at fatherhood is limited (Lloyd et al. 2005; The Alan Guttmacher Institute 2004). Existing research on entry into fatherhood in sub-Saharan Africa shows that men start their reproductive lives later than their female counterparts, reflecting large spousal age differences (Lloyd et al. 2005). There is, however, little evidence on differences across countries, on trends over time, not to mention differentials within African countries.

The objective of this paper is to provide a global picture of men's entry into fatherhood in sub-Saharan Africa using data from Demographic and Health Surveys, and to compare it to women's situation. We address three broad questions: (1) At what ages do men become father in sub-Saharan African countries, and to what extent does this vary across countries; (2) Has age at first fatherhood increased over the last thirty years? (3) And finally, to what extent entry into fatherhood varies by place of residence and level education. In other words, is there some heterogeneity within countries, and has this heterogeneity changed over time? The same questions are addressed for women, with the objective of exploring similarities and differences across gender.

First, two methods are used to provide country-level information on age at first birth in sub-Saharan Africa. Using current-status data and data on age at first birth, age at fatherhood and motherhood is documented in 34 sub-Saharan African countries. Next, trends in men's and women's age at first birth across periods are computed. Differences and changes in age at first child by place of residence and education are also explored, both for men and women.

2. Data and Methods

The lack of data is frequently mentioned as a reason for the limited of research on male fertility and on the timing of fatherhood (Andro and Desgrées du Loû 2009; Estee 2004; Greene and Biddlecom 2000; Paget and Timæus 1994; Ratcliffe, Hill, and Walraven 2000; Zhang 2011; Lloyd et al. 2005; Schoumaker 2017). Yet, a considerable amount of data is available in the Demographic and Health Surveys. As far as entry into fatherhood is concerned, two types of relevant information are available in the men's questionnaires: a question on the age at first birth (in 79 surveys; 33 countries), and a question on the number of children ever born (in 100 surveys; 34 countries). While the quality of men's fertility data may not be ideal, we expect it to be sufficient for our purpose. Comparisons of results from different data and methods are used to provide robust conclusions.

With the available data, the mean age at first birth can be computed with two methods (Bongaarts and Blanc 2015). The first approach uses information on the percentage of childless males by age group, which is obtained from the number of children ever born recoded into two categories (childless, has at least one child). The mean age at first birth is then computed in the same way as the singulate mean age at marriage, with the so-called Hajnal method (Bongaarts and Blanc 2015). The mean age at first birth for a recent period can also be computed with data on age at first birth. First, the date of first birth (month and year) is computed by adding randomly a number of months to the age at first birth, and adding the age at first birth (years and months) to the date of birth of the man. First birth rates by age groups and the mean age at first birth are then computed using the `tfr2` Stata command (Schoumaker 2013), where the mean age at first birth is the weighted mean of ages weighted by age-specific first birth rates (Bongaarts and Blanc 2015). The median age at first birth can also be computed with life table methods. Using the information on the age at first birth provided in the men's questionnaire, probabilities of first birth by age can be computed, and median age at first birth can be derived from these probabilities. The same method allows computing median ages at first birth by period.

Data on male fertility is potentially affected by data quality problems. Underreporting of births may occur when males are not aware of their progeny, which may be more likely among unmarried young men. In such cases, the age at first birth among men will be overestimated. Births may also be underreported if the child died in early infancy, also leading to underestimating the age at first birth. If such underreporting is more common among older men (for births that occurred earlier), upward trends may be underestimated, or downward trends in the age at first birth among men may be amplified. The evaluation of consistency of trends across successive surveys (below) suggests data quality is fairly good.

2.1. Consistency of estimates across methods

The mean age at first birth computed with the two methods are strongly – but not perfectly - correlated ($r=0.89$, Figure 1). The median age at first birth (last five years) is also strongly correlated

with the two other indicators, and especially with the mean age at first birth computed from first birth rates ($r=0.95$, Figure 2), but also with the mean age at first birth computed with the percentage of childless men (current status data, $r=0.93$, Figure 4). For the purpose of comparing entry into fatherhood across countries, all three methods thus lead to very similar results. In this paper, we use the median age at first birth computed using the reported age at first birth and life table methods.

Figure 1: Mean age at first birth among men in selected African countries. Comparison of two methods (34 countries)

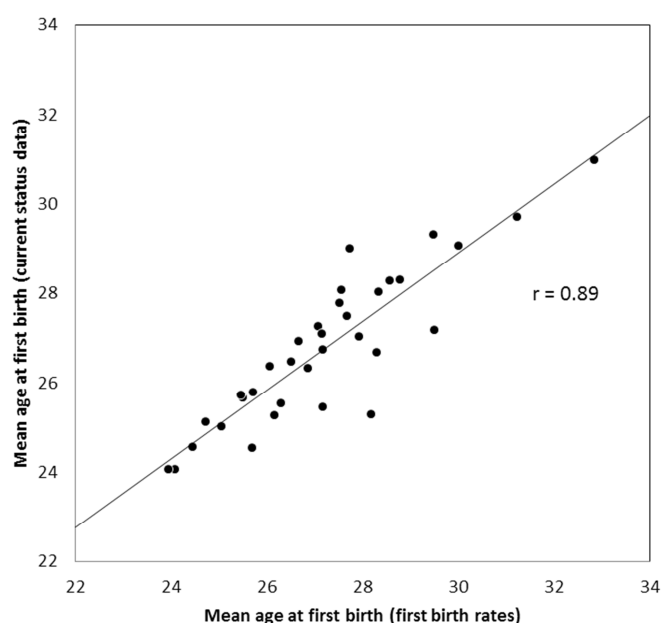


Figure 2: Median age at first birth among men and mean age at first birth (first birth rates) in 34 sub-saharan African countries, five years preceding the survey.

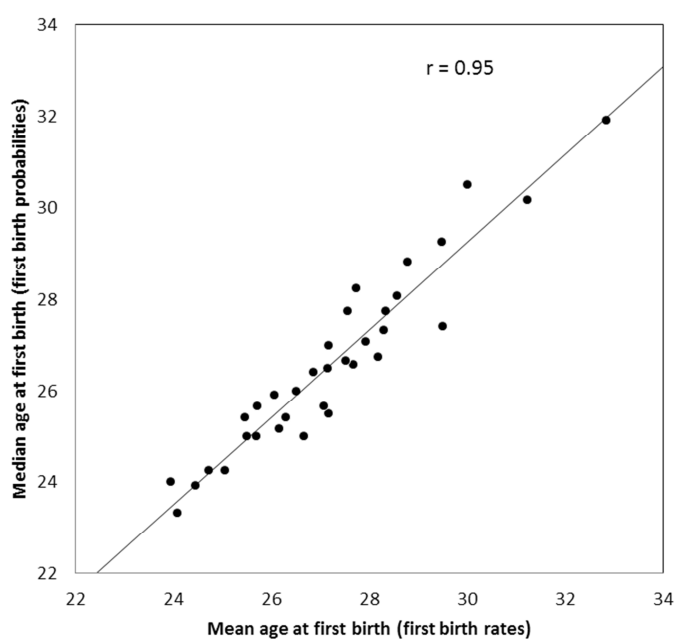
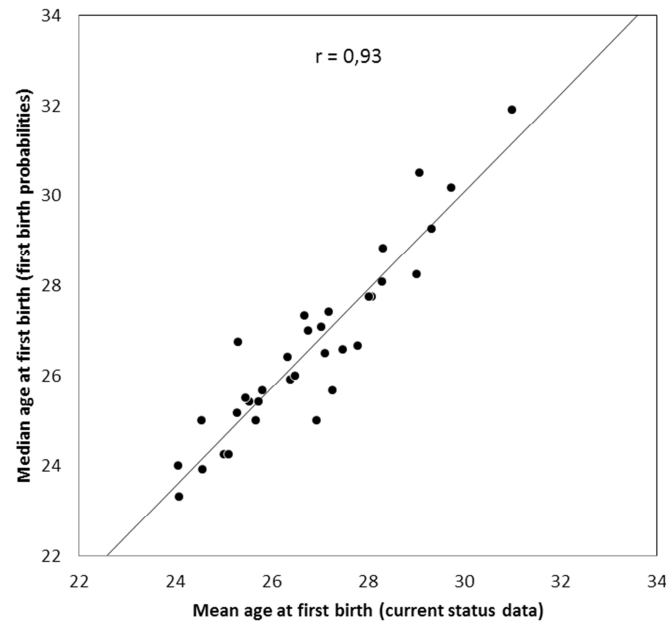


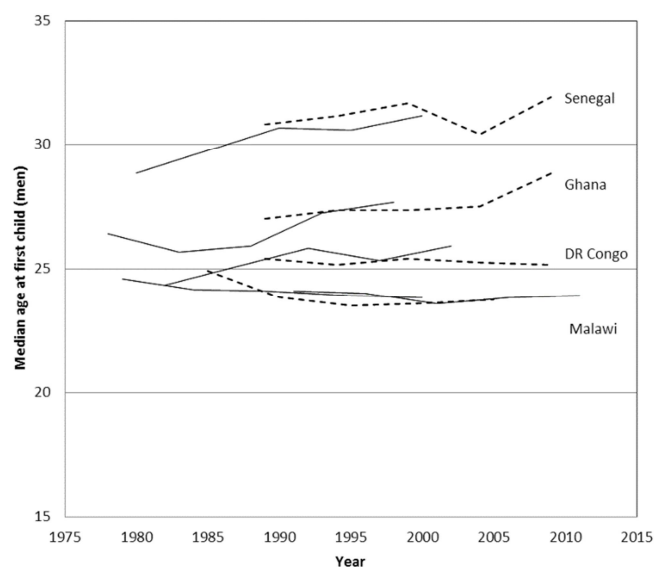
Figure 3: Median age at first birth among men and mean age at first birth (current status data) in 34 sub-saharan African countries, five years preceding the survey.



2.2. Consistency of trends in median age at first birth across surveys

Figure 4 illustrates the evolution of the median age at first child of men in four sub-Saharan African countries. Median ages are computed by 5-year periods with life table methods. In all four countries, estimates are very consistent across surveys, as is the case in most of the countries used in this paper. This figure also illustrates that entry into fatherhood has been fairly stable over time in Africa, and varies greatly across countries.

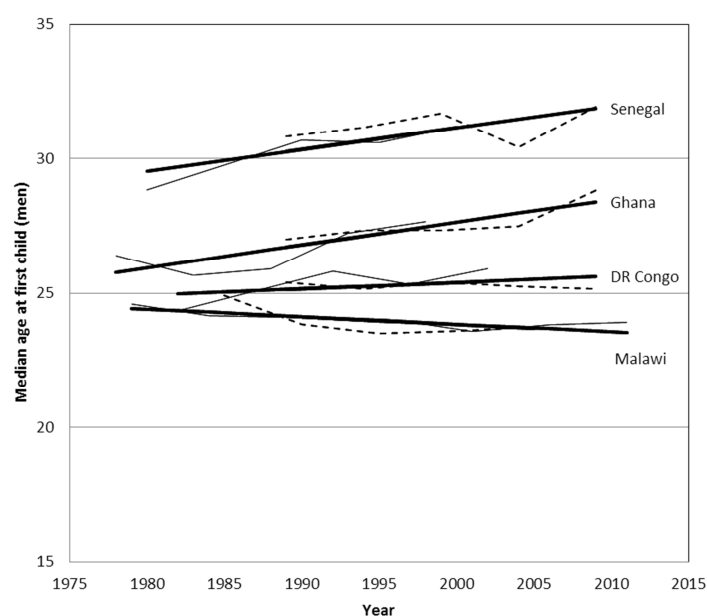
Figure 4: Consistency of trends in median age at first birth among men in four African countries.



2.3. Summarizing trends in median ages at first birth

Linear regressions are fitted for each country separately to summarize trends in median age at first birth. When two or more surveys are available in the same country, data from all surveys are used in the regression. This is illustrated for the cases of Senegal, Ghana, DR Congo and Malawi (Figure 5).

Figure 5: Linear trends in median age at first birth among men in four African countries.

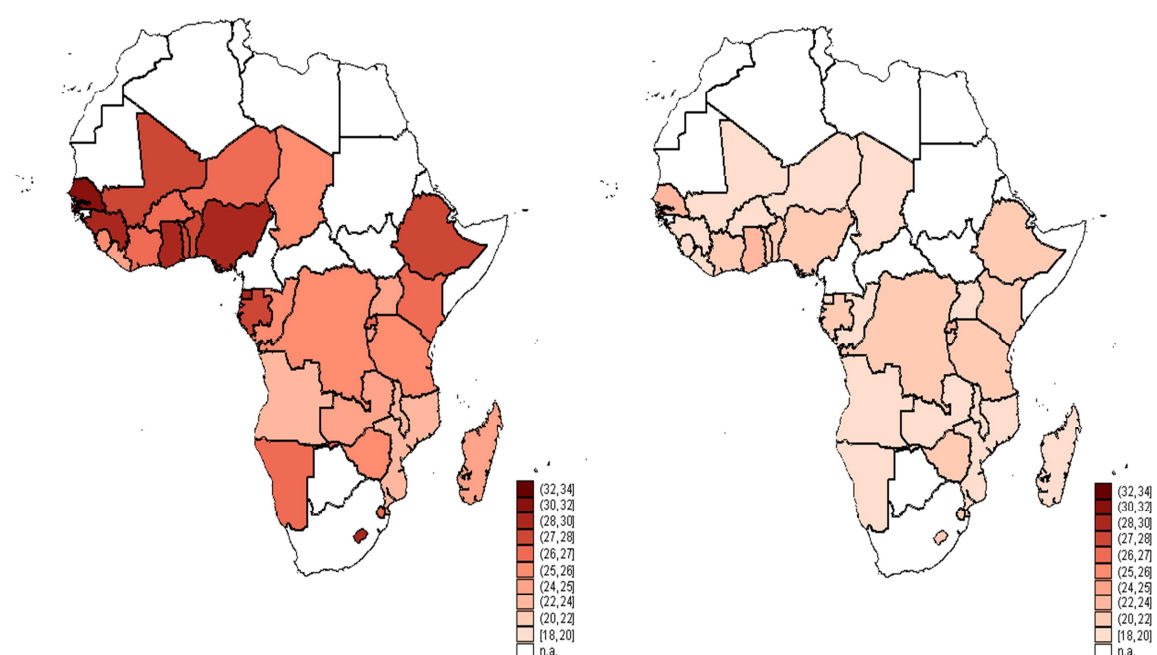


3. Results

3.1. Becoming father: between 23 and 32 years

Figure 6 shows the median age at first birth among men (left-hand side) and among women (right-hand side) in 34 African countries. Among men, it ranges from 23.3 years (Mozambique) and 31.9 years (Senegal), and is in most countries between 26 and 29 years. Overall, entry into fatherhood is later in Western Africa and earlier in Southern, central and Eastern Africa. Men also start their reproductive lives later in countries where polygamy is frequent, as in Senegal and Nigeria. And contrary to what is observed among women, late entry into fatherhood is correlated with a higher male total fertility (results not shown).

Figure 6: Median age at first birth among men and women in 34 African countries, circa 2007.



Males also start their reproductive lives much later than women, on average 6 years later. The median age at first birth of women ranges from 18.8 years (Niger) to 25.8 years (Comoros). In 6 out of 10 countries, the median age at first birth among women is below 20 years. Rwanda, Senegal and Ghana are three countries where the median age at first at birth is 23 among women. There is no clear correlation between age at first fatherhood and motherhood. While men start their reproductive lives later in West Africa, women start their reproductive lives later in Eastern Africa. As a result, the gaps between men and women are larger in Western Africa, where polygyny is frequent (8 years in Nigeria, Mali, Guinea, Gambia and 9 years in Senegal), and smaller in Eastern Africa (3 years in Rwanda, 4 years in Uganda and Burundi).

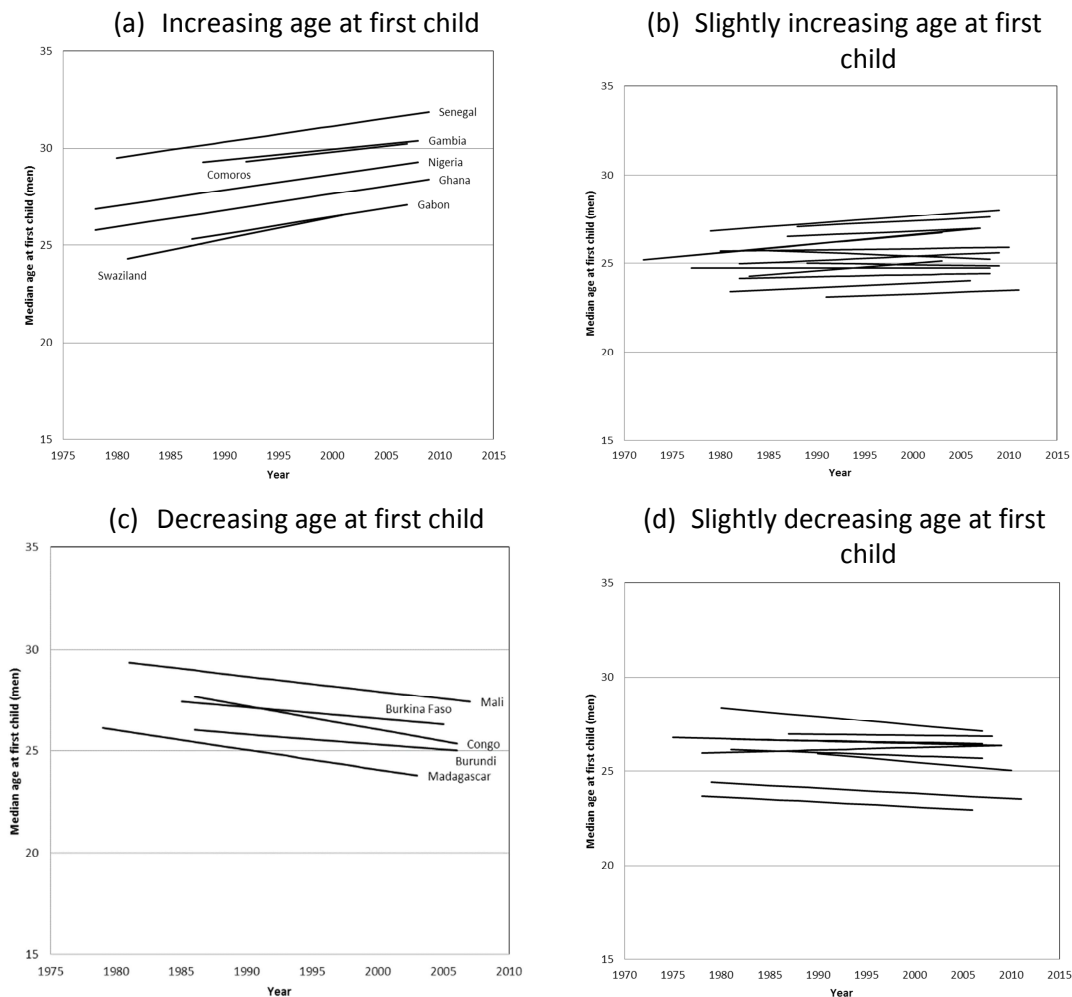
3.2. No substantial changes over time in most countries

In most countries (22 out of 34 countries), age at first birth changed slowly (by less than one year per 20-year period). In only seven countries (The Gambia, Comoros, Nigeria, Senegal, Ghana, Gabon and Swaziland) did age at first birth increase by more than 1 year over a 20-year period; In contrast, in five countries, it decreased by more than 1 year by 20-year periods (Congo, Madagascar, Mali, Burkina Faso, Burundi). Combining all the surveys from all the countries, we estimate that the median age at fatherhood has been slightly decreasing on average in sub-Saharan Africa. Data quality issues cannot be completely ruled out in explaining these results, but consistency across surveys suggests they are fairly reliable. In other words, except in a few countries, there is no clear upward trend in age at first fatherhood in sub-Saharan Africa.

Trends are broadly similar among men and women, but increases are more common among women. With the exception of Burundi, Mali and Madagascar, age at first child remains stable or increases in other countries among women. Over the last 20 years, the median age at first motherhood increased by more than 2 years in only a few countries. It increased by 3 years in Ghana, 2 years more than the increase of median age at first fatherhood. In some countries, this increase is 1 year higher compared

to men (Senegal, Nigeria, Comoros, and The Gambia). Overall, differences between men and women thus slowly decrease.

Figure 7: Trends in median age at first child among men in 34 African countries



3.3. Later entry into parenthood in urban areas among men and women

Within countries, we find some heterogeneity by place of residence and education in both levels and trends of the median age at fatherhood. Men in urban areas start their reproductive lives later than men in rural areas in virtually all the countries of our study (Figure 8). Differences between rural and urban areas range from 0 (Swaziland) to almost 6 years (Niger), and are on average close to 3 years. The median age at childbearing is also higher in urban areas than in rural areas among women (Figure 9), but differences are overall larger among men. In 12 of 34 countries, the gap between urban and rural areas among men is greater than 3 years (Burundi, Togo, Gabon, Burkina Faso, Madagascar, Nigeria, and Mali Senegal). In some countries, this gap is 5 years (Ethiopia and Guinea) or 6 years (Chad, Nigeria). For women, however, such large gaps are only found in 6 countries (Cote d'Ivoire, Ethiopia, Ghana, Nigeria, and Senegal). In sum, living in urban areas seems to have a stronger effect on the age at the first child among men than among women. This may be related to the difficult integration among men on the labor market in urban areas, delaying marriage and fatherhood. Several works have indeed shown that men's marriage was more sensitive than women's marriages to unemployment.

Figure 8: Median age at first child among men in 34 African countries by place of residence, circa 2007

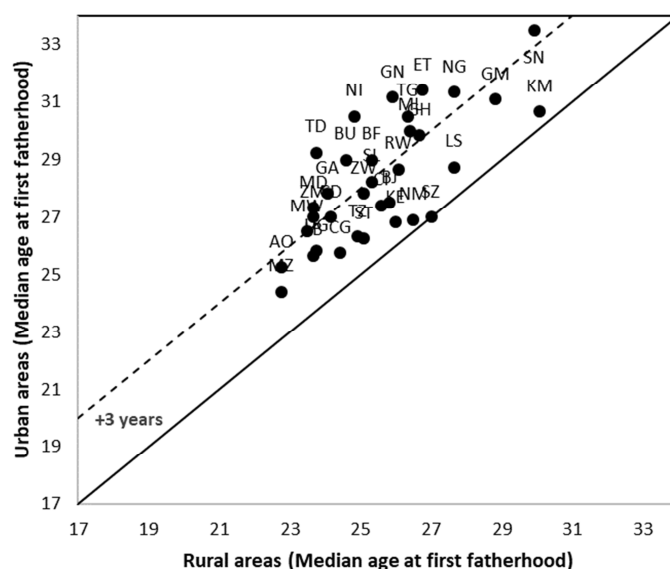
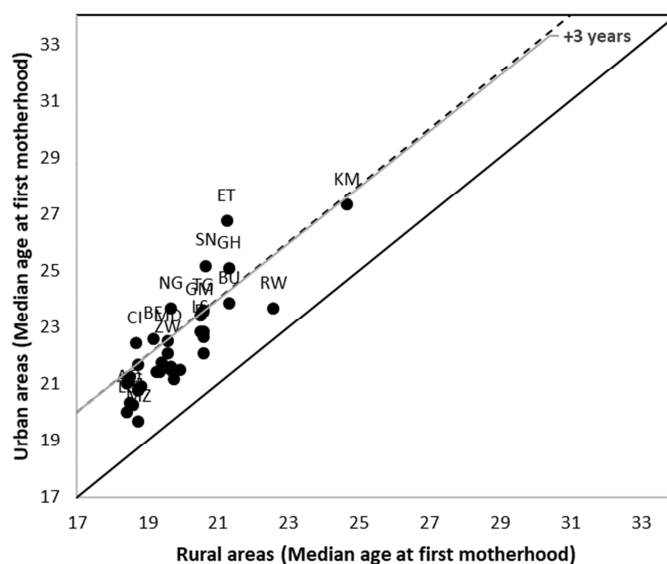


Figure 9: Median age at first child among women in 34 African countries by place of residence, circa 2007



3.4. Later entry into parenthood among men and women better educated

Better educated men (secondary and over) also almost always start having children later than their less educated counterparts, on average by 2.5 years (Figure 10). The few exceptions are Congo, Gabon and Rwanda, where the less educated have their first child at the same age or slightly later than the better educated. In contrast, differences greater than 4 years are found in several countries (Niger, Nigeria, Burundi, etc.). The median age at maternity of educated women is consistently higher

than that of women with less than secondary education. While the median age at first birth among women with no education or primary education is at most 22 years (Rwanda), it is as high as 29 among women with secondary education of over (Comoros). In this country, the difference between educated and less educated women is 8 years old. This gap is 7 years in Ethiopia and 6 years in Burkina Faso, Ivory Coast, Senegal and Burundi. Interestingly, differences seem to be greater among women (Figure 11). In other words, education has a stronger influence on women's age at first child than on men's age at first child.

Figure 10 : Median age at first child among men in 34 African countries by level of education, circa 2007

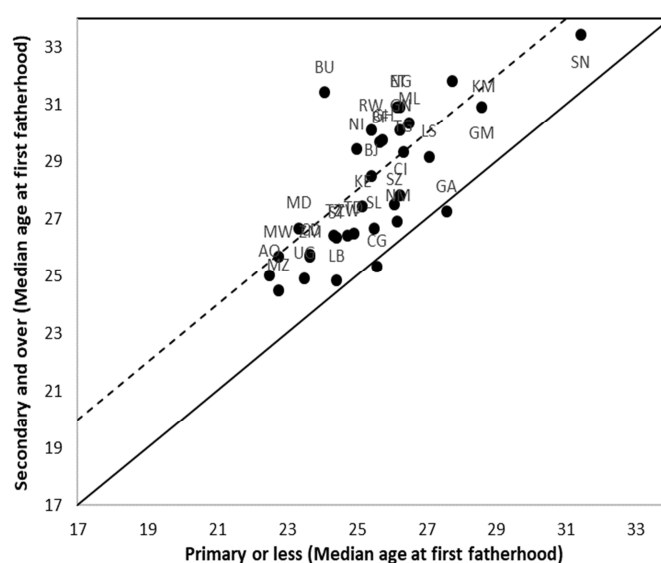


Figure 11 : Median age at first child among women in 34 African countries by level of education, circa 2007

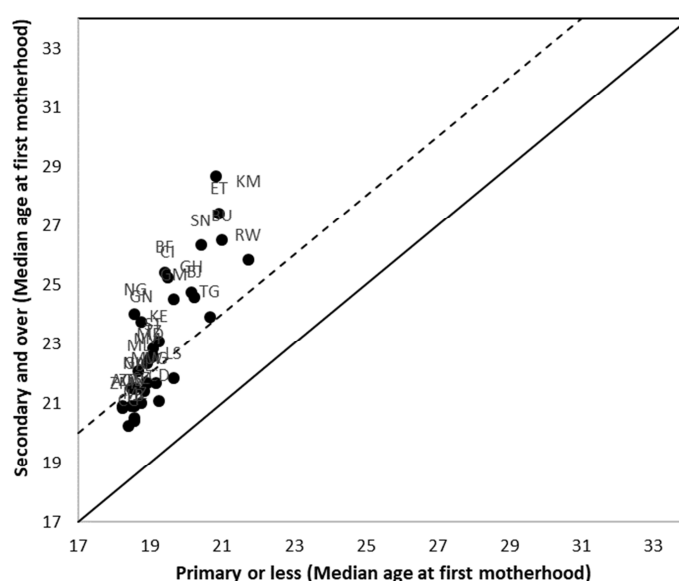


Figure 12 illustrates the change in median age at first fatherhood by place of residence in the 34 countries. Figure 13 shows changes among women. The situation is overall much clearer among women: changes are more rapid in urban areas than in rural areas (dots above the diagonal line), and age at first birth increases in urban areas while it tends to decrease in rural areas. However, it is stagnating in some countries (Mali, Congo, and Mozambique). It is increasing moderately in some countries (DR Congo, Ivory Coast, Sao Tome, Sierra Leone) and rapidly in others (Ghana, Senegal, Nigeria, Ethiopia). Among men, rates of changes are also almost always higher in urban than in rural areas, but the situations are more varied. Contrary to women, decreasing age at first birth can be found both in urban and rural areas, while this was only found in rural areas among women. In other words, patterns of changes in age at fatherhood are more diverse among men than among women.

Interestingly, age at fatherhood has decreased in most countries in rural areas, whereas it has increased in urban areas in around two-thirds of the countries (Figure 12 :). Except in Swaziland and Sao Tome, differentials between urban and rural areas have been growing. Increases have been particularly strong in some cities such as Kinshasa and Addis Ababa (results not shown).

Figure 12 : Average annual change in the median age at first child among men in 34 African countries by place of residence

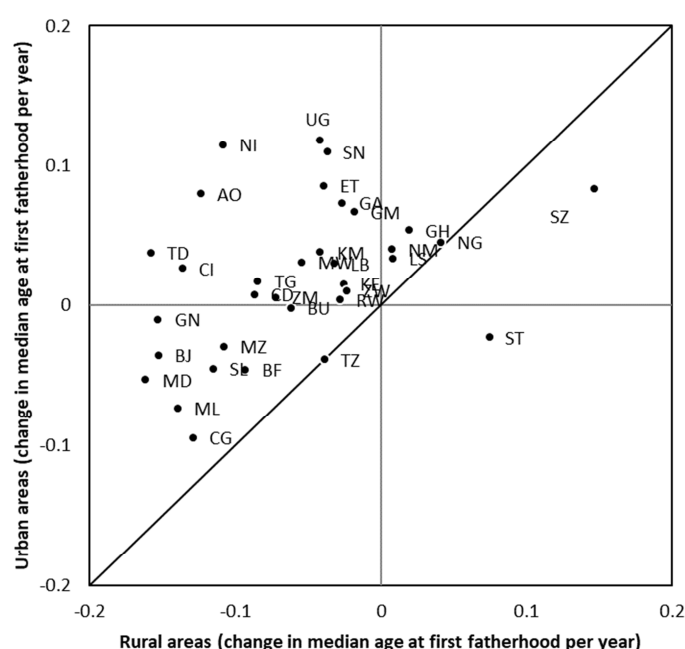
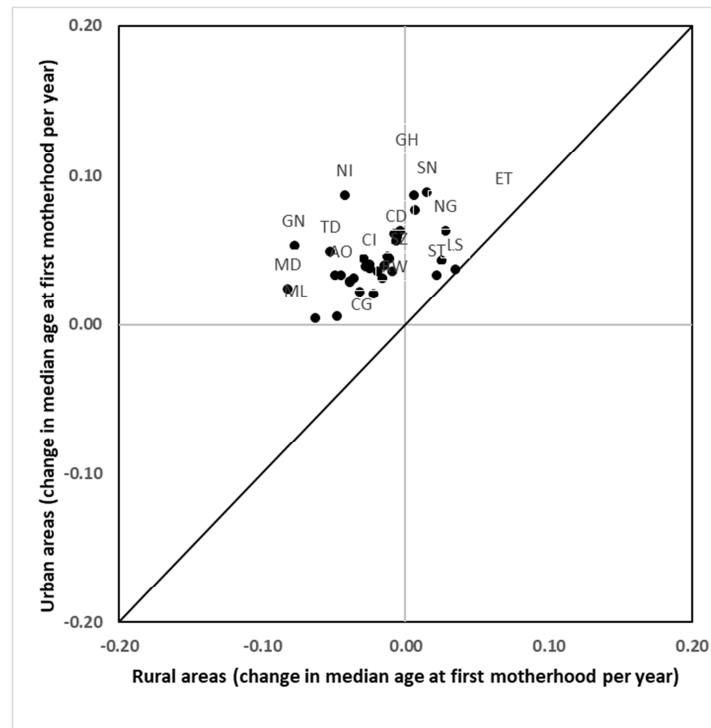


Figure 13 : Average annual change in the median age at first child among women in 34 African countries by place of residence



Differentials between the better educated and the less educated men have also increased in most countries, but the patterns of changes by educational levels are very varied among men. Among the less educated, age at first birth tends to decrease, while it increases in roughly half of the countries among the better educated. For instance, the median age at first child is stable among less educated men while it increases substantially among educated men in Senegal. And in Comoros, Ghana, Nigeria, Ivory Coast and Ethiopia, it decreases among less educated men while it increases rapidly among the better educated. Among women, changes are – as for urban-rural comparisons – less diverse. In almost all the countries, age at first birth increases among the better educated, and sometimes rapidly; in contrast, age at first birth tends to decrease among the less educated, but slightly, and roughly at the same pace in most countries. In other words, education again seems to have a clearer and stronger effect among women than among men.

Figure 14 : Average annual change in the median age at first child among men in 34 African countries by level of education

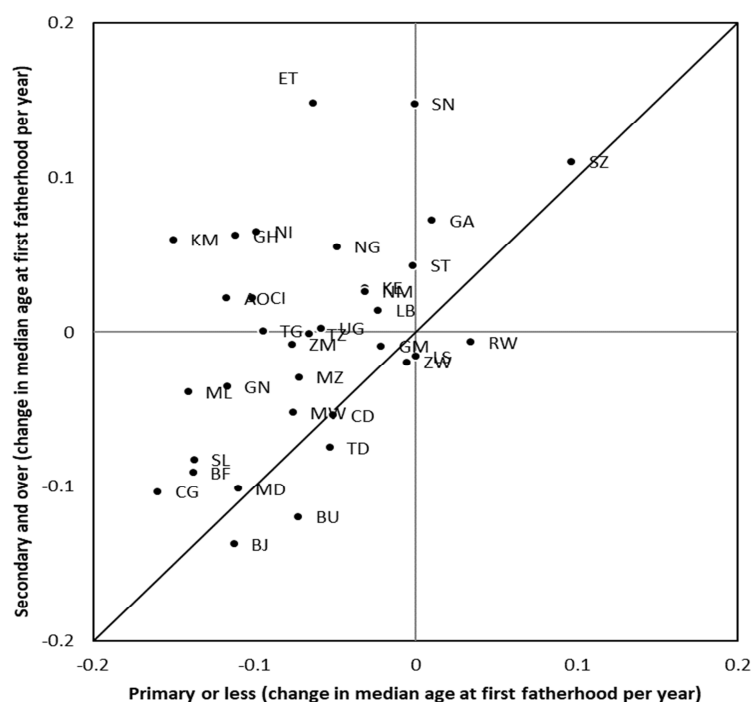
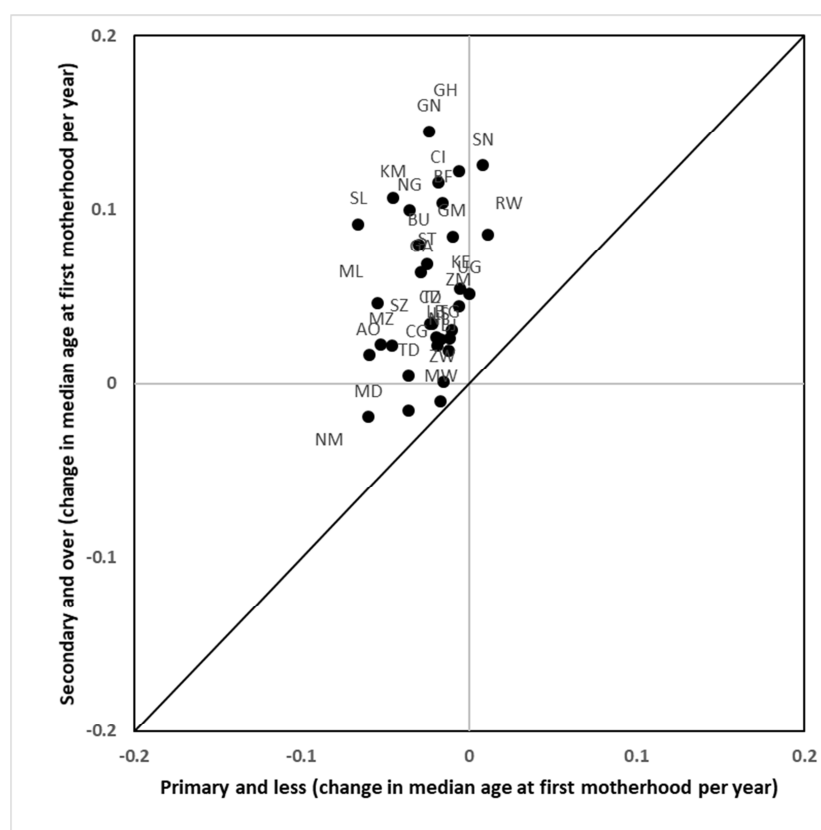


Figure 15 : Average annual change in the median age at first child among women in 34 African countries by level of education



4. Preliminary discussion and conclusion

As far as males are concerned, the lack of any strong increase in age at first birth among men illustrates that fertility remains highly valued among men in sub-Saharan Africa. Social pressure for having a child is strong, and tends to increase with age, probably contributing to a fairly stable age at first birth. Yet, age at first birth has increased in some countries, as in Senegal and Gambia. A tentative explanation is that age at marriage has increased, and that births before marriage in Senegal are less socially accepted than in other countries, contributing to increasing ages at first birth. In contrast, in contexts with weakening links between marriage and fertility, age at first birth may be stable or even decrease. Senegal and The Gambia are also two countries where polygyny is very common, and where maintaining large age differences between spouses may be necessary for polygyny to continue.

Changes in urban areas and among the better educated are also more pronounced than in rural areas and among the less educated; as a result, differences by place of residence and level of education have been increasing. Social norms for fertility may be changing in urban areas and among the better educated, leading to delayed entry into parenthood. Economic constraints, lack of employment opportunities, rising costs of marriage and housing may also have delayed entry into parenthood in urban areas, partly because of delays in unions. However, changes have also remained limited in urban areas and among the better educated in most countries. Despite economic constraints and uncertainty, people adapt to changing circumstances and continue having children. In rural areas, men still benefit from a social and family environment that favors relatively early procreation.

In many ways, the study shows that entry into fatherhood differs from entry into motherhood. Men have their first child later than women. Variations across countries are also greater among women than among men. The differentials between urban and rural areas also seem larger among men than among women, suggesting the place of residence is a stronger determinant of age at first child among men than among women. In contrast, education seems more relevant among women than among men. These differences deserve further attention, but suggest that economic transformations and difficulties may have a stronger impact among men, while education – and social and ideational changes related to increased education – may be more relevant among women. Interestingly patterns of changes are also more diverse among men than women. In a way, there is more room for diversity among men than among women. Since age at first child is later, there is more room for decreasing age at first child among men than among women. Biological constraints are also much less important among males than among females for higher ages at first child. These differences across gender, and the fact that changes among men and women are not similar, suggest we should more systematically use both data on men and women. Further research is necessary to identify the reasons for these differences across gender.

5. References

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Appendix 1. Percentage of childless men and first birth rates

Figure 16 shows the percentages of childless men by age, used to compute mean age at birth with current status data. Figure 17 shows first birth rates in the same four African countries; these data are used to compute the mean age at first birth with the second method. In two of these countries, fatherhood starts late (Senegal and Nigeria), and in the two others, fatherhood starts earlier (Mozambique and Uganda). The situations illustrate the diversity of patterns of entry into fatherhood in sub-Saharan Africa.

Figure 16: percentage of childless fathers by age in four African countries (data on children ever born)

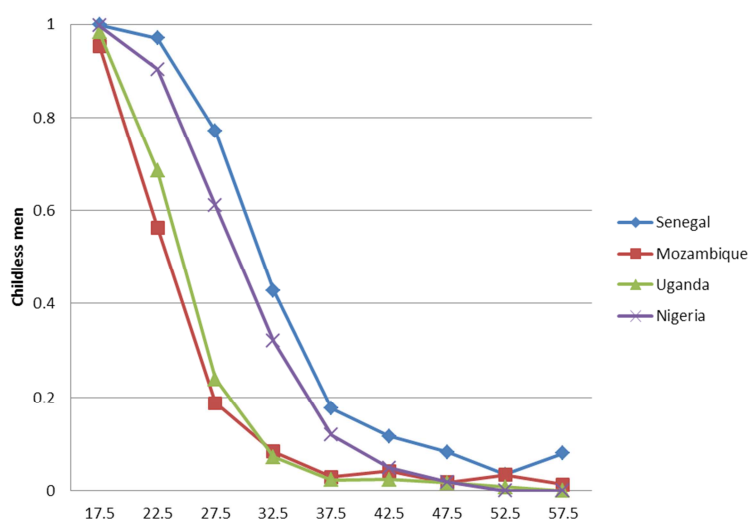


Figure 17: First birth rates among men in four African countries (data on age at first birth)

