**Ph.D. DISSERTATION**

**Ph.D. PROGRAM IN DEMOGRAPHY**

# *Tying the Knot and Kissing Childhood Goodbye?*
# Early Marriage in Educationally Expanding Societies


## Sonia Chager Navarro

**Supervisors: Dr. Albert Esteve Palós and Dr. Joaquín Recaño Valverde**

Centre d'Estudis Demogràfics / Departament de Geografia

Universitat Autònoma de Barcelona

(**Source Cover Photo**: GOSIPPME BLOG (January 22, 2014) : *'My Life Was Ruined': Ethiopian Child Bride, Forced Into Marriage At 10, Pregnant At 13 And Widowed By 14, Tells Her Story"* , Picture above "Global problem: India is the country with the highest number of child brides, this little girl among them"; accessed on date September 20, 2014 at

'http://www.gosippme.com/2014/01/my-life-was-ruined-ethiopian-child.html'

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*"TYING THE KNOT AND KISSING CHILDHOOD GOODBYE?"*

# EARLY MARRIAGE IN EDUCATIONALLY EXPANDING SOCIETIES

## 1.1. INTRODUCTION

As adolescence progresses, having more or less freedom of choice influences the different events that characterize the transition to adulthood. The initiation of sexual activity, first marriage and childbearing are often perceived as key steps in family formation, marking the transition from adolescence to adulthood, especially for women (Heaton et al. 2002). In the domain of marriage, an increased agency takes the form of participation in the choice of partner and the timing of the union (Lloyd, ed. 2005). Since marriage at early ages emerges as a common feature of those societies in which the control of families and social groups takes precedence over individual decisions (Esteve, Spijker, and Riffe, 2010), the mechanisms that enable young people to decide on their own family life – when and with whom to marry– are key elements when studying these changing patterns in union formation. Therefore, the factors that affect the paths by which people acquire this freedom in the family realm have awakened the interest of researchers in those societies where "social norms and duty are defined and prescribed by cultural and familial needs" (Medora, 2007).

Throughout the world, Western/Middle Africa is generally the region with the greatest proportion of women marrying at young ages, followed by South-central/South-eastern Asia, Eastern/Southern Africa, and the Caribbean and Central America (Lloyd, ed. 2005). In the last decades, an increase in the age at marriage has occurred in most of these countries. Thus, a considerable body of literature on the timing of marriage in low-income countries suggests the importance of political, socio-cultural, and structural factors (Casterline et al. 1986; Malhotra and Tsui 1996; Mensch et al. 2005), as well as ideological shifts (changes in policy, increases in the legal

age at marriage, expansion of education, changes in social norms, values, and ideas, etc.), and changes in the economic production systems; i.e. access to wage employment (Lloyd, ed. 2005; Mathur et al. 2003).

Nevertheless, this changing pattern arises one main question: Why is the postponement of marriage really taking place? There are two main forces that are usually given to explain the delay of marriage: education and labour force participation. Without any doubt, one can find strong empirical associations between education and marriage in recent literature, indicating a complex network of reciprocal causal forces linking family formation and school domains (Thornton, Axinn, and Teachman 1995; Lloyd and Mensch 1999, 2006; Bongaarts 2003; Marini 1978). In addition, due to the fact that in many countries the increase in the age at marriage has occurred in parallel to the expansion of education (Mensch et al. 2005), both phenomenons have usually been linked together.

Yet still many young girls will keep marrying before their eighteenth birthday. Based on current trends, 142 million girls will be married in the decade to 2020, with an average of 14.2 million girls every year (World Vision, 2013). Jensen & Thornton (2003) already stated that a high incidence of early marriage in the developing world still remains and that, in many cases, the trends are increasing. And given that early childbearing usually follows, especially in settings where marriage is almost universal and strong social sanctions against birth out of wedlock exist (Caldwell, 2005); understanding the possible positive gains in terms of more and better education for young girls and its association with later entries into first marriage becomes essential. Indeed, for many demographers age at first union is worthy of attention because of the close temporal link between marriage and the onset of childbearing (Mensch et al. 2005).

A specialized report on child marriage by UNICEF (2001) already stated that until now, early marriage has mostly been studied from the point of view of its demographic patterns, fertility and school performance. They acknowledge that it is necessary to give the whole picture, in terms of including subgroups that would otherwise be hidden by national data; and also to carry out comparative studies of particular cases in which child marriage has been disappearing, in order to identify all those factors that enable to reduce its practice. Hence, in the present thesis on early marriage, instead of performing in-depth analysis of those regions in which child marriage is a constant and profoundly rooted practice, the focus will be on some of those countries in which there seems to be some change in the marriage timing towards its delay. Not only that, because the main interest is to investigate whether there is a connection with the increase of female schooling levels, an educational expansion is another requirement for the case studies to make the cut. Consequently, one developing country for each continental region - that is India, Kenya and Colombia - comprise the Doctoral dissertation's major body. Hence, India represents one of the countries in which child brides have historically been a common feature in their society; while certain populations within the Kenyan context have also practiced such early marriage timing; and

in Colombia unions happen somewhat later. Yet, although these three countries have seen relatively impressive gains in their female educational expansion, they present three different scenarios in terms the possible effect of the change in the educational structure on marriage timing and on the prevalence of early marriage specifically.

Consequently, the present thesis is structured as follows:

1) Firstly, a **theoretical and contextual background** on early marriage is presented. The theoretical framework justifying educational expansion as a possible explanation in the decrease of early marriage and its relevance is introduced. Taking the latter into account, the main goals and research questions as well as different hypothesis to be further analysed are included. And finally, this section will be closed with a simple descriptive analysis of both early marriage and educational expansion across the developing world from a comparative perspective, highlighting other factors such as urban/rural place of residence and wealth index.

2) Secondly, the **data and methodology** chapter comprises the different data sources and methodologies applied. The definition of early marriage, how it has been computed, and why is validated in this section. Additionally, the various methods employed to give answer to the research objectives for each case study are also detailed.

3) Thirdly, the **three different case studies on India, Kenya and Colombia** follow. In each chapter (chapter 3, 4 and 5), early marriage and its association to the educational expansion from each country is studied in depth. Chapters 4 and 5 (and to a lesser extent chapter 3) will also include some extra information on the transitions to first sexual activity and first birth among women, and its relationship with educational expansion. The structure for every one of these chapters adheres to the classic style, with a contextual background as its introduction, some data/methodological explanations, an extensive descriptive and analytical analysis, and some conclusions/discussion with the main relevant points.

4) Finally, the closing chapter will be the **Conclusions/Discussion** one, in which a summary of findings will be presented in order to uncover three different scenarios of the effect of educational expansion on the decrease of early marriage, that is, the three different case studies. Some critical discussion as well as future lines of investigation will finish the chapter.

5) The doctoral dissertation will end with the list of **References** from the bibliography consulted, and the different **Annexes** material that complements it.

## 1.2. THEORETICAL AND CONTEXTUAL BACKGROUND

### ❖ *Early marriage: a matter for concern*

Marriage in most societies is an important event that motions the entry into adulthood. For women, particularly, it can have a huge impact in their lives; hence, issues such as consent and age at marriage have been moulded within a human's right framework by researchers, policy makers and advocates (Jensen & Thornton, 2003). The authors state (p.9-10) that the issues of early marriage and consent "are often intertwined" and that "since young persons are less capable of understanding the implications of long-term decisions and do not have the full autonomy and independence or the mental and emotional maturity required for such decision-making", "early marriages, even when they occur with the seeming consent of the child, violate the basic rights of the child, since by legal definition a child cannot give consent". UNICEF (2001), along the same lines, emphasize that even though children might have given their apparent consent (from the point of view of tradition or law), in reality, the consent that establishes a binding union for life has been given on their behalf by others. Therefore, when children are married off at an early age they are denied their human rights, "their right to be children" (Somerset, 2000, p.6). Hence, these marriages are not only also referred to sometimes as 'forced marriages' (World Vision, 2013), but are internationally discouraged through various agreements: Universal Declaration of Human Rights (1948), the Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages (1962), the Convention on the Elimination of All Forms of Descrimination against Women (1979), the Convention on the Rights of the Child (1989), and the African Charter on the Rights and Welfare of the Child (1990) (UNICEF, 2001; Nour, 2006).

Thus, one can find extensive descriptive literature on the trends and differentials in the age of first union among women, with a particular focus on the practice of early marriage in the developing world (Jejeebhoy, 1995; Singh and Samara, 1996; Choe et al., 2001; Heaton et al., 2002; Westoff, 2003; Jensen & Thornton, 2003; Mathur et al. 2003; Mensch et al. 2005). In contrast, documentation on the age at marriage for men in the literature is sparse (Malhotra, 1997), which is not only partly attributable to the restriction of demographic surveys, until the past decade or so, to female respondents, but also due to the relative infrequency of men marrying during their teenage years[1] (Mensch et al. 2005).

[1] The authors emphasizes that for men marriage in the early 20s is also less common and, in some regions, it has declined substantially in recent years. They argue that, by ages 25–29, sizable numbers of men in developing countries have married, yet a postponement until the 30s exists for a large proportion of men.

It is acknowledged that early marriage is a matter of concern for both boys and girls; however, for girls in particular, the negative consequences tend to weight more. Thus, different concerns have been pointed out with respect to the human rights of young girls (UNICEF 2005) as it is generally argued that a number of social, economic, and health disadvantages are associated with early marriage (Jain & Kurz 2007; Singh & Samara, 1996). It also prevents them from bonding with others their own age, maturing, and ultimately choosing their own life partners (Nour, 2006). Young brides tend to suffer a range of acute negative physical and psychological impacts due to their immaturity (World Vision, 2013), where some of these include higher health risks as it often leads to early pregnancy[2] and early childbearing, often before the necessary development and physical growth is complete (Beguy et al. 2011; Mucai-Kattambo et al. 1995; Jensen & Thornton, 2003, Ikamari, 2005; Ferré, 2009). Early brides are also more likely to experience pregnancy complications, and obstructed labour, being obstetric fistula a rather common negative outcome to such young girls (ICRW, 2004; Schlecht et al. 2013), as well as increased risk for sexually transmitted diseases, cervical cancer, malaria, death during childbirth; and ultimately, increased risk for premature birth and death as neonates, infants, or children for the girls' offspring[3] (Nour, 2006). In fact, on a global scale, the leading cause of death among the 15-19 year old age group is pregnancy related, facing a 20 to 200 percent higher likelihood of dying than women aged 20-24 (UNICEF, 2001).

Not only that, child marriage has also a tendency to curtail girl's educational opportunities, becoming a barrier to personal and individual growth (ICDDRB 2007; Mensch et al. 1998; UNICEF, 2001; Jensen & Thornton, 2003; Lloyd & Mensch 2006), which often result in lower social class and occupational placement (Bartz & Nye, 1970). As Singh & Samara (1996, p.148) state "women who marry at a young age are likely to find motherhood the sole focus on their lives, at the expense of development in other areas such as formal education and training for employment, work experience and personal growth". Early marriage is also associated with higher fertility among women given their lengthier childbearing years when compared to women married during adulthood (Grown et al. 2008). Indeed, early pregnancy and early childbearing risks are also "exacerbated by poverty and inadequate access to maternal and child health services"[4]. Finally, the level of empowerment, status, agency and autonomy in the decision-making within the household, especially if the age gap between the spouses is large, can notably diminish the younger the bride is, which according to Jensen & Thornton (2003, p.10), might be "the very reason men choose

[2] Where more young adolescent women affront such pregnancies is inside marriage rather than outside of it (Mensch et al. 1998).

[3] For instance, lack of maturity and education among young mothers represents a limit to their capacity to feed their children properly (UNICEF, 2001).

[4] (ACSADI & JOHNSON-ACSADI, 1986; and HOBCRAFT, 1991. Cited in Singh & Samara, 1996, p. 148)

younger brides". Nonetheless, research on the causal links between early marriage and poor outcomes among women has yet to be established: "Is early marriage in and of itself the problem or is it the characteristics of those who marry early?" (Mensch et al. 2005, p.4). Hence, ideally the overall goal would be to "delay marriage of girls, giving them an opportunity to finish schooling, to mature physically before they become pregnant, to enter wage employment that can help alleviate poverty, and/or to reduce the total number of childbearing years so that both children and mothers are healthier" (Smith et al. 2012, p.537).

As Jensen & Thornton state (2003, p.17): "*Beyond bans and minimum age laws, it is also essential to focus on the underlying causes of early marriage. In doing so, it is important to recognise and understand the incentives, forces and constraints acting on both the 'supply' side - that is, why households marry their daughters at a young age, and the 'demand' side - that is why men prefer younger brides. Both sides may be acting in ways that are 'rational' given the prevailing economic, social, health and political environment*". The authors continue this reasoning by exemplifying both sides of the coin: on the supply aspect, households may marry off their daughters early due to economic factors (high costs in raising children, especially in contexts of high fertility; national crises or individual economic shocks; contexts of conflict and violence, etc.); while on the part of the demand, younger brides might be preferred in regions where high fertility is desired, and/or infant mortality rates are high; or as stated earlier, younger brides can be more easily controlled and be viewed as more "trainable" (p.18).

With regards to the increase of the HIV pandemic, especially in Sub-Saharan Africa, resulting in a growing number of orphans within the households, Palermo and Peterman (2009), found little evidence suggesting orphanhood status as a determinant of early marriage (especially after controlling for socio-demographic variables). However, a new trend has recently emerged – the marrying of young girls to avoid contracting HIV/AIDS and other sexually transmitted diseases (Somerset, 2000) since younger brides are less likely to have had previous sexual contact (Jensen & Thornton, 2003). Some recent studies, although, suggest that young married women are at higher risk of infection than unmarried sexually active women (Clark, 2004). However, both groups do experience elevated risks in the form of higher rate of partner change and higher infectivity of partners for single women; and higher frequency of sexual intercourse, lack of condom use and also higher infection level of partner for married women (Bongaarts, 2007). Both Clark (2004) and Bongaarts (2007, p.81) argue that early marriage puts young adolescents at risk of HIV infection, and the latter states that the "key issue is the timing of first marriage in relation to the timing of first sexual intercourse" (if a young girl marries before the age she would become sexually active, exposing her to higher risks that would not be there in the absence of such early marriage, especially because young wives are expected to bear children soon after wedlock and have little power in being able to engage in safe sex with their husbands). At the same time, "adolescents are the greatest hope for turning the tide against STIs, AIDS, and early pregnancy" by encouraging

safer sexual behaviour among this group (Bearinger et al. 2007, p.1220). Yet, power relations between men and women still make it problematic for young girls to negotiate safe sex (UNICEF, 2001).

Which brings in the important issue on the prevalence of contraceptive use, especially among young girls. Generally speaking, the transition towards marriage is often assumed to mark the onset of exposure to pregnancy, although in many countries the onset of sexual activity and the reported entry into marriage can be dissociated (Meekers, 1994). Moreover, in a context of increase in the age at first marriage, if girls still engage in early sex, the risk of pregnancy out of wedlock is another matter of concern, especially in countries that culturally or socially sanction such behaviour. Consequently, the role of education on providing contraceptive knowledge and possibly preventing early childbearing can be prominent. Castro's research (1995) already found that better-educated women tended to have the highest rates of contraceptive use in every country analysed. The author also noted the dominance of modern contraception in Latin America (with the exceptions of Bolivia and Peru) and in Asia (except Sri Lanka); while within most of the Sub-Saharan region traditional contraceptive methods prevail[5] (p.195).

### ❖ *Factors behind the timing of first marriage*

A considerable body of literature on the timing of marriage in low-income countries suggests the importance of political, socio-cultural, and structural factors (Casterline et al. 1986; Malhotra and Tsui 1996; Das and Dey 1998; Mensch et al. 2005), changes in age structure (Banerjee 1999; Low et al. 2002); as well as ideological shifts (changes in policy, increases in the legal age at marriage, expansion of education, changes in social norms, values, and ideas, etc.), and changes in the economic production systems; i.e. access to wage employment (Bhadra, 2000; Lloyd, ed. 2005; Mathur et al. 2003). Furthermore, Goode's (1963) modernization theory emphasized the impact of industrialisation on marriage patterns. For instance, with industrialisation, "family control over early life course transitions loosened and structured institutions began to shape the lives of young people" (Grant & Furstenberg, 2007, p.417). Other studies also focus on its association with

[5] If we take a look at Map 5 (in the Appendix), DHS recent data shows that modern contraceptive prevalence among currently married women appears to be lowest in Sub-Saharan Africa - with the exception of Southern Africa and other selected countries in the East and the West (Kenya, Congo-Brazzaville, or Gabon)-; while in South-Southeast Asia Thailand and Indonesia have high prevalence (above 80%), closely followed by Vietnam and Bangladesh, yet Pakistan and Timor-Leste are still far behind; and it is in Latin America that we find overall greater levels of modern contraceptive use, ranging from over 95% and 91% in Colombia and Brazil/Dominican Republic, respectively, to only 50% in Guatemala. On the other hand, contraceptive use among unmarried sexually active women follows a similar pattern, although it is interesting to notice the moderate usage level alongside the Eastern region of Africa, as well as some countries in the West of the continent. Still, though, Latin America and Southern Africa are the ones with greater levels of ever using modern contraceptives.

socioeconomic development (Singh & Samara, 1996). It is also argued that social changes driven primarily by media and new technologies are producing substantial similarities in family patterns and attitudes around the world (Arnett, 2002; Larson, 2003; Jayakody et al. 2008). All in all, the age in which men and women form marital unions is largely influenced by social norms and expectations regarding their roles as spouses and parents—factors that are plausibly changing with globalization, urbanization, and rising educational attainment; and, as such, the timing of marriage can be of considerable relevance to researchers interested in the transition to adulthood in the developing world (Mensch et al. 2005). Additionally, the sequencing and timing of family transitions - that is first marriage, first intercourse and first birth- are important within the life course perspective (Rindfuss et al. 1988); where "normative patterns or cultural expectations about the appropriate timing of life events and transitions constrain and shape the life course of individuals" (Heaton et al. 2002, p. 2).

Within the Demographic Transition theory, it was commonly viewed up until the mid 70's that fertility fell uniformly with education (Castro, 1995), as it was assumed that societies eventually end up abandoning the strategy of high fertility when mortality declines due to health improvements and under pressure from urbanization and modernization (Caldwell, 1982). In this context, the extended family begins to fracture into nucleus households, and some couples start heading for the cities as their living environment, as individual paid work substitutes the family-based production type; hence, children become a cost rather than an economic necessity (UNICEF, 2001). Yet, empirical evidence suggested otherwise, as the expected inverse association between fertility and education was not found in several rural societies (Cochrane, 1979: cited in Castro, 1995). A great deal of countries within the developing world began their fertility transition in the mid-1960s or somewhat later (Lee, 2003), being the transitions in east Asia particularly early and rapid, while those in south Asia and Latin America have been much slower (Casterline, 2001). In the 25 years between 1965 and 1990, their total fertility rate fell from six children per woman to three, most of them starting from a slightly higher initial level of fertility and initiating their fertility transition later (Lee, 2003). As the author states, "*By now, it is clear that they, too, have begun the transition, and the question about their fertility transition is no longer 'whether,' but rather 'how far' and 'how fast.*'", yet whether "*childbearing is concentrated at younger ages or at older ages and whether age at marriage rises or falls seems to vary from setting to setting",* as patterns are still changing even in the populations farthest along in the transition (Lee, 2003, p.175 and p.185). Nevertheless, both types of families, that is the extended one and the nuclear one can coexist, even within a same generation; which makes it possible that an apparent increase in the age at marriage in a given country could hide a different reality where subpopulations still marry early (UNICEF, 2001).

However, with this changing pattern in the marriage timing, one main question arises: Why is the postponement of marriage really taking place? There are two main forces that are usually given to

explain the delay of marriage –labour force participation and education. On the one hand, women's increased access to paid employment – a typical outcome of structural change in the labour market accompanying economic development – is thought to influence the desire and ability to postpone marriage (Singh & Samara, 1996). Economic opportunities tend to delay marriage (Mathur et al. 2003). Yet, besides the factors regarding girl's schooling and their economic status (employment mainly), in terms of early marriage literature specifically, even though other factors such as urban/rural residence, bride price and dowry, as well as parental education (maternal literacy) are also often included in its research; "girl's education is found to be the strongest predictor of changes in early marriage customs" (Smith et al. 2012, p.539). Along the same lines, the study from Das Gupta et al. (2008) from various countries with high prevalence of child marriage confirmed girl's schooling as the most important factor associated with age at marriage. A third factor, that is urbanisation, is also commonly incorporated in most studies on the subject. This relationship between urban residence and later marriage may be due to not only higher levels of education for urban women - as well as exposure to different cultures and modern values/attitudes, or increased distance from rural community pressures (Singh & Samara; Mensch et al. 2005), but also higher economic opportunities for paid employment in urban settings as opposed to the rural ones, which in turn also causes migration from rural to urban areas (Smith et al. 2012).

With regards to poverty specifically, for instance, the study of Jain & Kurtz (2007) in 49 countries found child marriage to be common among the poorest 20 percent of households in every country. In fact, if we take a look at those countries with higher levels of early marriage prevalence, most of them score very low in the United Nations Human Development Index. Yet it is plausible to think that poverty and education can go hand in hand. Poorer families may have less resources to invest in the education of their children, or might favour educating boys over girls. Smith et al. (2012, p.542) give similar thoughts and include that "another reason why early marriage may be more prevalent in poorer families is the increased time it may take to find a suitable husband (i.e. one who is more educated than the bride) for an educated girl". Indeed, when poverty aggravates, a young daughter can become an economic burden, and marrying her off is a common survival strategy in some societies in the Middle East and Southern Asia (UNICEF 2001). Just about a decade ago, a study in West Africa demonstrated how economic difficulties assisted in the rise of child marriages, even among population sectors that would normally not engage in these practices (Assani, 2000).

According to a report from the World Vision in 2013 (p.7), their research on fragile states such as Somaliland, Bangladesh and Niger found that, upon fear of both real and perceived risks[6], early

[6] According to research from the World Vision (2013), these include fears such as rape and sexual violence, unwanted pre-marital pregnancies, or family shame and dishonour, as well as homelessness and hunger or starvation in fragile contexts (p.7). Thus, "communities are right to fear the heightened risk of sexual violence and other forms of abuse in conflict and post-conflict situations, since women and girls do suffer disproportionately", especially in terms of young

marriage is often seen by families as a "protective measure and used as a community response to crisis" and that "girls who live in countries facing humanitarian crises are most vulnerable, as existing social networks and protection mechanisms are disrupted, leaving them more exposed to abuse. In extreme cases, during violent conflict for example, informal community welfare networks can break down entirely, and support for the protection of children may be non-existent".

A report from Human's Right Watch in Uganda (1997) shed light on the fact that children abducted by rebel militia and brought across the border to Southern Sudan, have it particularly difficult, especially the girls: "In addition to military training, farming and cooking, most girls who have hit puberty have an additional duty: they are given to rebel commanders as "wives" (...) forced to provide sexual services; those who refuse are often beaten until they comply" (p.28). The report also reveals that some families would marry their young daughters to members of the militia in order to defend the families' honour or to secure the girls and the families' protection. Moreover, qualitative research in Uganda (including displaced Ugandans as well as refugees from DR Congo) found that after conflict, the traditional marriage had largely been replaced by sexual partnerships that could lead to informal types of marriage, such as cohabitation, often during their early teens, as well as early parenting (Schlecht et al. 2013). Although the methodology did not allow for causal relationships, the authors found that some main factors promoted such early relationships and informal marriages within a conflictive context: including poverty, with formal marriages as an unlikely possibility in the absence of bride price payments; the "splintering of family" networks due to conflict that diminished cross-generational communication regarding dating and marriage (p.238); and the dropping out of school due to lack of safety and access and risks of unemployment.

On another note, for instance, in Iran there is also the practice of "temporary marriage or mut'a" (meaning a marriage of pleasure as opposed to procreation), which is unique to the Shia sect, and is "a contract between a man and an unmarried woman who agree to be married for a specified length of time (the time can be from one hour to ninety-nine years) and *a fixed sum of money is given* to the temporary wife" (Tremayne, 2006, p.72). The author reflects on the differences of this practice with that of prostitution and its high stigmatisation, claiming that "temporary wives are not treated as equals to permanent wives" and although "temporary marriage is also used to legitimise early marriage with full approval of the parents" (p.73), it can be seen as shameful for the family if the young daughter secretly becomes the temporary wife of a married man. In a context where a girl is eligible to marry at eight years old, taking into account that an unmarried girl above thirteen years of age can be stigmatised as "something being seriously wrong with her" (p.79), the author found

girls being "deliberately targeted with torture, rape, mass rape, forced prostitution, forced marriage, forced termination of pregnancy and mutilation", as "Such strategies are designed to humiliate the enemy, weaken families, and break down the social fabric of communities and societies" (p.25).

that, regardless of the educational level achieved, the ideals of marriage as the only route to acquire an identity have remained unchanged among three generations of women, where obligations to the family and kin group seem to have remained untouched and continue to be the greatest determining factor in any decision made in relation to marriage. In a recent report, similar beliefs could be found in Niger, where qualitative analysis brought up analogous conviction: '*If you keep a daughter in your home up to the age of 18 and she is not in school, people will wonder what is wrong with her.*', stated by a group of religious and community leaders from Niger (World Vision, 2013, p.17).

In the 70's, authors Bartz and Nye (1970, p. 258) stated that "*Much of the systemic analysis of youthful marriages has been aimed at compiling data on race, geographic location, education, socio-economic level and such to indicate 'who' marries young. Some research, but much less, has been devoted to determining 'why' these people marry - personality characteristics, social characteristics, family dynamics"*. Additionally, in terms of the availability of choices and partners within the marriage market, when studying the association between sex ratios and the timing of marriage, results show a relatively weak association nevertheless (Smith, 1983). The literature on early marriage illustrates many reasons for early marriage, such as societal coercion, religion and economics; however, this does not tell us why it is particularly girls that are married off early, rather than boys (Somerset, 2000). The author (p.10) maintains that "the underlying reason behind early marriage is simple: discrimination against girls and women from the time they are born and throughout their life cycles", where although there are differing reasons for early marriage according to culture, there are also common themes such as cultural and religious justifications, economics and poverty, as well as sexual and reproductive health. Throughout the developing regions, marriage is the central institution that regulates and sanctions sexual behaviour (Bongaarts, 2007, p.73). For many communities, a girl losing her virginity before marriage is considered shameful. Also, prior to early marriage, in some parts of the world girls are genitally mutilated (circumcision) and is often considered as a means of preventing a girl from having pre-marital sex, controlling the girl's sexuality (Somerset, 2000).

Finally, according to Mensch et al. (2005), there is a scarcity of studies investigating the connection between changing laws on age at marriage and trends in marriage age across countries. They insist that laws are often inconsistently enforced and can vary across states or administrative areas within countries, and in some cases, local and religious laws can contradict the national ones. That is, not only are there countries with laws prohibiting early teen marriage where large proportions of women still marry at very young ages, but there are also countries with very low legal ages at marriage where the prevalence of early marriage is not nearly as great. For example, the legal age at marriage in Bolivia and Peru is 14; yet only 21 percent of women are married before age 18 in Bolivia and only 19 percent in Peru (Mensch et al. 2005, p.22).

## ❖ *Education and Early marriage*

Without any doubt, one can find strong empirical associations between education and marriage in recent literature, indicating a complex network of reciprocal causal forces linking family formation and school domains (Thornton et al. 1995; Lloyd and Mensch, 1999, 2006; Bongaarts, 2003; Marini, 1978). Education is widely seen as the primary engine, transforming society and improving economic and social well-being (Macaulay, 1974: in Jayakody et al. 2008). Also, new jobs available with the creation of the monetized economy and towns growth, that can require higher education beyond only primary, has translated into less parental control for adolescents (Caldwell et al. 1998). Schools are a "space outside the household" that moulds the development of young people and "reshapes the time available to engage in other activities" (Grant & Furstenberg, 2007, p.416). Schooling provides information to teenagers that can often be at odds with parental instruction, and permits both sexes to meet without family supervision (Caldwell et al. 1998). For instance, in the classroom boys and girls can acquire ideas or values that may influence their socio-demographic behaviour[7].

It is during the schooling years that they acquire the skills and knowledge that will prepare them for their adult roles (Featherman et al. 1984; Marini, 1985), giving them the necessary means for having more autonomy and control in the decision-making, as well as better job opportunities (Jeejeebhoy, 1995). In other words, "*in addition to promoting cognitive and attitudinal change, education opens up economic opportunities and provides a vehicle for social mobility*" (Castro, 1995, p.189). Education increases the likelihood that women will look after their own well-being along with that of their family, however, with some limits: "*Where women's role in society is defined purely in reproductive terms, education is seen in terms of equipping girls to be better wives and mothers, or increasing their chances of getting a sustainable husband"* yet "*they do little to equip girls and women to question the world around them, and the subordinate status assigned to them"* (Kabeer, 2005, p.17). The author goes a step further in pointing out that unless education provides women with the "*analytical capacity and courage to question unjust practices, its potential for change will be limited"* (p.23-24). Accordingly, even though most of the literature presented in this introductory section is skewed towards education and early marriage that focuses on the girl's schooling, there will be some glimpses on the effect of maternal education on their daughters marriage timing too.

[7] Singh & Samara (1996) support that women in urban areas are exposed to modern values encouraging later marriage and are less likely to be under the influence of kin who control the timing of marriage and choice of spouse. Thus, taking into account that it is the urban areas the ones who often have better educational achievement, one can wonder if this exposure to "new ideas" and other ways of doing, different from the traditional ones, are more due to the schooling factor, or simply by living in an urban setting. In this sense, both authors do state that "the link between education and marriage timing does not operate in isolation; rather it is conditioned by the broader cultural and socioeconomic context" (p.156).

Although education levels still vary greatly by country and sex, educational attainment has expanded in all regions of the world and among both males and females (Jayakody et al. 2008). In addition, due to the fact that in many countries the increase in the age at marriage has occurred in parallel to the expansion of education (Mensch et al. 2005), both phenomena have usually been linked together[8]. Data from the World Fertility Survey (WFS) in a large number of developing countries indicated that for women with at least seven years of education, the mean age at marriage was almost four years later when compared to those with no schooling (Jejeebhoy, 1995). Which brings in the idea that even staying some years in school, however little, can make a difference. Hence, "even where the prevailing social system encourages early marriage, such as in the Sub-Saharan and North African regions, considerable differentials in the age at marriage according to women's educational attainment can be observed" (Castro, 1995, p.190-191). However, secondary education appears to be "a much stronger trigger for delaying age at marriage than primary education alone" (Gupta et al., p.8). Another example can be found in a study for Sub-Saharan Africa where it was found that in most countries female age at first marriage was increasing, at a faster pace where the education levels were highest, yet in the case of first childbirth the rise in its age was slower due to the increase in the proportion of premarital pregnancies and births (Bledsoe & Cohen, 1993). Moreover, "*marriage is frequently viewed as an adult status that is incompatible with the role of student*" associated also with opportunity costs when interrupting education (Thornton et al. 1995, p.763). So, high educational aspirations and the time necessary to obtain them delay the entrance into motherhood, as the roles of mother and student wield conflicting demands (Rindfuss et al. 1984). The authors find that young women who strongly seek more education either control their sexual behaviour (contraceptive) or manage to combine both roles of student and mother.

Brien and Lillard (1994) acknowledged that, when one controls for the effect of delayed marriage on education—that is, for the potential endogeneity of education—, later age at marriage among women in Malaysia is explained in large part by increased enrollment and attainment. In fact, female education, especially secondary education, is a protective factor against marriage (Smith et al. 2012), although having at least some education can also help in that direction (Gutpa et al. 2008). Nonetheless, more complete retrospective data would be required in order to fully comprehend the factors enabling girls to stay through secondary education, delay sexual initiation, pregnancy and childbirth (practicing safe sex), as well as marriage (Lloyd & Mensch, 2008). For instance, Yabiku (2005), with cohort data of individuals across 45 years, found a positive effect between school enrolment and age at marriage for both males and females in Nepal. Additionally, in rural

[8] Regarding differences by sex, for women, the literature singles out three factors that are especially relevant to their age at first marriage: female labour force participation, women's acquisition of formal education, and urbanization (Singh and Samara 1996). On the contrary, even though there is little research that examines the reasons behind the changes in marriage timing for men, it is argued that the extended educational path taken by men in recent years may contribute to the rise in their age of marriage (Hertrich 2002). Yet the primary reasons that are commonly invoked for the delay in union formation for men are the economic ones (Lloyd, ed. 2005; Mensch et al. 2005).

Bangladesh it was observed that daughters of educated women were likely to remain in school longer and that, even though in a context where postponing a girl's marriage is still considered socioeconomically risky, "being in school provides to be a relatively acceptable reason to doing so" (Bates et al. 2007, p.109). Jejeebhoy (1995) already asserted that better educated women tend to have higher aspirations for their children's education, being less likely to expect labour support from them.

Some authors, however, raise some doubt on the dominant role of increased education as a cause of nuptiality change, stating that the trends in education and age at marriage are not always closely connected: for instance, the region with the largest increase in educational attainment among young people—South and Southeast Asia—is not the region with the largest decline in early marriage (Mensch et al. 2005). In fact, Latin America is also another example in which even though the years of schooling have increased in the past few decades, almost no change has occurred in age at marriage (Fussell & Palloni, 2004; Castro, 2002; Heaton et al. 2002; Esteve et al. 2013). Grant & Furstenberg (2007, p.419) imply that "to the extent that school participation is increasing, its relationship to the other status transitions, such as labour force participation, marriage and parenthood, remains uncertain", and that "complicating analyses that attempt to model the impact of one transition on the others is the fact that decisions about transitions to adulthood such as leaving school, entering the labour force, marriage and parenthood often occur simultaneously, making it difficult to attribute a causal pathway". Although Mensch et al. (2005) maintain that an association between changes in schooling and marriage is evident—after all, most developing countries have experienced both a rise in educational attainment and a rise in age of marriage—their analysis reveals a weaker association than might be expected, given the determining power often attributed to educational change. Hence, factors other than schooling would appear to be driving the change in the timing of first marriage. However, they do declare that in the African case "although increases in schooling hardly appear to be the entire story, in sub-Saharan Africa grounds are found for attributing a large share of the decline in early marriage to increased schooling" (p.17). Yet, in the Latin American case, Rosero-Bixby (1996) concluded that the nuptiality transition in that particular region was more influenced by cultural factors, as opposed to socioeconomic changes.

Taking into account those initial reservations on the role of education, some years later Lloyd & Mensch (2008) went a step further asserting that claims on the negative effect of child marriage on educational attainment are not empirically grounded, as countries with very early ages at marriage tend to be the same ones with low educational attainment levels that do not conflict with early marriage customs – i.e. with a gap of several years between the age girls leave school and marry. The authors do consider that in those cases in which girls have experienced recent and dramatic increases in educational participation, the question regarding the relationship between early marriage and schooling have acquired more relevance. Yet they declare that leaving school

prematurely "may be due less to early marriage or pregnancy than to other factors such as poverty, the perceived value of education, distance to school, the safety or quality of the school, or school performance" (p.2), including other factors such as school fees, exam failure, family needs or lack of parental support, among others (p.4). However, in their findings on several African Francophone countries, they note that "the risks of leaving school during adolescence for reasons other than childbirth or marriage far exceed the risks associated with these demographic events" and that "consistent with declines in early marriage and childbearing, the risks of school-leaving during adolescence for reasons of childbirth or marriage have lessened over time" (p.10), where in the case of early pregnancy the authors suggest the possibility that schooling itself provides a protective environment and/or knowledge of preventing it.

## 1.3. RESEARCH QUESTIONS AND HYPOTHESIS

The general agreement among researchers from the sociological and demographical fields on family transformation is that educational expansion is a powerful agent for change. Given that systematically, women with more years of education tend to delay their entry into first union, one would expect to observe later ages at first marriage when a strong educational expansion is taking place, especially since at the individual level this association between education and marriage timing has already been verified. Additionally, in terms of the prevalence of early marriages, the same would apply - that is, the expected outcome would be a descent of child brides as more girls reach higher levels of education. Thus, the central aim in the present research is to provide some evidence on this regard by comparing three different countries and experiences - India, Kenya and Colombia. Especially since they have all undergone major advances in terms of educational achievement, each case study presents a unique context with regards to the phenomenon of early marriage and provide an excellent opportunity for comparison. Mainly by checking if the relationships between variables work in an analogous manner or if, on the contrary, they vary depending on the context that one applies. Hence, these particular case studies are the main core of the doctoral dissertation, in which we have one country for each developing region, and three very different contexts concerning the subject matter. Therefore, on a more detailed note, the main research questions intended to be answered throughout this present investigation are the following:

1) *Can we observe a trend towards the postponement and reduction of early marriage?* That is, are girls delaying the age into first marriage or union? On a descriptive level, we are interested in observing the timing and intensity of this transitional event over time, namely the illustration of the universality of the changes that have been taking place.

I. *What is the definition of early marriage used in this study?* In the literature early marriage is usually expressed in terms of those who marry between the ages of 15 and 19. In fact, the agreement on the international level, according to the United Nations, is that "Child marriage" is the one that occurs before the age of 18. Hence, in the present thesis, "early marriage" is defined within those conventions.

II. *What measure is applied?* There are different ways in which early marriage can be measured. The usage of central tendency measures such as the mean and median ages at first marriage are common within the academic domain. In this study, at a more general level the median is employed (in the international comparison in the introduction), as opposed to the mean, since it is less susceptible to the presence of outlier data. However, the specific measure that is applied here is the proportion of early marriage and, to allow an easier interpretation of the results, the percentage is mainly used (as it is another way of expressing the proportion by simply multiplying it by 100). The reason being that it permits to extract the information regarding timing and intensity of the phenomenon at hand, especially through its comparison over time, focusing on the degree to which a population possesses a particular attribute. In this case, we are interested in obtaining the proportion of ever married girls at the age of 15-19. In a similar way, we can also draw more detailed information on the delay of the transition towards first marriage by computing the proportions of girls who have married (or been in a union) before the ages of 16, 18, 20 and 22, so as to see if there has been or not an increase in the age at first marriage.

III. *What is the pattern of early marriage worldwide?* In order to obtain a first overview on the subject, among the developing region, what countries stand out in their prevalence of early marriage? And, for those countries analysed in detail here, is their overall pattern similar to their neighbouring countries from their respective continental regions? In this case, the countries included are those made available by the Demographic and Health surveys.

2) *Are there other contextual factors that could be taken into account when explaining the early marriage phenomenon?* The aim in this particular research question is to document socio-cultural trends of early marriage prevalence that are meaningful for each country by carrying out extensive descriptive analysis on various additional factors, mainly urban/rural type of place of residence and regional variations, but also other contextual features such as wealth index, religion, ethnicity, or polygamy (the latter for Africa). Additionally, in order to better comprehend the marriage pattern occurring in the countries analysed, the transitions into first sexual intercourse and first birth for women are included in the equation.

3) *Has there been an educational expansion and where?* Determining its trend over time is imperative. What developing countries seem to be improving most? And, especially among those countries analysed in more detail at an individual level, is the expansion homogeneous over all the country? Is it still in progress or is it slowing down? How much ground is yet to be improved? Although the existence of a gender gap is acknowledged, the central focus is on women's educational expansion, which is approached here as: a) the increase in the mean years of schooling and; b) the educational level achieved, which would be the decrease in the proportions of those with No education, and the increase of those with Primary, Secondary and Higher education.

4) *Is there a relationship between educational attainment and the age at first marriage?* Here, the intention is to investigate the relationship between education and marriage timing focusing on differences between and within educational groups. In other words, the appeal here is to know to what extent educational expansion accounts for the changes in the prevalence of early marriage, provided that there are more and more people reaching higher educational levels. Given that in the literature the main focus is often placed on education and labour force participation as the main forces behind the increase in the age at marriage; ultimately, the goal would be to explore why this postponement is taking place by continuing the research in which education is the focal point. Hence, the specific questions that need answering would be the following:

   3.1. *At a descriptive level*, do we find differences between and/or within the age at first marriage and the educational levels achieved? And, has it changed over time? One might think that those with higher education are systematically less prone to marry early.

   3.2. *At an analytical level*, can we find a strong empirical association between education and the timing of first marriage? One should note that the purpose here is not to indicate any direct causality or its direction, just the existence of the association. With the data used here it is not possible to know the educational level achieved at the exact time of first marriage

or union (the respondent's educational attainment is established at the time of the survey). Therefore, establishing and interpreting such a relationship could be tricky (i.e. do girls marry early because they have less education? Or do they lack further education because they marry early?). In this sense, a few simple exercises are introduced to indirectly investigate the degree in which educational expansion could explain the changes in the prevalence of early marriage. For instance, it is hypothesized that (1) If educational expansion is the main driving force of marriage postponement, this should not affect the differences between educational groups over time; and (2) If marriage postponement is beyond educational expansion, then one could expect differences within educational groups over time. Overall, we expect to see if the shift towards later entries into first marriage has been due to changes in the behaviour or the structure (educational structure of the population). However it is fair to say that, in the present thesis, the connection between education and marriage timing is treaded carefully. Finally, it is important to introduce those other contextual factors in the analysis, not only as control variables but also in order to observe their significance when compared to the educational domain.

5) *Finally, without disregarding each country's complexity, is it possible to compare the experiences of these three countries in terms of the trends in the relationship between educational expansion and the increase in the age at first marriage?* The intention is to formulate, on a comparative perspective between India, Kenya and Colombia, the different scenarios by which each country have reduced their share of early marriage in a context of increasing education for women. Have the three countries undergone the same path towards later age at first marriage? Henceforth, this last research question is more of a general one in which the aim is to interpret and compare the case studies so as to obtain a global picture of the phenomenon of early marriage and its link with women's educational achievements at a macro level.

## 1.4. GLOBAL TRENDS ON CHILD MARRIAGE AND EDUCATIONAL EXPANSION IN THE DEVELOPING REGIONS

The practice of marriage before or during adolescence prevails across much of Africa, Asia and Latin America, and in some form or another exists throughout the world. Although statistics and data are unclear, it is undeniable that there are millions of girls and boys forced into marriage while they are still children (Somerset, 2000, p.6). According to UNICEF, over 60 million young adult women have married before the age 18 worldwide[9]. Even in low prevalence regions such as North Africa, the Middle East and Southeast Asia, considerable cross-national variation can be found (Singh & Samara, 1996). In fact, national data can often hide elevated indexes of early marriage in specific regions or population sectors (UNICEF, 2001). Hence, for this introductory section, the most recent data provided by the Demographic and Health surveys has been assessed in order to obtain information on the prevalence of child marriage in the developing region so as to give a current picture of where this harmful practice is mainly located[10].

When examining the prevalence of marriage and its timing it is important to take into account the presence or not of informal unions. Increasingly cohabiting unions[11] 'are quite common in Sub-Saharan Africa and in Latin America and the Caribbean (Somerset, 2000). Given the nature of the data on this particular topic, especially when the source comes from the various rounds of Demographic and Health Surveys, authors often use the term "marriage" in a broader sense, which includes both formal and informal types of marriage[12]. For example, Singh & Samara (1996) use the terms 'marriage' and 'union' interchangeably and insist that when comparing the proportions ever married with external data, "either these sources agree or the DHS shows higher proportions married because of its more inclusive definition of marriage" (p.150). For instance, Mensch et al. (2005) analyzed data from DHS surveys and population censuses from the United Nations database on age at marriage from 83 developing countries in Africa, Asia and Latin America, finding relatively consistent results in the trends in early marriage, which according to the authors is rather

[9] UNICEF (2007): "Progress for children: a world fit for children statistical review. Protecting against abuse, exploitation and violence: child marriage", in (http://www.unicef.org/progressforchildren/2007n6/index_41848.htm)

[10] Because alongside the developing world the majority of women are married by ages 25-29, where only in some regions 15-20% remain still single during their late 20's in Latin America, East and Southern Africa (as well as the Middle East and former soviet Asia) (Mensch et al. 2005); in the present descriptive section on early marriage the ages considered have been 25 and onwards so as to gather as much as possible the whole picture. Additionally, more information on the median ages at first birth and sexual intercourse, as well as modern contraceptive prevalence among the developing regions is presented in the Annex in Maps I.I, I.II, I.III.

[11] Cohabiting unions are primarily informal marriages where the individuals enter consenting unions instead of legal or religious arrangements.

[12] See the methodology chapter for further information.

reassuring given the difference in both the number of countries and the nature of the data—retrospective versus current status. Yet one should bear in mind that *"young people with little school accumulation cohabit at higher rates and marry at lower rates than do those with greater accumulation "* (Thornton et al. 1995, p.772).

To date, although regional variation within national boundaries can be found, an early median age at first marriage is still prevalent in Middle and West Africa and the South of Asia, followed by the East and Southern Africa, Southeast Asia, and to a lesser extent the Caribbean and Central America[13] (Map 1.1 and Table I.I). Countries in which the median age at first marriage is below age 16 are Niger and Bangladesh (15.5), as well as Chad (15.9). Three additional Sub-Saharan countries[14] also have median ages around 16: Guinea (16.2), Ethiopia (16.5), and Mali (16.6). It should be noted that in most of the West and Central African region, in particular, a great deal of these young brides are second or third wives marrying into polygamous households (UNICEF, 2001). With regards to the other continental regions, in Asia, early marriage is observed in both India and Nepal (17.4 and 17.5, respectively); while for Latin America, the present data and countries[15] included in the analysis shows Nicaragua as the country with the lowest median age in the region (18.2). In fact, the prevalence of early marriage seems to be lower for the south American region as a whole, where most countries have median ages around 20-22, with the exception of Dominican Republic, El Salvador, Guatemala and Honduras with median ages around 18-19. However, within the developing regions, there is a coexistence between countries in which child marriage is deeply enrooted, and those in which, at least at the national level, child brides are rare: for instance, the Philippines (22.2) and Sri Lanka (22.4) in Southeast Asia; South Africa (24.2), Botswana (24.0), or Gabon (22.0) in Sub-Saharan Africa[16]. Nonetheless, if we zoom in at a sub-regional level, as it can be seen in the lower section of Map 1.1, intraregional variability in the median ages at first marriage exist. Hence, the national figures can sometimes hide its heterogeneity.

[13] Additional information from external data, with regards to other regions not considered here show the following: with regards to the Middle East and the North of Africa, child marriages are less frequent than in Southern Asia or Sub-Saharan Africa, although national data might veil great disparities within the countries; secondly, with regards to industrialized nations, few women marry before the age of 18 in North America, Europe and Oceania, although in some countries early marriage still subsists in particular sectors of their population (UNICEF, 2001).

[14] From the results in Table I.I, it can be noted that both Nigeria and Eritrea have seen increases in their two latest DHS surveys where their median age at first marriage has risen: in Nigeria from 16.6 in 2003 to 18.3 in 2008, and in Eritrea from 16.7 in 1995 to 18.2 in 2002. Hence, more in-depth analysis in these countries is warranted.

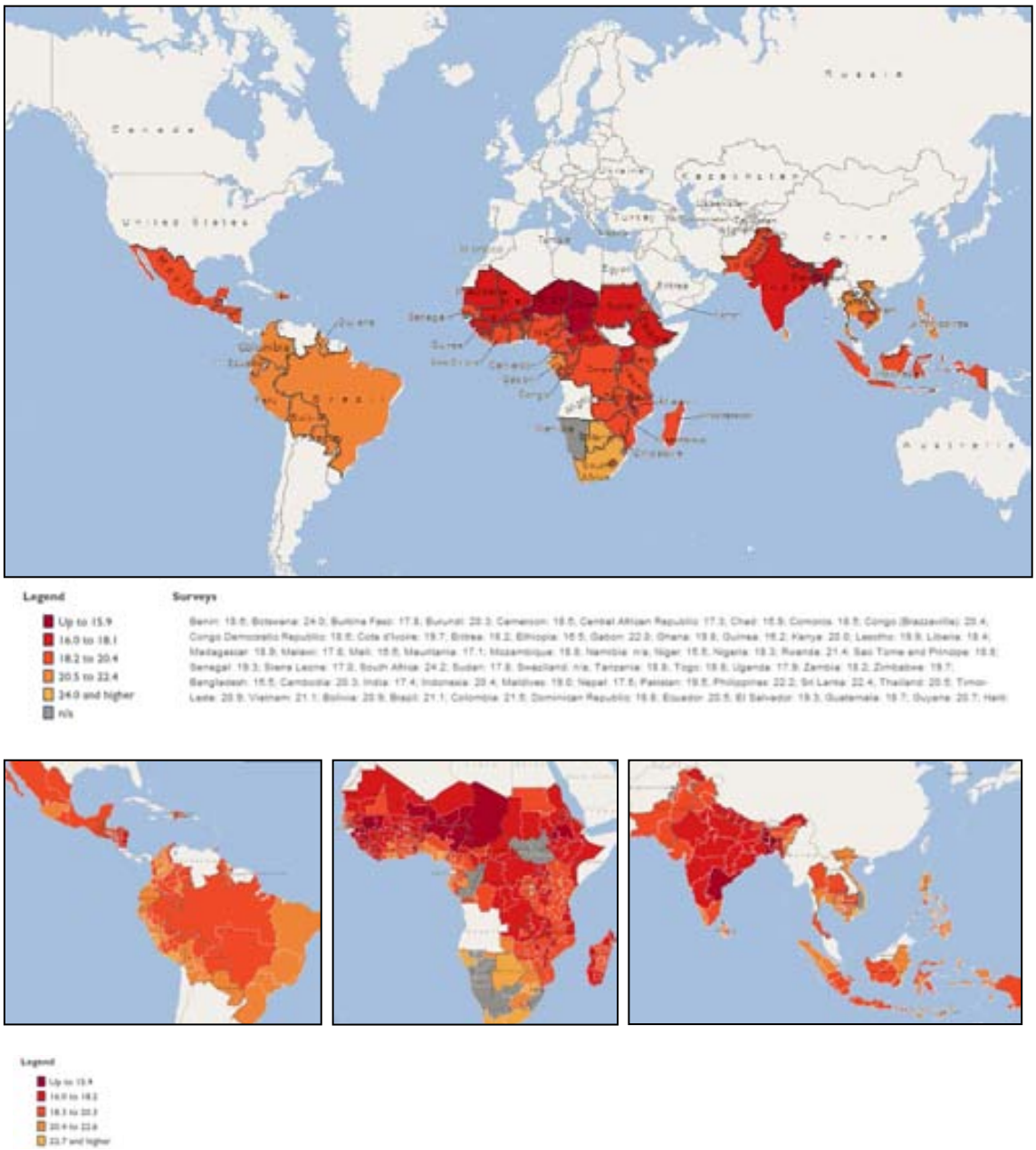
[15] It ought to be noticed that the more developed countries in the southern region of Latin America are notably absent in the DHS surveys, that is Argentina, Chile and Uruguay.

[16] It is worth noticing that these median ages at first marriage for Botswana were already this high in their latest DHS survey, which was for the year 1988; while for South Africa, the median comes from the 1998 survey; and Gabon is much more ahead in time, with the 2012 DHS survey.

Thus far, the recent prevalence levels of early marriage have been shown. Singh & Samara (1996) already stated that the declines in the proportion of women entering an early union were larger in North Africa and the Middle East, and that this drop was greater in Asia and Sub-Saharan Africa than in Latin America. In Figure 1.1 [17], the variation of the median ages at first marriage are illustrated over time, that is over the different year surveys in a cross-sectional manner. Results show that, in South and Southeast Asia, the increases over time in the median age at first marriage have been greater in Indonesia and Bangladesh mainly, and also Nepal and Pakistan, although to a lesser extent. On the other hand, the Latin American region with the data at hand points towards relative invariability in its trends, although with some fluctuations, which is consistent with the specific literature for this region, where it has been demonstrated that the age at first marriage has shown little change (Fussell & Palloni, 2004; Castro, 2002; Heaton et al. 2002; Esteve et al. 2013). Heaton et al. (2002) found that the trend is nearly flat in most countries of this region, but that age at first union has been increasing in Colombia, Mexico, Peru and the Dominican Republic. Finally, with regards to the African continent, specifically for East Africa, most countries in this territory have gradually been delaying their first nuptials, more so in Mozambique, Eritrea, Kenya, Zimbabwe or Rwanda, among others. Malawi, on the other hand, has seen almost no change over time.

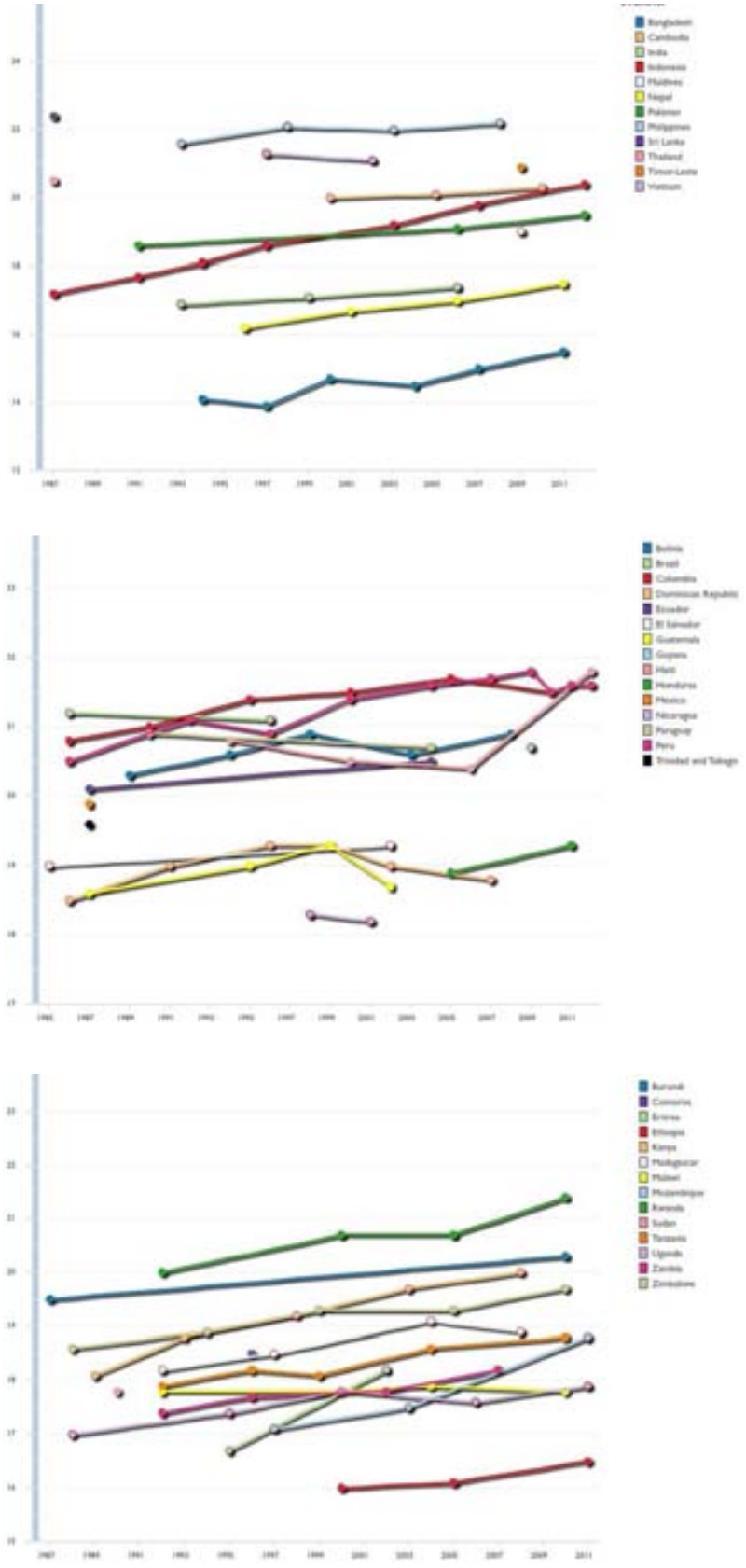
[17] When comparing between major regions one should be careful since the scales for the median age at first marriage are not the same.

**Map 1. 1 : Median age at first marriage among women aged 25-49 (national and by sub-regions):**




(Data source: ICF International, 2012. MEASURE DHS STATcompiler; own calculations using latest DHS for each country – consulted in Jan. 2014)

**Figure 1. 1 : Time trends on the Median Age at First Marriage among women aged 25-49 in South-East Asia, South America and Eastern Africa (by current age and total background characteristics).**



(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

With regards to the educational expansion that has been taking place worldwide, if we draw a picture of what has been occurring in recent years, it is possible to observe that plenty of countries in the African region still have homework to do in terms of improving their female citizens schooling levels (Map 1.2 and Table I.II). Still, less than 17% of women in nations alongside the immediate upper belt in Sub-Saharan Africa do not have secondary or higher education. It was pointed out earlier on that the three countries with lower median ages at first marriage were Niger, Chad and Bangladesh. With the exception of Bangladesh, that has over 42% of women with secondary and higher levels of schooling, both Niger and Chad have the lowest percent distribution of upper education for their female citizens in all countries considered (6.1% and 6.4%, respectively). The other countries that follow are Mali (10%); Guinea, Ethiopia, Burundi, Burkina Faso, and Thailand as the only non-African country (11-12%); Central African Republic and Mauritania (13-14%); among plenty of other[18] African countries with upper educational level below 20%. In Latin America, el Salvador is the only country among that category (16.1%), although its data comes from the 1985 DHS survey, followed by Guatemala (25.4% in the late 90's), and Paraguay (36.1% in 1990). And switching to the other part of the globe, in South/Southeast Asia, besides Thailand, the other countries with lower upper education are Pakistan (27%) and Cambodia (34.7%). Nonetheless, even though great regional variation within each country can be found for some nations, which is pretty acute in the South and Southeastern Asia and to a lesser extent Latin America; those countries with such low levels of higher education previously identified show little regional variation within their boundaries, especially within the upper West and Central and Eastern Africa (Map 1. 2, lower section). On the other side, the Latin American region fares well in terms of providing upper education, especially Guyana, Colombia, and Peru (79.6%, 76.1%, and 75.2% respectively), with a few other countries in which over 50% of their female population have attended higher education (Bolivia, Brazil, Dominican Republic and Trinidad and Tobago). Currently, in South and Southeastern Asia, those countries with high percentage of women attending secondary/higher schooling are the Philippines (79.3%) and Vietnam (75.5%), and Indonesia (63.5%). While, finally, in the African Sub-Saharan region, we have Zimbabwe (69.7%), South Africa and Namibia (68%), Gabon (74%), Congo(Brazzaville) (62.4%), Ghana and Swaziland (58-59%) and Lesotho (52.2%).

Concerning the trends in the educational expansion over time, in almost all countries considered here there has been a gradual increase in the percent distribution of upper education in the last decades, however with varying speed and intensity (Figure 1.2 [19]). The increase in Latin American

[18] For instance, in Rwanda (16.2%), according to Palmer et al. (2007, p.6), the "education system has had to cope with the dual challenge of providing education for all and compensating for the major high-level skills shortages resulting from the genocide". The authors also assert that in the case of South Africa, in particular, its education system is still struggling to overcome the inequalities inherited from apartheid.

[19] For additional information, see Table I.II (Annex), in which the percentage of women with secondary or higher education by different age groups is included (which is another way to see the changes over time with similar results).

countries has been impressive, as well as for some countries in South/Southeastern Asia and Sub-Saharan Africa. On a more detailed note, in the Asian region, Indonesia has manifested a striking increase over the last decades from 15% (late 80's) to over 60% in 2012, while in their respective consecutive surveys, other countries follow such as Bangladesh (from 15% to 40%), Nepal (10% to 40%) or India (20% to 40%); secondly, in Latin America, we have Colombia (45% to 75%), Peru (50% to 75%), the Dominican Republic (30% to 60%), or Haiti (20% to 50%); and finally, in East Africa, Zimbabwe stands out (30% to 70%), Zambia/Kenya/Madagascar follow with gradual increases reaching over 30%, Uganda (10% to over 25%), and finally the rest in this particular area have slowly been rising but have still not yet surpassed the 15% threshold. As Palmer et al. (2007, p.62) point out, "participation rates at secondary and higher education remain stubbornly and dramatically skewed towards the richer end of society".

In their analysis, Mensch et al. (2005) already stated that firstly, both women and men with eight or more years of schooling are much less likely to marry early than are those with zero to three years of schooling; secondly, young people in urban areas are much less likely to marry early than are those living in the countryside; and thirdly, that although these differentials are considerable, in the regions where data are available for both men and women, greater variability exists in the timing of marriage by education than by residence. Hence, in this final section some descriptive analysis in the relationship between marriage timing and educational attainment is also explored in Table I.I, in which the differences in the prevalence of early marriage by educational level for each country are established. Other factors such as urban/rural type of place of residence and wealth index are included too.

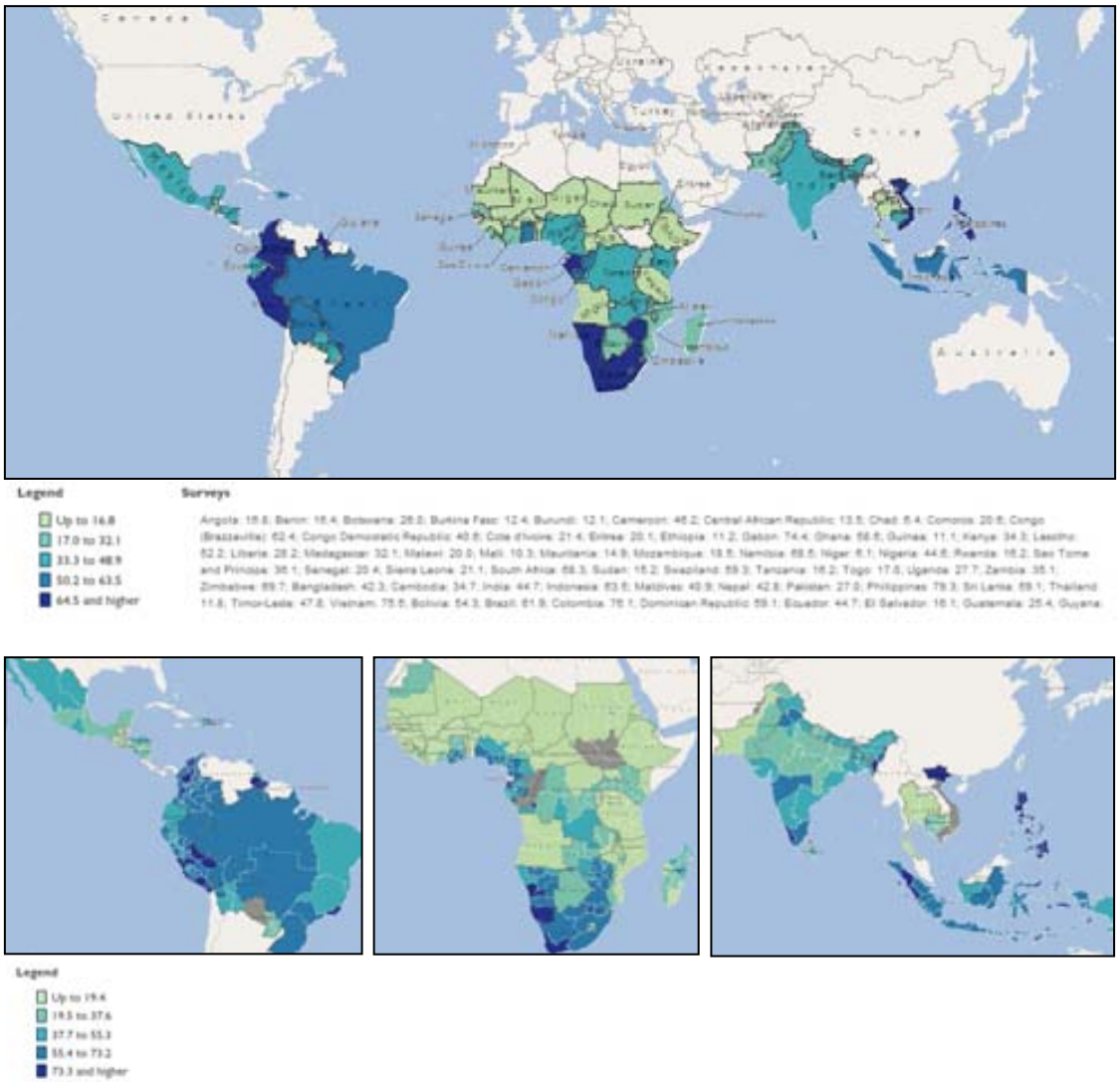
Initially, what these results reveal are similar conclusions to the ones stated before. Firstly, if we take a look at the absolute difference in each background characteristic on the prevalence of early marriage: we find that with regards to the difference in the median age at first marriage between urban and rural women, the average is between 1.6 and 1.8 years, with urban women marrying at least a bit more than a year later than their rural counterparts[20], with the exception of Central African Republic which is the only country in which rural women have a slightly higher median age at first marriage. Secondly, differences in the wealth index category show that women with higher level of resources tend to marry on average between 2.5-2.6 later in Asia and Africa and 3.6 years

Moreover, differences by urban/rural type of place of residence are incorporated and, at first glance, what we can see is that the difference in the percentages of upper education is on average higher for urban women than rural, with averages ranging from 32.7 in Latin America - with Trinidad and Tobago having the minimum difference (15.3) and Nicaragua the highest (44.3); 28.4 in Sub-Saharan Africa - where Chad has the minimum difference (13.3) and Ethiopia the highest (47.4); and 24.5 in South-Southeast Asia, with Vietnam on the lower side (14.3) and Pakistan on the highest (35.2).

[20] The differences in the urban/rural explaining factor average is 1.6 for Sub-Saharan Africa - where Botswana has the minimum difference (0.1) and Nigeria the maximum one (4.2); for Latin America the average is 1.7 - with Trinidad and Tobago having the minimum (0.5) and Guyana the maximum (3.7); while the total average is 1.8 for South-Southeast Asia - where the minimum is found in Timor-Leste (0.3) and the maximum in Thailand (3.6).

later in Latin America[21]. Thirdly, where we find a greater difference average is within the educational category, in which women with secondary or more education delay their median age at first marriage in 4.3 years in average in both Sub-Saharan Africa and Latin America and 3.4 years in Asia[22].

**Map 1. 1. 2 : Percent distribution of women aged 15-49 with secondary or higher education (highest level of education attended) by national and by sub-regions:**

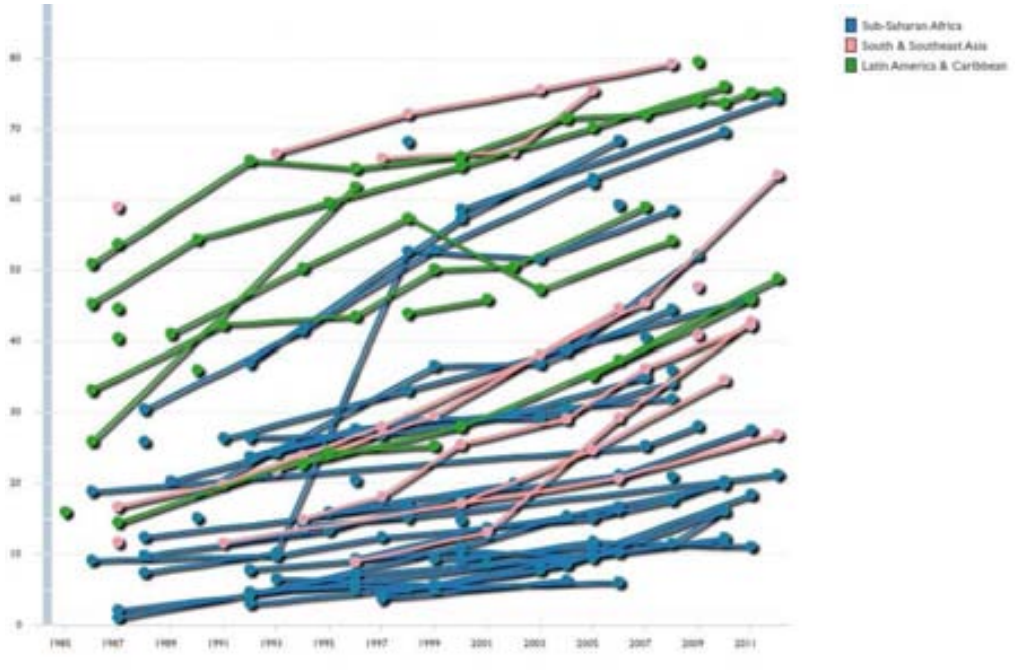



(Data source: ICF International, 2012. MEASURE DHS STATcompiler; using the latest DHS for each country)

[21] In the wealth index case, in Sub-Saharan Africa Chad has the minimum difference (-0.4) and Nigeria the maximum one (-7.7); in South-Southeast Asia, Cambodia differs the less (-0.1) and Philippines the most (-4.9); while in Latin America, we have Brazil (-2.3) and Colombia (-5.2).

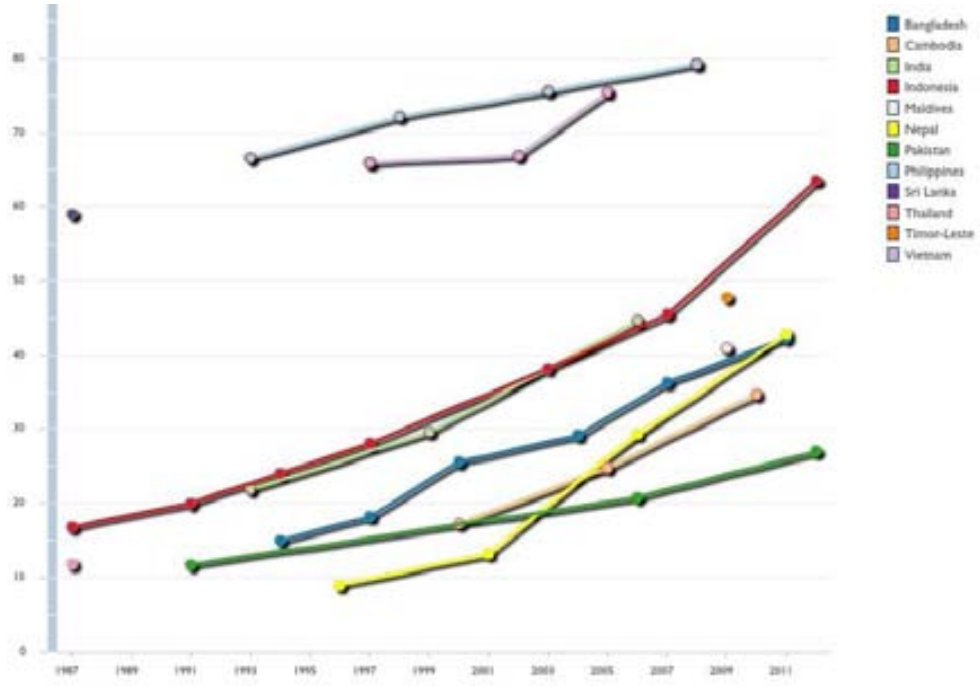
[22] Concerning upper education, Central African Republic has the minimum difference (-0.3) and Nigeria the largest (-7.8) in Sub-Saharan Africa; while in Latin America, Bolivia has the lowest one (-2.7) and Guatemala the highest (-5.6); and finally, in South-Southeast Asia Cambodia has the minimum difference (-1.1) and the Maldives the highest (-5.6), followed closely by Indonesia (-5.1).

**Figure 1. 1. 2 : Percent distribution of women aged 15-49 with secondary or higher education (highest level of education attended) by sub-regions (time trend)**




(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

**Figure 1. 1. 3 : Percent distribution of women aged 15-49 with secondary or higher education (highest level of education attended) in South-East Asia, South America and Eastern Africa (time trend)**

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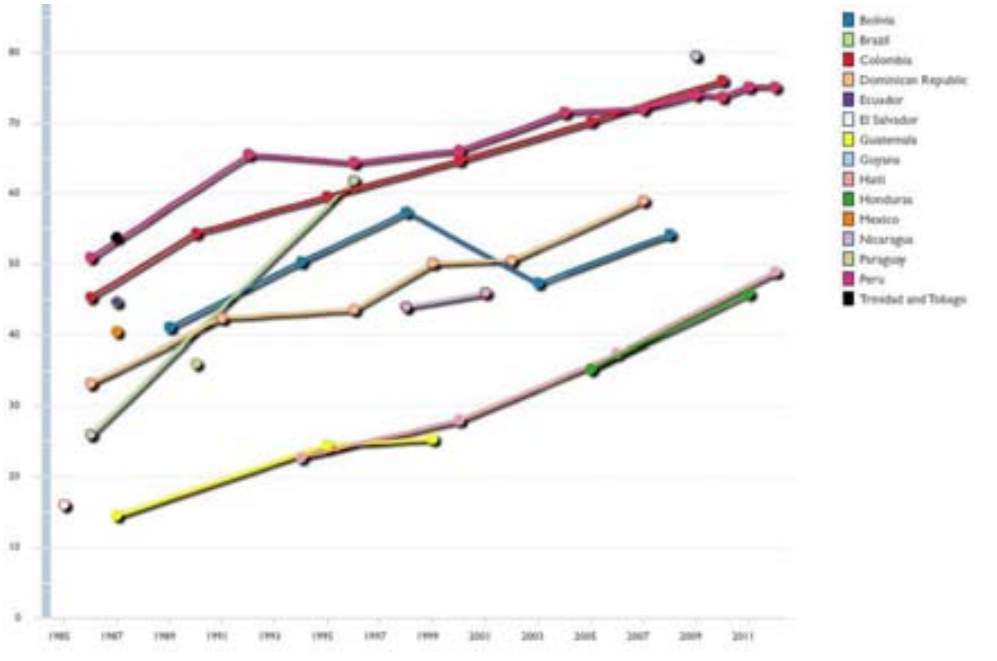
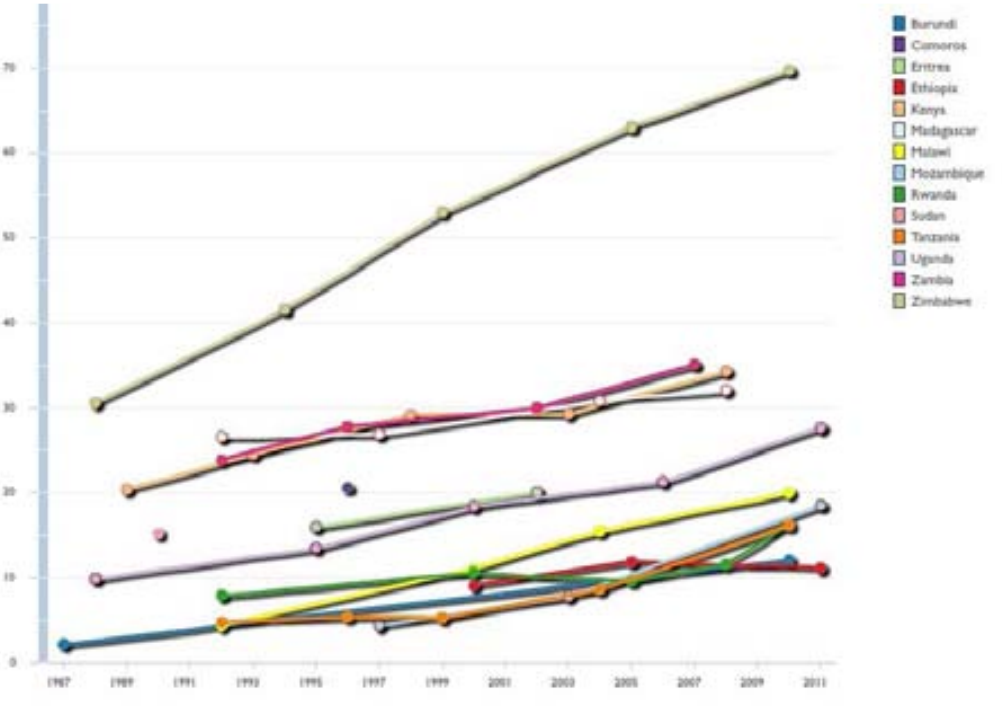



(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

# CHAPTER 2 :

# DATA AND METHODS

Firstly, the data used in the present thesis comes from the *Integrated Public Use of Microdata Series* international project (IPUMSi) and the Demographic and Health Surveys (DHS) Program[23]. The information provided in the introductory section regarding early marriage and the educational context in a comparative perspective has been obtained from the Demographic and Health Surveys website, through their online statistics compiler (DHS STATCompiler). For the case studies, specifically, the analysis of India is based on harmonized Labour force surveys[24] microdata for India (1983, 1987, 1993, 1999 and 2004) made available by the IPUMSi international project; as well as the Indian National Family Health Survey (NFHS-3) of 2005-06 under the DHS project, as a complementary addition so as to give continuity and allow extra comparison with the other two case studies. On the other hand, the data sources for the analysis on Kenya are the nationally representative samples of the Kenyan Demographic and Health Surveys of 1988-89, 1993, 1998, 2003 and 2008-09; while for Colombia the surveys used are their respective DHS surveys for the periods 1990, 1995, 2000, 2005 and 2010.

[23] At first, the idea was to use the IPUMS data for the three countries, markedly because of the geographical detail that their census data offer. This has been the main reason why the IPUMS has been used as the primary source of data for analyzing India (as the DHS information at the regional level is less detailed when compared to the IPUMS census data), which is critical given its importance due to the fact that India is considered as a country of countries. Conversely, with regards to Kenya, at the time when the analysis was being performed, the Kenyan 2009 census was still not available in the IPUMS database, being the latest accessible census the one for 1999. Hence, and given the research time constrictions, it was finally decided to use the Kenyan Demographic and Health Surveys instead of the IPUMS censuses as the DHS provided a lengthy time period in which it was possible to obtain more recent and updated trends of early marriage. Similarly, for Colombia the DHS provided information for their latest survey in 2010 (while the latest one available for the IPUMS was 2005). In the future, it would be interesting to include and compare both data sources and other similar ones in order to fully examine the phenomenon of early marriage in those countries.

[24] Socio-Economic Survey from the National Sample Survey Organization, Government of India.

Following the research questions presented previously, in this section the different methods to quantify the phenomenon of early marriage and its link to educational expansion are provided. The purpose is to introduce, in a general manner, how early marriage has been treated in the three different case studies (India, Kenya and Colombia). The details that are exclusive to each country will be established in their respective individual chapters. Additionally, one should note that, given the data sources, the chapter on India is the only one in which both men and women are included in the analysis, whereas for Kenya and Colombia only women are taken into account, but not men[25].

## ❖ *Postponement and reduction of early marriage*

Before delving into how the dependant variables were computed as a means to monitor early marriage, it is rather necessary to outline a few notions on the data itself with regards to how marriage timing has been recorded in the surveys used here. By doing so it will help understand the process by which this investigation has adopted a certain approach and not another one. Therefore, the first important issue to consider is the definition of marriage implemented in the present thesis. The general assumption is that, with the data at hand, the term marriage is understood as a "union" in which the couple are living together, without distinguishing between it being formal or informal. The Demographic and Health surveys record the date of first union as the time in which a woman starts to live with her first husband/partner. If we take a look at the examples of the DHS questionnaires we can see that even though they do ask for the marital status in detail, it is the current one at the time of the survey. Because the aim here is to study the transition to first marriage, these surveys allow doing so with their variable "age at first marriage" (variable v511). However, in reality it is recorded as the age in which women start living with their husband/partner (see examples of the DHS Questionnaires in Appendix II.I). Despite the awareness that the data refers to the term "living together", which includes both formal and informal unions, for simplicity reasons in the written sections and interpretation of the results, the terminologies finally employed are "marriage" as well as "union". In fact, the term utilised in each country has been based on the total percentages of married versus living together extracted from the "current marital status" variable from the different DHS surveys over time[26]: where the term "marriage" is used both in

[25] With the DHS the source samples were the "All Women samples" instead of the "Household samples". In fact, only women were chosen because the Kenyan DHS samples for men were less than half the size when compared to the female ones; and for the Colombian DHS there were no male respondents.

[26] For instance, when observing the results for the variable "current marital status" from the DHS surveys: in Kenya over 50% of women are "married", whereas those women who fall under the category of "living together" vary from 3 to 6% approximately over the years covered in the DHS; on the contrary, in Colombia informal unions are on the rise (from

India and Kenya, while "union" is used for Colombia. Taking the former into account, how has early marriage been computed here? There have been two different approaches that that have depended largely on the data utilised:

1) Firstly for India, with the IPUMS database, cross-sectional information on the current marital status and the age at the time of the survey has been gathered in order to obtain the proportions of ever married at age 15-19. By using "marital status" as the source variable from the India National Survey (IPUMS-International), the dependent variable is constructed in a dichotomous manner in which "ever married" refers to those individuals who have ever been married (1) or have never been married (0). Additionally, the proportions ever married at ages 20-24, 25-29, and 30-34 are also calculated so as to observe the postponement in the age at first marriage over time. In this regard, because we have period data (cross sectional data for each of the 5 IPUMS survey from 1983 to 2004) the results are shown using the box plot technique, where the changes in the Indian marriage prevalence are illustrated for each age group over time, and for men and women respectively. The box plot, which divides the information in quartiles, allows to identify not only the median values in addition to the overall variability (regional mainly), but also the minimum and maximum values as well as the outliers (on the upper and lower whiskers of the graph).

2) On the other hand, with the DHS surveys for Kenya, Colombia, and also India, instead of "marital status" we have used the variable "age at the first time of marriage", which is a retrospective type of variable. Hence, early marriage in this case is identified as the proportions of women who have married before the age of 16 and 18. So, for instance, the object of analysis has been calculated as a dichotomous variable in which either a woman has married (lived together) with her husband/partner before the age of 16 (1) or has not (0). The proportions married before the ages of 20 and 22 are also added so as to observe the postponement of first marriage at young ages. Conclusively, in the descriptive analysis results, instead of comparing between DHS surveys, we use 5-year birth cohort groups in order to

19% in 1986 to 33% in 2010), which is a trend in most Latin America; and finally, in India the universality of marriage is pretty straightforward. Actually, the term living together or consensual union is not found when consulting any of their respective NFHS surveys. Similarly, if we take a look at the 'Marital status' variable from the IPUMS data, it consists of those individuals whose marital status was: never married, currently married, widowed, or separated/divorced at the time of the survey. For instance, the 2005-06 NFHS-3 for India – on their "marital status" variable we do not find a single case in the survey's category of "living together" –; although there is a distinction in which in order to be considered married the ceremony of the *gauna* has to have been performed. In this sense, the survey provides a clear definition of marriage: those women who are considered married are those who have partaken in the *gauna* ceremony, which enables them to cohabite with their husbands. In some areas in India, mostly in the North, quite a few years may pass between marriage and *gauna* (cohabitation) (Joshi et al., 2001). Hence, in the survey we can find girls who, even though are technically and formally married, because they have not performed the *gauna* they are accounted as "never married" in the survey.

grasp trends over time of the proportions of married before each given age. Although some graphs are presented in a cross sectional manner, it was decided to use the year of birth of the respondent instead of the year of survey since DHS data permits to reconstruct retrospectively the cohorts of its respondents[27].

Taking the former into consideration, it is required to mention a few vital thoughts on the age selections. According to United Nations standards, "child marriage occurs when one or both of the spouses are below the age of 18"[28]. It is rather common to find in previous works on early marriage the 15-19 age specification, as it has been done on the chapter on India. The intention here is to take one step further and include additional information by differentiating between very early marriage and early marriage. The subtle distinction in the terminology brought into play has been somewhat purposeful: even though child marriage is considered for those unions that take place before the age of 18, in this study those girls who marry before the age of 16 will mostly fall under the term "child marriage", while those who marry before the age of 18 will be regarded as "early marriage". Secondly, the age treatment in the thesis has been specifically directed towards its focus on the young population, with some special concern on the educational aspect. That is, the age threshold chosen should minimize unfinished and ongoing schooling of the younger generations, as well as grade repetition. To overcome this issue, for the analysis in which the DHS surveys were exploited, the minimum age consisted of those girls and women who had reached the age of 20 at least. Although some university students may have not finished their studies at that age, some may have or would be currently attending them. So the resulting sample has been for women aged 20-49. And, as for the age treatment with the IPUMS data on India, the total age groups comprises of 15 to 34. However, because we are dealing here with current marital status, and not the age at first marriage as was the case with the DHS, on India the main focus is on young individuals in two age groups 15-19 and 20-24 since the risk of union dissolution and remarriage is lower at younger ages. All in all, it is thought that these are illustrative age-groups that allow us to investigate the impact of education. For general understanding of the final variables considered in the analysis on early marriage, there is a summary table with total number of cases for each country of study attached in the Appendix II.II.

[27] By using several DHS surveys instead of concentrating on only one, the final sample size not only becomes larger, which helps to obtain better estimates and significative results in the analysis, but it also permits to lengthen the period of study (i.e. study more cohorts). We are aware that there could be differences between cohorts and their respective surveys; that is that a same cohort could show a particular pattern in one survey and another one on the subsequent survey. However, after a simple descriptive analysis, these differences are not substantial. In fact, by broadening the year of birth into 5-year groups it helps diminish those small discrepancies. In a similar fashion, by using 5-year groups we also hope to somehow indirectly tackle the ongoing problem often found in most Sub-Saharan countries where there are people who do not know their exact age, and who tend to approximate it to Figures close to 0 and 5. Finally, in both cases, with the IPUMS and DHS data, by using a five year age group we also avoid overlapping cohorts from survey to survey.

[28] UNFPA: "Marrying too Young, the end of child marriage" (http://unfpa.org/endchildmarriage)

## ❖ *Education*

In this section, the interest is to gather information on the educational outcome of each country beyond the literacy levels and enrolment rates. For some countries, achieving universal primary levels of education is already in itself a major improvement and viewed as positive gains for their citizens. In other countries, the starting point may already be higher, in which the national goal is to make secondary and higher education extensive to the entire nation. Therefore, in the present thesis, educational expansion is approached two ways: 1) as the increase in the mean years of schooling; and 2) as the proportion of women (or men) who have achieved a particular level, and the educational expansion is measured as the decrease in the proportions of those with No education or less than primary, and the increase of those with Primary, Secondary and Higher education.

Thus, the variable "educational attainment" applied as a means to exemplify the existence or not of an educational expansion has been computed along these lines: firstly, for India the main variable used has been the "EDATTAN" variable provided by the IPUMS project, that records the person's educational attainment in terms of the level of schooling completed (degree or other milestone), and intends to be comparable across samples. According to IPUMS, "the Indian samples are comparable but do not provide years of schooling within levels. Thus, EDATTAN adheres to the Indian system of years: primary equals completion of 5 years, lower secondary is 8 years, and secondary is 10 years"[29]. The source variable is that of general education level from the Indian National Survey from the section on "demographic particulars on household members", which has been transformed into a variable consisting of the following categories: "less than primary", "primary completed", "secondary completed", and "university completed[30]". On the other hand, with the Demographic and Health Surveys, in the case of Colombia and also India, the variable used was V133 (Education in single years) to compute the mean years of schooling, and the variable V106 (Highest educational level) with the following categories: "no education", ""primary", "secondary", and "higher". In the case of Kenya, a specific variable, similar to the previous, was constructed in order to account a change in the law that affected the nations' educational system (see methodology on the chapter on Kenya). The resulting educational attainment variable for this East African country had the following categories instead: "no education", "less than primary", "primary", and "secondary and more". One should note that neither the IPUMS EDATTAN

[29] For additional information consult the IPUMS website on this particular variable or others of interest (https://international.ipums.org/international-action/variables/EDATTAN#description_section)

[30] For this particular category on "university completed" from the IPUMS, the age group 15-19 has been omitted in the descriptive results as well as the analytical ones due to the fact that completing university education at those ages is unlikely. With the DHS this was unnecessary since the minimum age considered in the final sample was 20 years of age.

variable or the equivalent educational attainment variable from the DHS states the educational level of the respondent at the time of first marriage or union. The information on education at our disposal is that at the time of the survey. Other data sources – especially panel data – that have this specific information will be consulted in the near future to improve and complement the present thesis.

As stated before, determining the educational outcome of these particular countries over time has been imperative. Not only on a larger geographical scale, that is the global educational expansion in each developing region (as it has been shown in the introduction of the thesis), but also at a more local point of view, i.e. the study cases in detail. And, especially among these countries analysed specifically at an individual level, the intention is to observe if the expansion is homogeneous or not over all the country (which can be accomplished via the presentation of maps or by bar graphs that introduce the educational trends by the different geographical regions). Even though the spotlight is on the educational accomplishments of women, for India in particular there will be a comparison on men too, in which it is acknowledged that a diminishing gender gap does exist. All in all, the interest is to know what developing countries and what regions seem to be improving most? When did this expansion really take place? Has it been gradual? Is it still in progress or has it decelerated? How much ground is yet to be improved? All of these questions and more will be answered in the descriptive analysis of each country which hopefully will give extensive insight not only to their respective educational achievements, but also as a means to complement and give the appropriate context to the main goal of this thesis on early marriage.

### ❖ *Other covariates*

In the descriptive analysis there is going to be a documentation of socio-cultural trends of early marriage prevalence for each country, in which some key contextual factors are considered: mainly region and urban-rural type of place of residence. Additionally, to facilitate the understanding of the marriage pattern in the case studies, the transitions towards first sexual intercourse and first birth have been brought in the analysis. To construct these variables, with DHS data, the methodology has been the same as to that of early marriage.

Having said that, those have been the general contextual factors incorporated in all three countries of study; however, individually, other explanatory aspects have been explored, such as wealth index, religion, ethnicity, or polygamy (for Africa). Some of these contextual features have been bestowed secondary value and have been incorporated in the annex of the thesis and not on the main chapters, but only because the focus in the present thesis is the educational domain. So in future

investigations the hope is to recover these contextual elements and analyse them in more detail. In this regard, marital status has been one of those topics in which further investigation is required. With the data at hand, especially with the DHS surveys, we have the current marital status, but not the status at the time of first marriage. It would have been interesting to analyse that aspect of marriage timing since the idea that women tend to marry earlier if they are in a consensual union as opposed to formal marriage can be found in the literature. This is precisely one of the reasons why marital status was not included in the study of Colombia, which would have been exceedingly enriching.

On another note, in India, for instance, the regional issue is an important facet when considering not only the timing of marriage but also the educational outcome of each part of the country. Thus, in this particular chapter, the introduction of some geographical analysis is essential. Consequently, as a second level of territorial organization, we use the 77 regions created by the National Sample Survey (NSS) that gives us the appropriate tools to study the changes that have occurred regarding the timing of marriage, taking into account the various regional differences as well as changes over time. The end result is a series of maps of India on the prevalence of early marriage over time as well as the educational expansion by regions. On the other hand, for Kenya and Colombia the geographical detail is not so patent, as the sub regions utilised were those from the DHS surveys.

### ❖ *Relationship between education and age at first marriage*

In this section, the analytical framework is going to be introduced. After setting the differences in the prevalence of early marriage by educational attainment over time at a descriptive level, the aim is to investigate whether there is a linking trend between education and marriage timing, with special regard to the postponement and decrease of early marriage among women. To do so, the approach has been to conduct logistic regression analysis.

The main reason for which it was decided to use this analytical framework is the fact that this particular technique allows to observe, beyond an individual exploration of the variables, a pooled analysis of the variables included in the model. Binary Logistic or Logistic Regression is a multivariate statistical method that describes the probability that an event occurs, depending on a number of qualitative and/or quantitative factors. The primary objective that this method solves is to model how the probability of occurrence of an event (usually dichotomous) is influenced by the presence or absence and value of various factors. In other words, regression analysis is used for the purpose of making predictions, and its goal is to develop a statistical model that can be used to predict values of a dependent variable based on the values of an independent or explanatory

variable. In this case, the dependant variable in the present study is the transition towards first marriage, expressed as a dichotomous variable (yes or no). Whenever the Demographic and Health Surveys have been the data source, especially for the study cases on Kenya and Colombia, but also for India as complementary information, a simple logistic regression model has been used. On the other hand, for India, with the IPUMS data a multilevel logistic regression model has been performed:

- For the DHS data we chose the logistic regression model for its suitability to study the relationship that may exist between one or more independent variables and a dichotomous dependent variable, which takes two values: "1" and "0". The first one, means that, for example in the case of the transition to first marriage, the union/marriage takes place before the selected age (presence of the phenomenon), while the value "0" is the absence of the event (no union/marriage before that age). So, the dependant variables on early marriage are expressed as two dichotomous variables: Having had a first marriage before the age of 16 and having had a first marriage before the age of 18; while two additional variables for the transitions before ages 20 and 22 are also included. With respect to the independent or exogenous variables (usually referred to as covariates in this type of analysis), these can be qualitative or quantitative, although it is recommended to work with the qualitative ones as they often allow a better interpretation of the model. Hence, it is possible to relate these variables taking into account the existence or not of a relationship between the independent variables chosen (Xi) and the dependent variable (Y), and get the magnitude of this relationship, along with the estimated probability that the phenomenon takes place based on the values of the explanatory variables. In general, these explanatory variables[31] chosen for the analysis have been cohort, educational attainment, urban-rural place of residence, region, and survey year (KDHS year). Therefore, the equation of the model is as follows:

$$P(y=1/x_1)=\frac{1}{1+e^{-(b_0+b_1x_1)}}$$

Where $P(y=1/x_1)$ is the probability that "Y" occurs, "e" is the base of the natural logarithm and the rest are the same coefficients that are presented in a combination of multiple regression (with the inclusion of different independent variables: where $b_0$ is the constant, $b_1...b_n$ are the coefficients or the weight of these independent variables, while $x_1...x_n$ are the values of the independent variables). From this formula it is possible to obtain the benefit (odds) of the occurrence of the event y=1 as opposed to y=0, allowing to observe if an individual with certain characteristics becomes more likely or not to get married before the age of 16, for instance.

[31] See each individual chapter for additional and concrete independent variables analysed and the reasoning behind it.

$$odds_{(y=1/y=0;x_1)} = \frac{P(y=1/x_1)}{P(y=0/x_1)} = \frac{\frac{1}{1+e^{-(b_0+b_1x_1)}}}{1-\left(\frac{1}{1+e^{-(b_0+b_1x_1)}}\right)} = e^{b_0+b_1x_1} = e^{b_0} \cdot e^{b_1x_1}$$

$$OR = \frac{odds_{(y=1/y=0;x_1=1)}}{odds_{(y=1/y=0;x_1=0)}} = \frac{\frac{P(y=1/x_1=1)}{P(y=0/x_1=1)}}{\frac{P(y=1/x_1=0)}{P(y=0/x_1=0)}} = \frac{e^{b_0} \cdot e^{b_1 \cdot 1}}{e^{b_0} \cdot e^{b_1 \cdot 0}} = e^{b_1}$$

The odds ratio (OR) is a ratio that measures the change produced in the advantage of the occurrence of the event of interest for each category change of the independent variable, considering that there is always a fixed reference category. Thus, in the present case, the OR indicates the variability in the relationship between the probability of being married before a given age (16, 18, 20, or 22) and the probability of not being so when the variable takes a certain value. So those values close to the unity imply a positive influence, while if they are below the unity it suggests the opposite effect. Subsequently, in a logistic regression analysis the estimated coefficient for each co-variable is presented with its exponential value, which helps to interpret the results.

Finally, a simple exercise has been executed in order to quantify somehow to what extent education might explain the changes in the prevalence of early marriage. The results for the changes in the odds ratio of the variable cohort has been illustrated for three different models: first, a bivariate model with the dependant variable and the cohort variable (to see the overall trend over time); second, a model that introduces education as another control variable (as well as the year of the DHS survey[32]); and third, the final model that controls for education and all the other explanatory variables, including region and urban-rural type of place of residence. The intention is to observe if there are differences between these models so that it makes it easier to identify those changes that could be due to changes in the structure of the female population (as in educational structure) and those changes that rely more on the behavioural aspect.

- In the case of India in particular, a multilevel logistic regression model was used in order to work simultaneously at two levels of analysis: individual and regional. Multilevel or random effects models are able to exploit hierarchically arranged data to differentiate the contextual effects from background effects for individuals. In other words, they allow us to study the relationships and variations within and between the levels of a system, in this case, the variability levels between regions and educational attainment. Therefore, by modeling a binary

[32] In this second model, in which education is brought to play, even though the results were almost identical without including the variable DHS year in the model, it was finally decided to keep the year of the survey as an additional control.

response through Logistic Regression (being married or not) we can predict and highlight the influence of the presence or absence of various factors on the probability of occurrence of an event. Moreover, with the data provided by the Socioeconomic Surveys for India, held during 1983, 1987, 1993, 1999 and 2004 (integrated and harmonized into the IPUMS-International database), our dependent variable is "Ever married", computed as a binary "Ever married" (1), "Never married" (0) one with Marital Status being its source variable. On the other hand, the independent variables are the Year of the survey, so as to see the changes in time; Education (Less than primary, Primary, Secondary, University completed); Urban-Rural type of place of residence; and Region (using the 77 regions created by the National Sample Survey, which are comparable across samples) so as to observe the cross-regional variance. An interaction between the year of the survey and the educational level is also introduced. The resulting multilevel logistic regression model is presented next, where a different model for each sex and age group (15-19; 20-24; 25-29; and 30-34) has been computed:

$$\log it(p) = \beta_{0j} + \beta_1 Year + \beta_2 Education + \beta_3 Urban + \beta_4 Year * Education$$

$$\beta_{0j} = \beta_0 + u_{0j}$$

Given that the objective in this study is to investigate the effect of education on marriage prevalence by focusing on differences between and within educational groups, while controlling for other variables (age, urban-rural, region of residence and time), the hypotheses used here are the following: a) If educational expansion is the main driving force of marriage postponement, this should not affect the differences between educational groups over time, and b) if marriage postponement is beyond educational expansion, then one could expect differences within educational groups over time. Hence, three models are included in the analysis: Model 1 shows the evolution over time in the probability of getting married; in Model 2 we introduce education as a way to control for compositional effects (educational structure); and in Model 3 the Interactions are included as a means to check the effects over time taking educational levels into account. The results are also expressed in odds ratio terms, as explained earlier on.

Finally, we intend to know to what extent educational expansion accounts for the changes in the prevalence of early marriage among Indian women between the years 1983-2004, as more and more people reach higher levels of education. This goal is accomplished by simply checking the drop in the expected proportions of being ever married in model 2 by maintaining the same educational structure and also by assuming that the change over time is the same (the effect of time as being constant: using the year 1983 as a Base 100). Hence, it is able to distinguish between changes in the structure versus changes in the behaviour.

# CHAPTER 3 :

# EDUCATIONAL EXPANSION AND EARLY MARRIAGE IN INDIA: TIME AND REGIONAL TRENDS

*(This chapter is based on a poster presented at the EUROPEAN POPULATION CONFERENCE in 2012 (13th - 16th June 2012), held in Stockholm, Sweden. Title of the poster: "Educational expansion and Early marriage in India: time and regional trends". Authors: CHAGER NAVARRO, Sonia; ESTEVE PALÓS, Albert; LÓPEZ GAY, Antonio; and GARCÍA ROMÁN, Joan)*

## 3.1. INTRODUCTION AND CONTEXTUAL BACKGROUND

Across the developing world, women's traditional patterns of early marriage are giving way to later ages at first marriage; nonetheless, the age at which women marry continues to vary widely both across and within countries (Singh & Samara, 1996). As a region, the highest incidence of early marriage is found in South Asia, where 70-75 percent of women are married by age 18; followed by West Africa and Sub-Saharan Africa, with an incidence of 50-60 percent (Jensen & Thornton, 2003). Other authors consider Sub-Saharan Africa as the region with the greatest proportion of women marrying at young ages, followed by South Central/Eastern Asia, Eastern/Southern Africa, the Caribbean and Central America (Lloyd, ed. 2005; Singh & Samara, 1996). Despite the fact that the policy and programme discourse around child marriage has increased significantly over the last decade in different countries, including India, substantial proportions of young women (and to a lesser extent, men) continue to marry in adolescence (Das Gupta & Pande, 2008; IIPS & Macro International, 2007; Jensen & Thornton, 2003). In the last decades, marriage timing patterns are experiencing changes towards the postponement of first union formations in low-income countries where early marriage used to be the norm. Given that in many countries the increase in the age at marriage has occurred in parallel to the expansion of education (Mensch et al. 2005) both

phenomena have usually been linked together. One of the many reasons **why India** is a case study for child marriage is due to the fact that it is a practice that is deeply rooted in their family system. In India, for instance, there is evidence that the prevalence of adolescent marriages has been declining modestly over time (Jejeebhoy, 1998), where the percentage of married girls under the age of 18 dropped from 56% for the cohort of 1950-1954 to 53% for the younger cohort of 1965-70 (Jensen & Thornton, 2003). Nevertheless, according to Jones (2010), there has been an important drop in teenage marriage in India (*ever married females aged 15-19*): from 70.8% in 1960 to 24.9% in the year 2000. However, there is a vast regional as well as a sex differential in the age at entry into marital union in India as the country is in the midst of a demographic transition that exhibits striking spatial differences (Drèze & Murthi, 2001). For example, there are five states where child marriage is extremely common: Andhra Pradesh, Bihar, Jharkhand, Maharashtra and Rajasthan (IIPS & Macro International, 2007). Moreover, with regards to education, India has made considerable progress towards universal literacy and raising schooling participation (Yadava & Chadney, 1994; Kingdon, 2007). According to the 2001 census, the literacy rate for the country is 65.4 percent; thus, recording an impressive jump of 13.17 percentage points from 52.21 in 1991 to 65.38 in 2001; while the gap in males and females literacy rates has decreased from 24.84 in 1991 census to 21.70 percentage point in 2001 (Registrar General India, 2001).

Therefore, the aim is to document social, regional, and time trends in marriage prevalence at younger ages between the years 1983-2004 in India, so as to illustrate the universality of the changes that have been taking place during the last two decades, as well as to investigate the relationship between education and marriage timing focusing on differences between and within educational groups, while controlling for other variables (age, urban-rural, region of residence, and time). Furthermore, we also examine if this relationship within the macro level is actually explaining the delay in the age at first marriage, without ignoring the fact that the internal diversity within the country is noteworthy. Consequently, in order to address these issues, in this chapter the analysis will be based on harmonized Socioeconomic surveys for India (1983, 1987, 1993, 1999 and 2004), which were made available by *the Integrated Public Use of Microdata Series International Project* (IPUMSi) database. Our dependant variable will be the proportion of individuals who were "ever married" at a particular age group. In this case, we define "early marriage" in terms of adolescent or teenage marriage of individuals aged 15-19. The analysis is done using transversal data so the indicator calculated corresponds with the prevalence of the phenomena in the moment of observation. As a second level of territorial organization, we use the 77 regions created by the National Sample Survey (NSS), thus giving us the appropriate tools to study the changes that have occurred in India regarding the timing of marriage, taking into account the various regional differences as well as changes over time. Given that the NSS regions do not coincide exactly with the country's administrative division, the maps shown in this chapter are a result of the district aggregations through the correspondence tables of NSS regions and districts found in Murthi et al. (1999).

## ❖ *Early marriage in India*

The presence of early and near universal marriage are remarkable characteristics of the Indian nuptial system (Das and Dey 1998; Sudha and Rajan 2003), which has drawn special attention to social researchers around the globe (Banerjee 1999; Haub and Sharma 2006; Mathur, Greene and Malhotra 2003; Mensch et al. 2005). Although marriage rules for women have been relaxed in recent decades and prepubescent marriage has become socially unacceptable, women still experience considerable pressure to marry sooner rather than later (Banerjee, 1999). In the Indian marriage market there are strong demands for women to be married within an "acceptable age range", as an unmarried older daughter can be a severe economic and social liability to her family (Rao 1993). Therefore, unmarried women – including widows, divorcees, separated, etc.- face greater socio-economic vulnerability than married women, especially if they don't have any male kin willing and able to support them (Sudha and Rajan 2003). In addition, the persistence of early marriage reinforces women's low status and social isolation and, given that they usually have to end their education prematurely so as to assume household responsibilities, altogether, it may reduce women's employment prospects as well (Moore et al, 2009). Early marriage in India has been a phenomenon which is mostly typical among girls as for the proportions of ever married at younger ages (15-19) whereas for boys it is a relatively low (Figure 3.1). In South India for instance, a general consensus was found that the ideal or preferable age to marry for men is around 25 (Caldwell et al. 1983).

Under pressure from social reformers, several legislations were passed to limit child marriage, although there was a difficulty from the Governmental part to enforce it, especially among the Indian rural population[33] (Bhadra, 2000), which could be due to weak implementation and lack of awareness of these national policies (Das Gupta et al. 2008). In this sense, despite several initiatives and laws stipulating the legal age at marriage as 18 for females[34], early marriage continued to be the

[33] The Child marriage Act III of 1872 abolished child marriage and fixed the minimum age at marriage at 14 years for girls and 18 years for boys, permitted widow remarriage and intercaste marriage (Bhadra, 2000). An effort was also made in 1891 to prevent early consummation by the Age of Consent Act which prohibited consummation before 12 years through the Age of Consent Bill (1891), however, due to lack of publicity and propaganda there was little impact of this provision; later on, during the late 1920s there were parents who rushed to marry off their daughters before the passing of the Child Marriage Restraint Act of 1929 (marriageable age of girls to 14 years), also known as the Sarda Act (Caldwell et al, 1983), which was also ineffective among the rural population; then, in 1978, the Child Marriage Restraint Act was further amended prohibiting marriages below 18 years for females and 21 years of age for males (Bhadra, 2000).

[34] In countries in which, at least officially, early marriage violates newly passed legislation, observed declines in the proportion married at or by a particular age may simply reflect increases in deliberate misreporting, leading to either exaggerate or underestimate the decline in early marriage over time (Lloyd, 2005). In addition, India is a nation in which

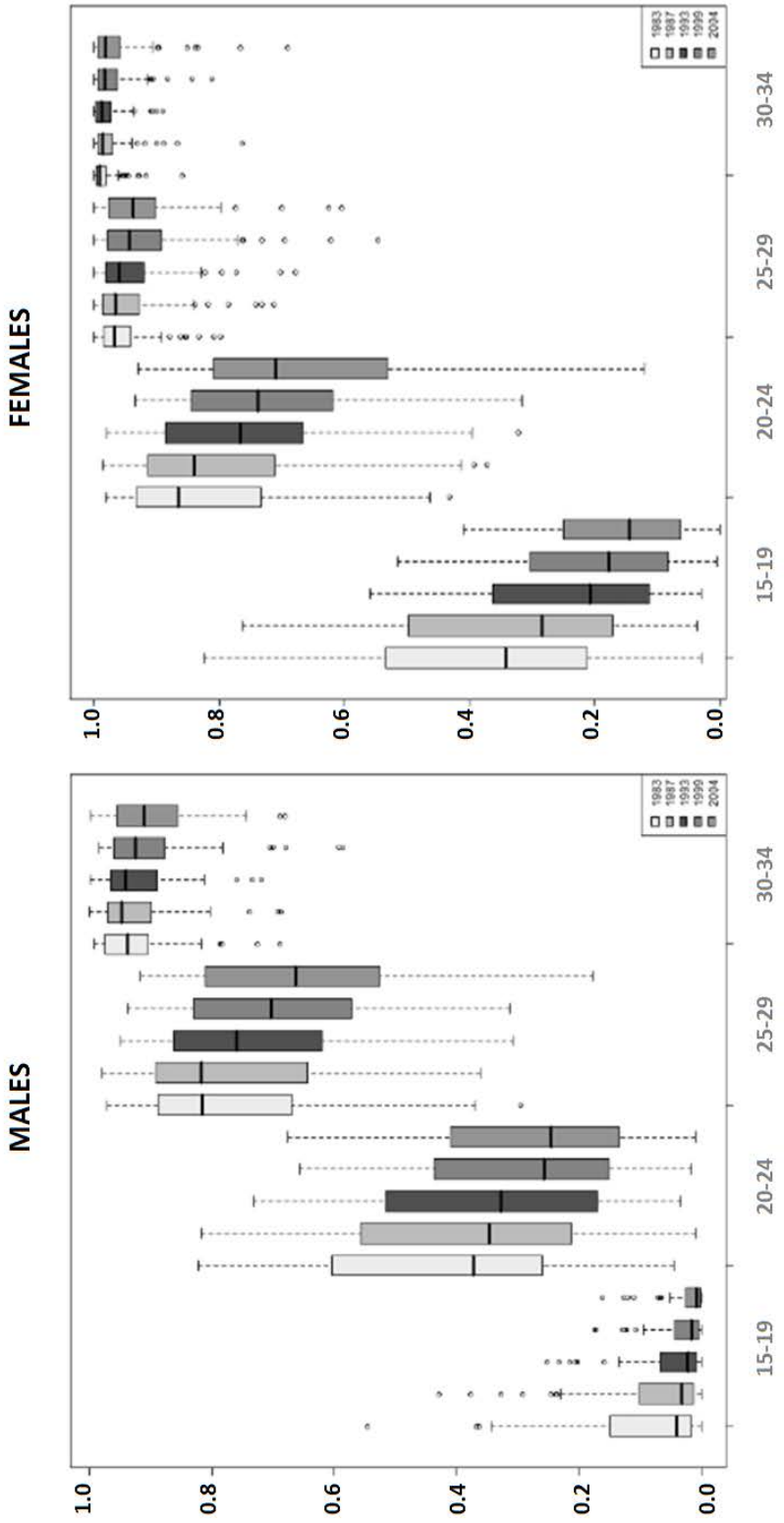
norm even in the 1990s, and substantial proportions of girls keep on marrying in adolescence (Das Gupta and Pande 2008; Jejeebhoy, 1998; IIPS and Macro International 2007). Nonetheless, in terms of community attitudes, a point of great significance is that the proper time for a girl to marry has been slowly rising above the age of menarche (Caldwell et al. 1983). In fact, the country's age at marriage has undergone a gradual but steady increase where its SMAM has increased from 16.8 to 20.2 years for women between 1961 and 2001 (Registrar General, India, 2001). For men, the increase has been from 22.7 in 1971 to 24.8 in 2001 (Jones, 2010). And with respect to the main religions in India, there are no major differences between the nuptiality calendars among Hindus and Muslims, with singulate mean ages at marriage (SMAM) in 2001 of 20.0 and 20.3, respectively (Dommaraju, 2010). With data from the Indian National Family Health Survey (NFHS-3) it was found that, apparently, those women belonging to the Muslim religious set of beliefs were more likely to be child brides in comparison to Hindus, and even more so than Christians, Sikhs or Buddhists; however, once the estimates were controlled for age, education, urban/rural, wealth and region, practically no differences were noted in the odds of marrying before the legal age between Hindus and Muslims (see Annex Table III.III).

Using data from the Indian Socio-Economic Survey (IPUMS), we note that the proportions of ever married[35] by age have been declining throughout the period consisting from 1983 to 2004. However, marriage still remains important and virtually almost universal, especially for women at the ages 30 to 34, and we can also see high proportions of women are already married at the ages of 20-24 (Figure 3.1). For women, a great deal of the decline over time on the age at first marriage has occurred at the younger ages (15-19) as well as in the following age group (20-24); while for men, the ages by which most of them get in union are from 25 to 29, and the largest declines have been in the age groups 20-24 and 25-29 (Figure 3.1).

large numbers of people do not know their exact age (Bloom and Reddy; 1986) and detailed data from the census highlight that many Indians often report an approximate age rounded to "0" or "5" (Haub and Sharma; 2006).

[35] Our dependent variable is 'ever married', that is, if the individual is married or has ever been married (1) or never has been married (0). Marital status is the source variable. We do not include cohabitation, since it is not widely practiced and marriage continues to be the main institution with regards to union formation in India, especially for women (see Figure 3.1). In more detail, the 'Ever married' variable consists of those individuals whose marital status was: married, separated, divorced or widowed at the time of the survey. We will focus on young individuals in two age groups 15-19 and 20-24 mainly for three reasons. First, by using a five year age group we avoid overlapping cohorts from survey to survey. Second, the risk of union dissolution and remarriage is lower at younger ages. Third, we are interested in examining the prevalence of marriage at younger ages. All in all, we think that these are illustrative age-groups that also allow us to investigate the impact of education. Although some university students may have not finished their studies at these ages, some may have or were currently attending them.

**Figure 3. 1 : Region variability in the proportion of ever married by age, year and sex.**




Source: India National Survey. IPUMS-International

Thus, if we consider that the increase in the age at marriage has been mostly due to the decrease of early marriages, it is necessary to acknowledge the reasons why this early marriage pattern persisted in India in the first place. There have been several reasons that have been identified and used to explain early marriage in India. Throughout the early 20th Century rules against widow remarriage resulted in the push down of the female marriage age to the early teenage years, all due to their exclusion from the marriage market at childbearing ages and the consequent intensification on the competition for never-married women who tended to be young[36] (Banerjee, 1999). In fact, also religion had an important function on justifying early marriage. Hindu religious texts prescribed the utilization of all of the fertility period of girls from the very beginning; while among Muslims early marriage was preferable because of the pre-requisition of virginity and chastity of a girl (Bhadra 2000). It is also argued that, marrying off a daughter early ensures the continuation of the family lineage in cultures where maternal and infant mortality rates are high; thus securing critical social, economic, and political alliances for the family, particularly because parents view daughters as an economic burden that can be eased by marrying them off; in fact, dowries create additional incentives for parents to arrange for early marriages for their daughters (Cohen 2004; Mathur et al. 2003). To some extent, they are deterred by the prospect of rising dowry, but their overwhelming fear is that no husband may be found at all (Caldwell et al. 1983).

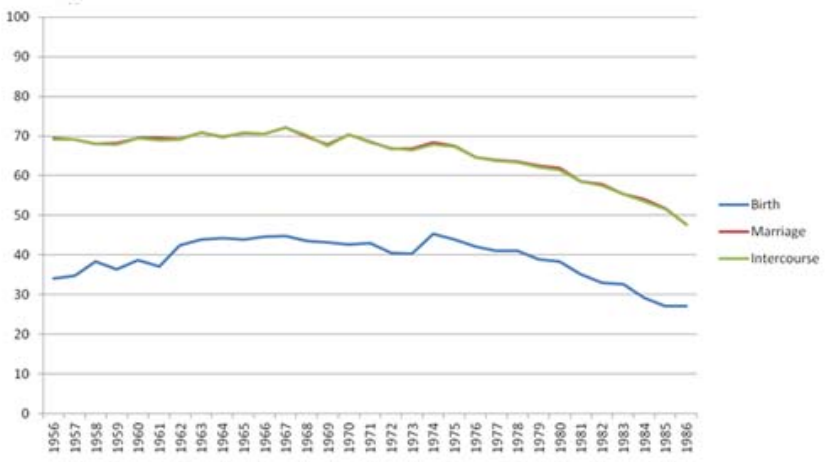
Therefore, when studying the changes in female marriage patterns one should acknowledge the effects of gender and social stratification on the functioning of the marriage market, where "the stratification of the traditional marriage market by caste, region and gender produced unequal marriage opportunities that depended on the availability of partners within a narrow marriage circle, regardless of the number of individuals in the marriageable ages" (Banerjee, 1999). In addition to this particular stratification, in India the so called "marriage squeeze[37]" (Caldwell et al. 1983) has also been considered as a phenomenon that has led to an escalation in dowries, which in combination with a strong preference for early, universal and monogamous marriage has resulted in higher competition for eligible grooms (Rao, 1993).

[36] "The prohibition against marrying widows intensified the competition for never-married women who tended to be young, and the marriage age of women fell. Therefore, the scarcity of brides was not simply a function of demographic events – it had its roots in the prohibition against widow remarriage, which led to young widows being excluded from the marriage market" (Banerjee, 1999).

[37] In a population with declining mortality younger cohorts are larger than older cohorts, and if women tend to marry older men, this implies that there will be a surplus of women over men in the marriage market. The severity of the squeeze depends upon the rate of population growth, the average age difference between spouses, and differences in sex-specific mortality schedules (Caldwell et al. 1983; Rao, 1993).

BOX 1:

**Proportion of Indian women who have had a first birth, marriage and sexual intercourse before the age of 18, by year of birth (in %)**




(Source: own calculations based on data from the Indian 2005-06 NFHS)

NFHS data also points towards a decrease in the proportions of early marriage among women, where the decline appears to be noteworthy for those who were born from the 1970s and onwards. Hence, after a relative stability around 70% of proportions of Indian women married before the age of 18, the trend for the youngest is fairly encouraging.

In India, evidence suggests that first sexual activity happens within the institution of marriage. As it can be seen in the present figure, the proportions of women who have had a first marriage are almost identical to those proportions for first sexual intercourse over time, even among those born in the latest generations. On the other hand, according to the microdata from the 2005-06 NFHS, the central measures of the *Marriage to first birth interval (in months)* is of 42 months (total mean), 20 months (median) and 12 months (mode).

As Jejeebhoy (1998) states, in India the transition from childhood to adulthood among women has tended to be sudden, and not only are there strong pressures on women to prove their fertility as soon as possible after marriage, but also social attitudes clearly favor cultural norms of premarital chastity: "strong cultural norms may result in underestimates of rates of sexual activity if obtained through face-to-face interviews" (pp. 1281); however, the author acknowledges an increasing acceptance of premarital sex, even though the attitudes on premarital sexual activity are still conservative. In fact, among the unmarried women from the 2005-06 NFHS survey, only 1.2% claimed to have been engaging in sexual activity.

Because of the rapid social, economic, cultural, and gender role changes, the various Asian interpretations of the institution of marriage are undergoing major transformation (Huang 2005). Nevertheless, for Indians, marriage is a process that everyone has to go through eventually. Grooms and brides are matched not only by individual traits but, consistent with India's arranged marriage system, by household characteristics as well (Rao 1993). Socially, marriage in India tends to confer added status on both parents and children because it signals the completion of a religious duty and suggests preservation of the family line (Bloom and Reddy 1986). Most scholars agree that, for the majority of Indians, family connections and concomitant life events (marriage and birth) are viewed as supreme and sacred points of convergence between the spiritual and earthly realms, with an element of divine guidance (Jauregui and McGuinness 2003; Caldwell et al. 1983). The importance of religion and tradition is manifested in India's deeply rooted caste system, which continues to play a key role in the organization and stratification of Indian society (Haub and Sharma 2006). Yet, the move towards later marriage among women has been general and not primarily a feature of only one sector of society (Caldwell et al. 1983). In fact, when comparing between Hindus and Muslims, differences in the timing of first marriage by religion are minor (Dommaraju, 2010). In addition, almost all marriages are arranged by the elders in the family. Traditionally, Asian marriages are not the union of two individuals, but two families (Huang 2005), because parents are assumed to have the knowledge and wisdom to make a choice better suited for their child (Medora 2003), thus providing greater stability and security (Abraham 2001).

Indeed, marriage patterns and educational attainment vary not only between regions and countries, but also within a same country, which provides useful information to situate estates geographically and contextually (Moore et al. 2009). It is noteworthy that there is a vast regional as well as a sex differential in the age at entry into marital union in India (Figure 3.1). Region variability in the ages at first union is remarkable in the age groups 20-29 for men and 15-24 for women. Indians identify themselves not only with a particular religion but also with a specific geographical region or state (Medora 2003). India is a "secular and ethnically-diverse society with religious, regional, cultural, social, and educational variations in structural and functional patterns of family life"; which makes it difficult to "generalize values, behaviours, practices, attitudes, norms, traditions, and beliefs about family life from one community to all Indian communities" (Medora, 2007). When it comes to union formation for instance, in India, at least until recently, there was a significant regional divide in the custom of marriage transactions (Bhat et al; 1999). Moreover, the north/south division also marks enormous socioeconomic differences: Indian population is heavily concentrated in the broad fertile northern plains (with states, such as Haryana, Delhi, Uttaranchal, Uttar Pradesh, Bihar, Jharkhand, and West Bengal) where there is high illiteracy, rapid population growth, and poor health common; in contrast, the southern states of Kerala, Karnataka, and Tamil Nadu are known for high literacy levels, long life expectancy, and low birth rates (Haub and Sharma 2006).

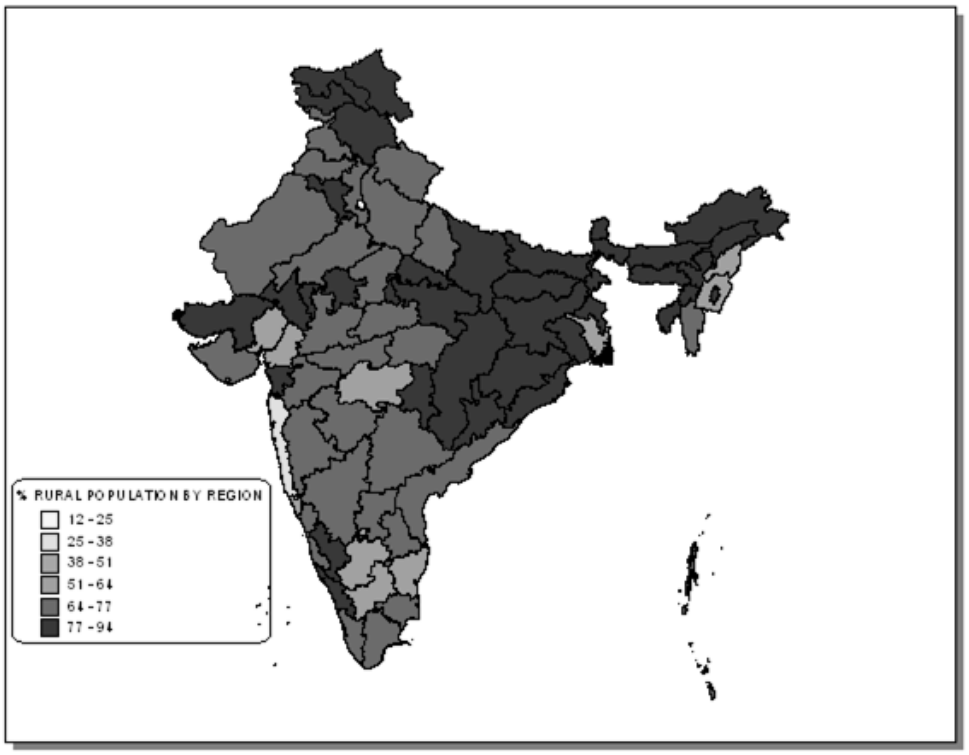
Therefore, when describing marriage patterns in India, it is essential to take a look into regional[38] differences. The characteristics that influence the likelihood of becoming a wife at a young age, such as individual goals, family values or socioeconomic status, which can be shaped by their educational attainment and exposure to the mass media, vary substantially whether they live in urban or rural areas and also where they reside in the country (Moore et al, 2009). At a national level, the general decline of early marriage over time is observed (Figure 3.3); nonetheless, the decrease on the incidence of marriage at younger ages is also regionally located. Certainly, India is in the midst of a demographic transition that exhibits striking spatial differences (Drèze and Murthi 2001).

Taking into account that the incidence of early marriage is found to be much higher in rural areas rather than in urban ones (Das and Dey 1998; Das Gupta et al. 2008), there are five states where child marriage is extremely common: Andhra Pradesh, Bihar, Jharkhand, Maharashtra and Rajasthan; while states like Kerala, Punjab, and Himachal Pradesh have lower incidences of marriage at younger ages (IIPS and Macro International, 2007). Nevertheless, despite similarities in child marriage levels, these mentioned five states differ in many respects: Andhra Pradesh and Maharashtra are among the more economically progressive states in the country, accounting for 7-13% each of the national Gross Domestic Product, while Bihar, Jharkhand and Rajasthan are among the lesser developed states, accounting for 2-4% each (Ministry of Statistics and Programme Implementation, 2008: in Ram et al. 2009) (see Box 2). In addition, the coastal region of Maharashtra is one of the most urbanised states, right after both the capital area of Delhi and the Union territory of Chandigarh, with approximately 28% of its populations living in rural environments (Figure 3.2); in contrast, Bihar, Jharkhand and Rajasthan are characterised by large rural populations, with just one-tenth to one-fifth of their populations living in urban areas (Office of the Registrar General and Census Commissioner, 2001).

Moreover, except Andhra Pradesh, later entries into first union seem to be located in regions bordering the coast (Figure 3.3). Additionally, in Figure 3.3 it is also observed that even within a same state where early marriage is common, there are differences within the region with examples such as Maharashtra and, to a lesser extent, Andhra Pradesh. In 2004, for instance, the regions where the proportions of ever married at the ages of 15-19 are still relatively high (40% approximately) are North and South Eastern Rajasthan, and the Eastern Plains of West Bengal; followed by Western Plains in West Bengal (36%), three regions from Madhya Pradesh (Malwa, Northern and Vindhya) with percentages around 34%, Western Rajasthan and Central Bihar (both with 33%), and South-Western Andhra Pradesh and Jharkhand (30%), among others (see Table III.II in the Annex).

[38] See Annex for this particular chapter: Map III. I is a political map with its different administrative divisions. Moreover, Maps III.II and .III show the regional distribution of the Indian population on the territory as well as its density.

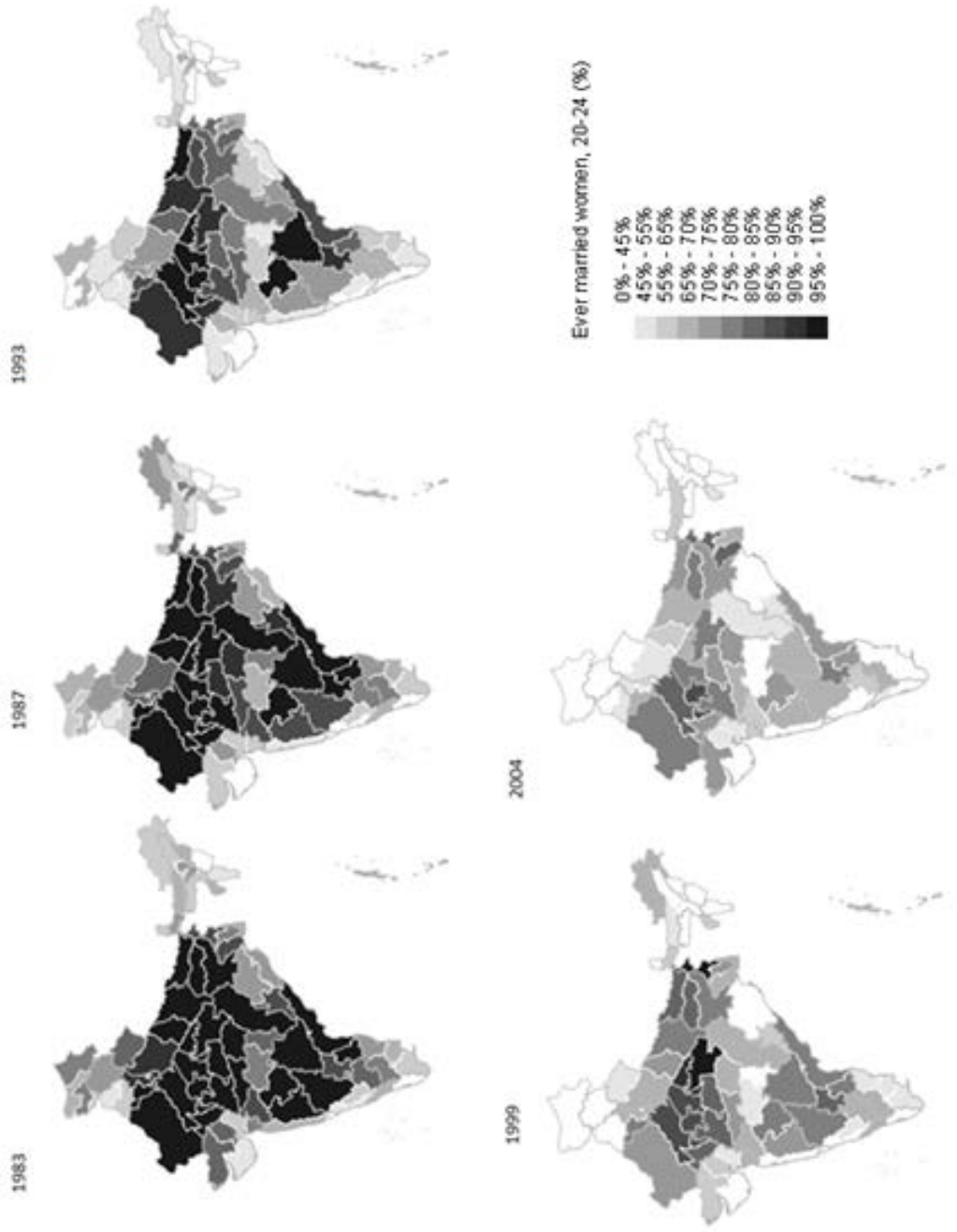
**Figure 3. 2 : Proportion of rural population (total % by region for the period 1983-2004).**




Source: India National Survey (IPUMS-International) and National Sample survey (NSS)

**Figure 3. 3 : Ever married women by region, age and year.**

*Females aged 15-19:*

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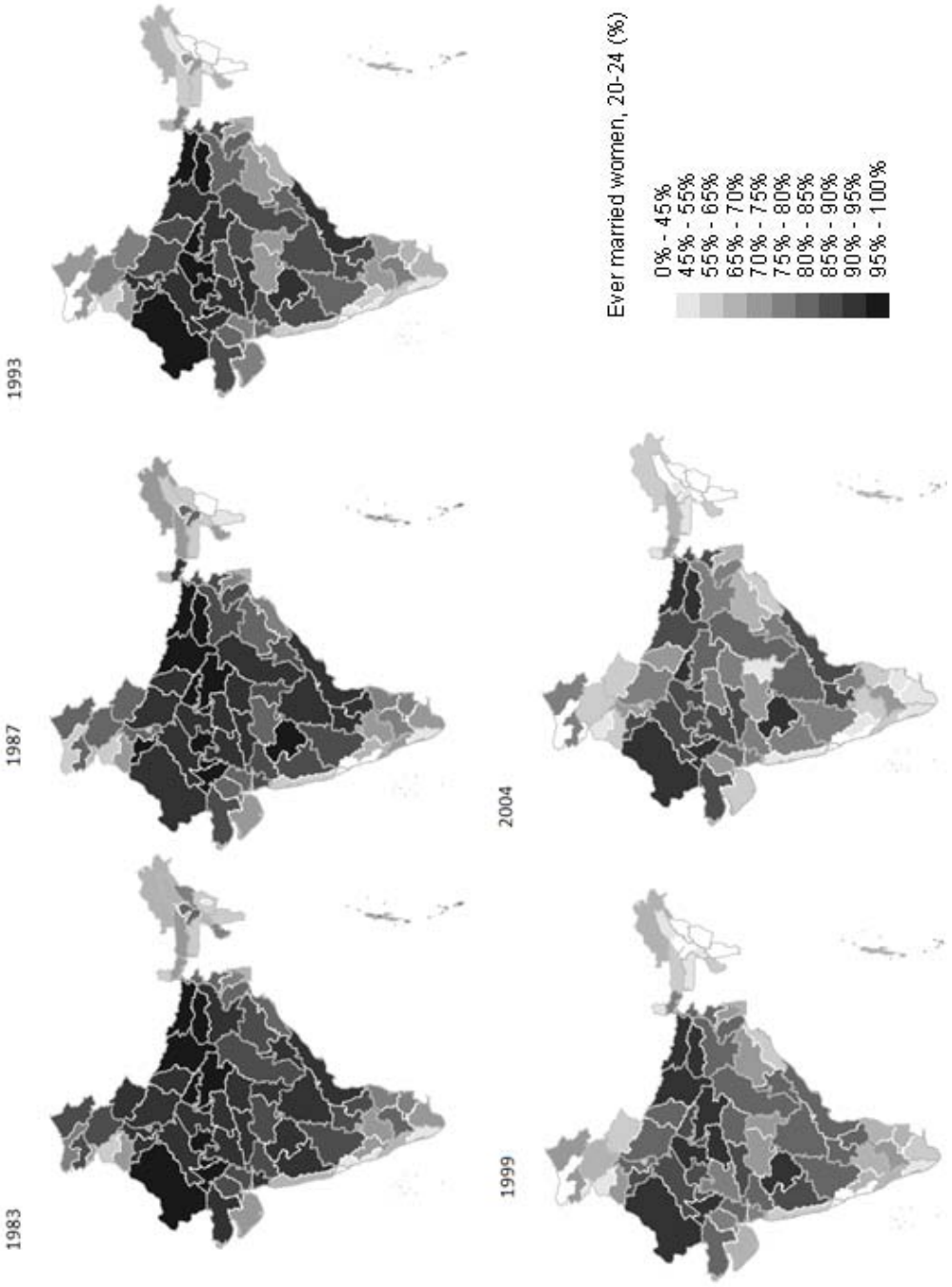
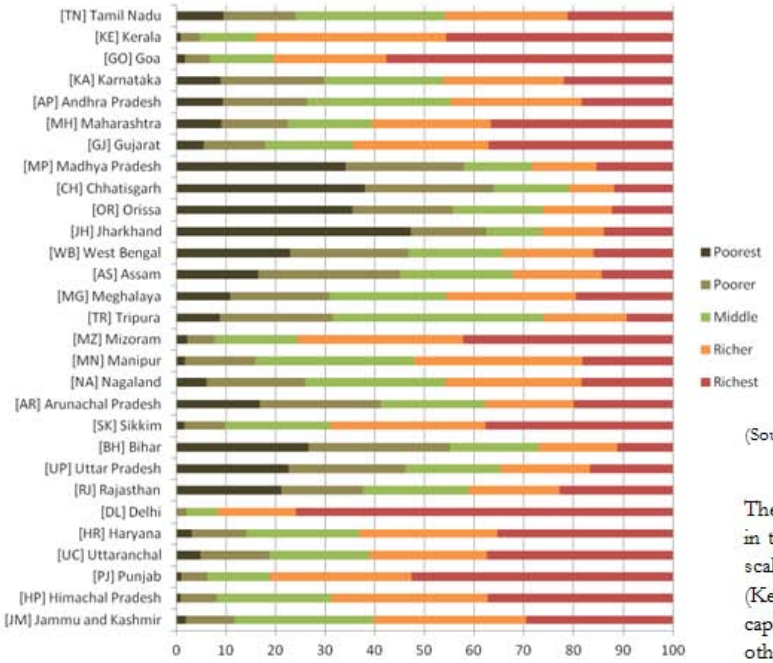
*Females aged 20-24:*



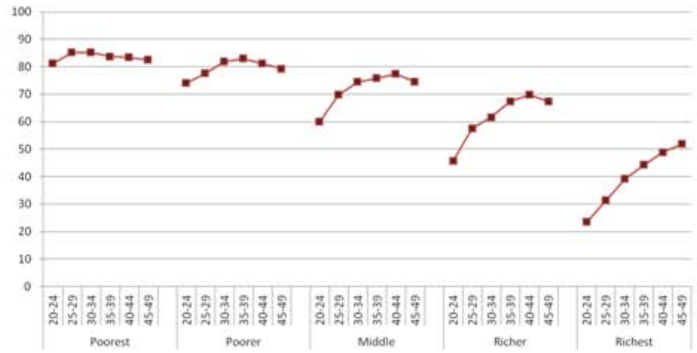

Source: India National Survey. IPUMS-International and National Sample survey (NSS)

## BOX 2.1:

**Distribution of women's wealth index by state (in %):**




**Proportion of Indian women who have married before the age of 18, by 5-year age groups and wealth index (in %):**

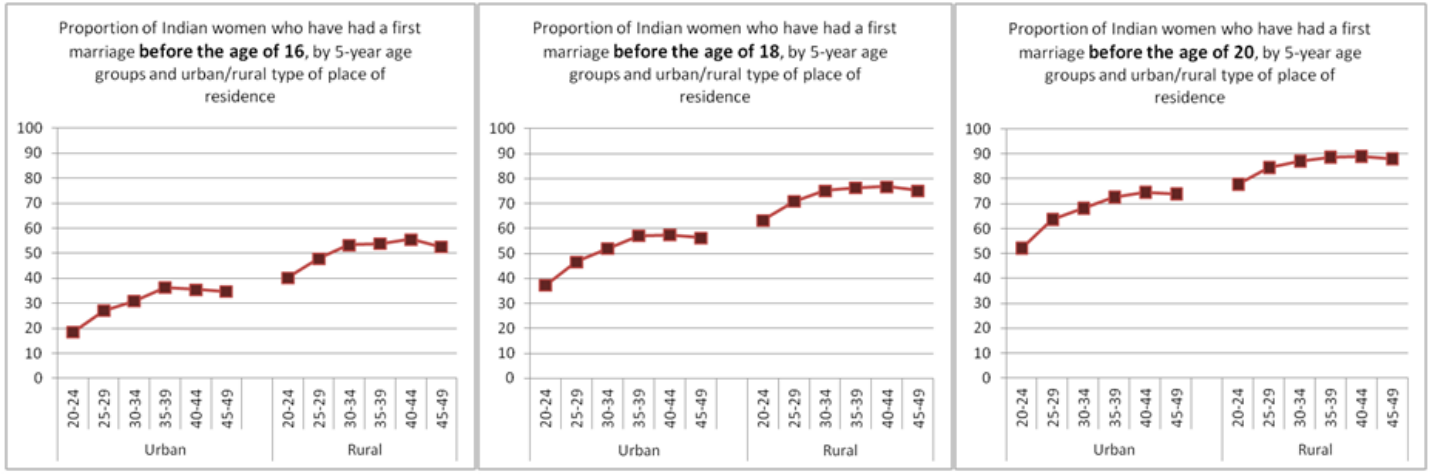



(Source: own calculations based on data from the Indian 2005-06 NFHS)

The 2005-06 NFHS permits to obtain information on the respondents' background in terms of relative index of household wealth in which individuals are ranked in a scale from poorest to richest. By state, it can be observed that the southern states (Kerala, Goa) and the northern ones (Punjab, Himachal Pradesh) as well as the capital Delhi score the highest, while Jharkand, Chhatisgarh and Bihar, among others score lowest.

With regards to early marriage by wealth index, the decline in the proportions of married women before the age of 18 has been substantial for those among the richer spectrum, and to a lesser extent to those remaining in the middle. While there has been relative invariability among the poorest (over 80%), the poorer seem to be undergoing a changing pattern towards lesser child brides for the younger age groups.

## BOX 2.2:




(Source: own calculations based on data from the Indian 2005-06 NFHS)

So far we have seen early marriage in terms of the proportions of ever married at age 15-19. Thus, the intention of the present box is to introduce some extra information on the marriage prevalence within this age group and by urban/rural type of place of residence among Indian women with data from the latest round of the NFHS. Consistent with previous research on the topic, rural women tend to marry earlier than their urban counterparts, at a descriptive level. Also, urban women seem to have started to delay their marriage timing earlier too. Additionally, with regards to the age in which the nuptials occur, although there has been a decline among the youngest age groups, there has been a relative stability in the proportions of child brides among the rural female population around over 50% for those married before the age 16, at around 75% for before age 18, and around 90% before age 20. Consequently, it is necessary to better assess these trends with further analytical multivariate modelling which will enable us to determine to what extent residing in an urban or rural settings translates into delaying more or less the timing of marriage, especially after controlling for other socio-demographic factors.

## 3.2. RESULTS DESCRIPTIVE ANALYSIS

Without any doubt, one can find strong empirical associations between education and marriage in recent literature, indicating a complex network of reciprocal causal forces linking family formation and school domains (Thornton, Axinn, and Teachman 1995; Lloyd and Mensch, 1999, 2006; Bongaarts, 2003; Marini, 1978). Education is widely seen as the primary engine, transforming society and improving economic and social well-being (Macaulay, 1974: in Jayakody et al. 2008). For instance, at schools boys and girls can acquire ideas or values that may influence their socio-demographic behaviour. Although education levels still vary greatly by country and sex, educational attainment has expanded in all regions of the world and among both males and females (Jayakody et al. 2008). In addition, due to the fact that in many countries the increase in the age at marriage has occurred in parallel to the expansion of education (Mensch et al. 2005), both phenomena have usually been linked together.

Indeed, a positive relation between educational attainment and age at marriage has been found for both sexes, but because women marry earlier than men, the relationship is stronger for women (Marini, 1978). If girls go to school for a longer period, the marriage delay is a "strictly mechanical response" and, therefore one can establish the hypothesis that a direct relationship exists between the length of schooling and the age at marriage (Hatti and Ohlsson, 1985). Traditionally it is assumed that education postpones the entry into union formation as well as it diminishes the nuptial intensity. That is to say, education slows down marriage, but after people get out of school, it actually speeds up marriage (Thornton et al. 1995). In those countries where marriage at certain ages can become incompatible with schooling, taking into account differences by sex can be revealing. For women, schooling and union formation can be conflicting during the early ages, although this does not really apply for men at those same ages since they usually marry when they are slightly older. In general, marriage is a barrier to education for girls, since they are expected to leave school in order to devote their time to assume household responsibilities, which also reduces their employment prospects (Jensen and Thornton 2003; Moore et al. 2009). Consequently, it seems likely that education would have an impact on age at marriage "only if a schooling threshold has been crossed", that is when schooling for girls is beyond 10 years (Hatti and Ohlsson 1985) due to the conflict between going to school and the timing of marriage. On the other hand, it is also suggested that education lengthens the marriage search process because of a general tendency for women to marry higher status men (Lloyd and Mensch, 1999).

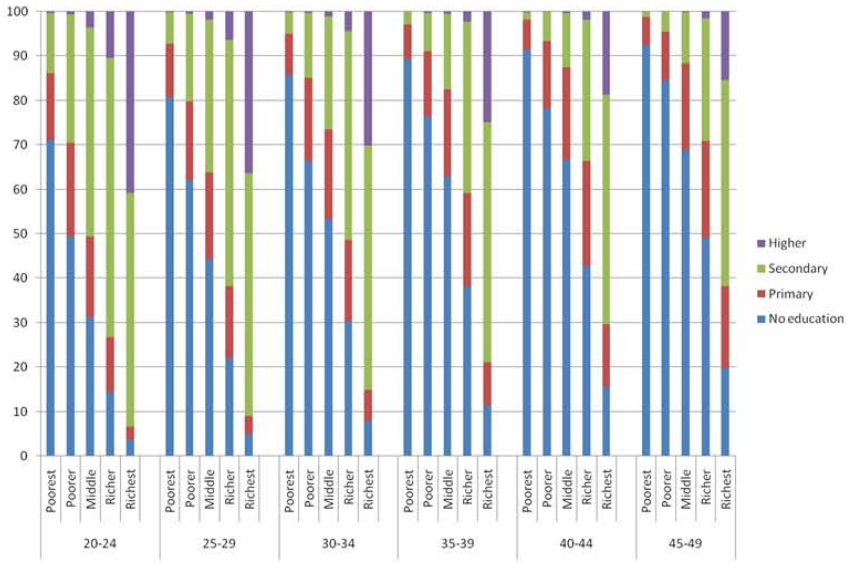
The country has had not only several economic reforms over the last decades, producing an increase in the wealth for many citizens, but also, national policy has been directed towards the increase of educational and economic opportunities for women (Raj et al. 2009; World Bank 2008). India has made encouraging recent progress in raising schooling participation (Kingdon, 2007), but still more efforts are needed to reach residents living in the rural communities (Medora 2007). In fact, free and compulsory education through age 14 is perceived as a goal in the Indian constitution (Sharma and Haub 2006). Nevertheless, policy has not succeeded in making the former right to elementary education effective and equitable for all of its population (Subrahmanian 2002). Despite India's emerging economic power, life remains largely rooted in its villages, and only small fractions of Indians are benefiting from the country's industrial expansion (Haub and Sharma 2006).

Therefore, in this chapter we intend to study, in close detail, the relationship between education and marriage in India, given the fact that it is the second most populated country in the world, where marriage rates have been remarkably stable for more than a century and literacy rates have increased dramatically among young people (Registrar General India, 2001). We do not intend to study the effect of education on the age at marriage but just the relationship between both (with the available data it is difficult to isolate the specific mechanisms by which education has a direct effect on marriage postponement). Hence, the particular aims in this section are to determine if there has been an educational expansion and its trend over time; secondly, an exploration of the ever married proportions by age and educational attainment will be presented so as to observe the differences between and within educational groups, as well as changes over time. In all cases, there is going to be a special interest on the regional differences as well as the differences by sex.

Post-independent India inherited a system of education characterized by large regional imbalances (see Figure 3.4). According to the 2001 census, the literacy rate for the country is 65.4 per cent (the corresponding Figures for males and females are 75.85 and 54.16 percent respectively); thus, the literacy recorded an impressive jump of 13.17 percentage points from 52.21 in 1991 to 65.38 in 2001, while the gap in males and females literacy rates has decreased from 24.84 in 1991 census to 21.70 percentage point in 2001 (Registrar General India, 2001). At a regional level, there are nine states (Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Punjab, Tamil Nadu, and West Bengal) that have literacy rates above the national average, varying from 90.9 per cent in Kerala to 67.0 per cent in Karnataka; while on the other hand, some of the other states that have literacy rates below the national average vary from 64.3 per cent in Assam to as low as 47.5 in Bihar (Gupta, 2009). In general, 93.4 per cent of all elementary school age children (6-14 years old) were enrolled in school, which can be considered as an encouraging statistic when compared to the early 1990s; and among 15-16 years old, their out-school Figures rose steeply to 22.7% and 20.2% respectively for girls and boys (Pratham, 2007-08; Kingdon, 2007).

## BOX 3:

**Educational expansion of Indian women by wealth index, and 5-year age groups (in %)**




(Source: own calculations based on data from the 2005-06 NFHS)

Just a simple look, at a descriptive level, of the educational expansion of Indian women by the wealth index provided in the latest wave of the NFHS is somewhat promising. It is not surprising that those women who rank the highest in terms of educational level are those among the richer spectrum. However, the tendency is encouraging as the proportions with no education among the poorer and poorest distribution are declining. And not only that, for the youngest age group primary and secondary education are on the rise even for the poorer sectors. Yet, higher education is still an important issue to tackle. Therefore, ensuing women to attend universities, independent of their economical background, is essential in order to provide better opportunities and permit them to gain and benefit from their country's economic growth.

Certainly, education could play a key role in social and gender equity, especially in a context where familial decisions and priorities with regards to the education of their children reflects a certain gender bias. In India, even basic literacy for females lags behind males' in the sense that parents treat sons and daughters differently by investing more or less in their education, depending on from whom they expect more returns – sons are usually withdrawn from household labour and sent to school, while their sisters[39] focus on housework (Sudha and Rajan, 2003; Kingdon, 2002). Nevertheless, the alarm arises when considering the issue of "India's missing women" (Sudha and Rajan, 2003). Earlier research on the abnormal female deficit on the Indian population sex ratio debated accuracy of census coverage as an explanation, e g, double counting migrant men or undercounting women (Krishnaji, 2000). However, recent research shows that the phenomenon is mostly due to persistent female mortality disadvantage in infancy and childhood (Griffiths et al, 2000), which is not due to greater natural frailty of girl children, but results from parents' practices discouraging the life chances of unwanted daughters by "weeding them out" – either through prenatal sex selection, infanticide, or under-reporting female births – denying them physical or social existence (Sudha and Rajan, 2003). As Sharma and Haub (2008) state:

> "*The preference for sons has deep roots in India for cultural and economic reasons. Once a daughter marries, she leaves the parental home to live with her in-laws. She is perceived to be of little economic benefit to her parents and will not support them in their old age. Having a girl is like "watering your neighbour's garden," according to a common Indian saying. A daughter's wedding can be a financial drain for parents: The payment of a sometimes extravagant dowry to a groom's parents remains virtually universal despite laws against dowry that date to 1961. Now-banned advertisements for sex determination tests, such as 'Invest only Rs. 500 now and save your precious Rs. 50,000 later,' reminded parents of the future expense a daughter would bring.*"

Along the same lines, Jejeebhoy (1998, pp. 1276) insists that

> "*In terms of housework, adolescent girls contribute long hours to the household economy, but their activities are invisible and undervalued since they draw no income. Given the seclusion norms that are widespread from puberty onwards, adolescent girls are unlikely to have much exposure or physical access to the outside world. Without education, without a skill or opportunity for employment, and with relatively poor health and nutrition, they are caught in a web of ignorance, poor reproductive health, life-long economic dependency, physical seclusion, early marriage and frequent childbearing.*"

[39] The in-laws are the ones who largely benefit from the returns to girls' education (Kingdon 2002).

Among all age groups, both for males and females, the proportions of people in the educational level of "Less than primary" has declined over time; while, on the other extreme, the category of "University completed", has been slightly increasing between 1983-2004, although the proportion of people in this category is remarkably smaller than in the other schooling levels (Figure 3.4). The educational expansion is specially observed for women as there has also been an increase in the average of girls completing primary and secondary schooling levels, for all age groups and over the years taken into consideration. However, for men the picture is slightly different: for primary schooling, the average of boys at the age group 15-19 completing it has remained rather constant over time; while for the ages comprised between 20-29, the average is noticeably constant between 1983 and 1993 with an increase from 1999 onwards; similarly, for the age group 30-34, primary completion average remained fairly constant between 1983 and 1999, with a jump happening in 2004; for secondary schooling, on the other hand, there have been gradual increases for boys among all age groups, except for the group 20-24, where the bigger increase was between 1987-1993 and since it has remained constant. Nonetheless, as stated before, it is important to take into account the regional variability when talking about educational expansion.

The results from the Box-plots in Figure 3.4.1 reveal that an educational expansion has been observed at all educational levels and for both sexes. With regards to females, for the age group 30-34 the average of women with less than primary education was around 80% in 1983 (the exception is found in those regions located in the south of the country, the northern eastern part too, as well as those in the west coast, some parts of Madhya Pradesh, the Northern Punjab and Himachal Pradesh), which dropped to levels of 60% approximately for the same age group in 2004 (mostly located in areas such as Bihar, Madhya Pradesh, Andhra Pradesh, the south of Orissa, Rajasthan and Gujarat). If we continue our focus on the educational level of "less than primary", the average of girls aged 25-29 in 1983 is approximately 72% and starts decreasing in 1993 reaching a bit more than 40% in 2004, with high regional variability. The age groups 15-19 and 20-24 also follow a similar pattern with a gradual decrease of girls in the less than primary category from levels around 60% and 70% respectively in 1983 (particularly higher in Rajasthan and Bihar) to levels of 20% and 35% in 2004, also with high regional variability (with the example of Bihar which still has high proportions of girls aged 20-24 with less than primary education in 2004). As to Primary completed education there is less regional variability if we compare it to that of the less than primary level. For all age groups there has been an increase in the average proportion of girls with completed primary education from 1983 to 2004 (20% approx. in 1983 at ages 20-34 doubling to a bit more than 40% in 2004 for the youngest generation in our data, 15-19). On the other hand, at all age groups, a slight increase has occurred with secondary schooling, small at the ages 25-34 (less than 20%) and a bit more remarkable at the ages 15-24 (around 20%). Nonetheless, regional variability has increased among those 15-19, especially for the year 2004 (especially in the southern and northern parts of

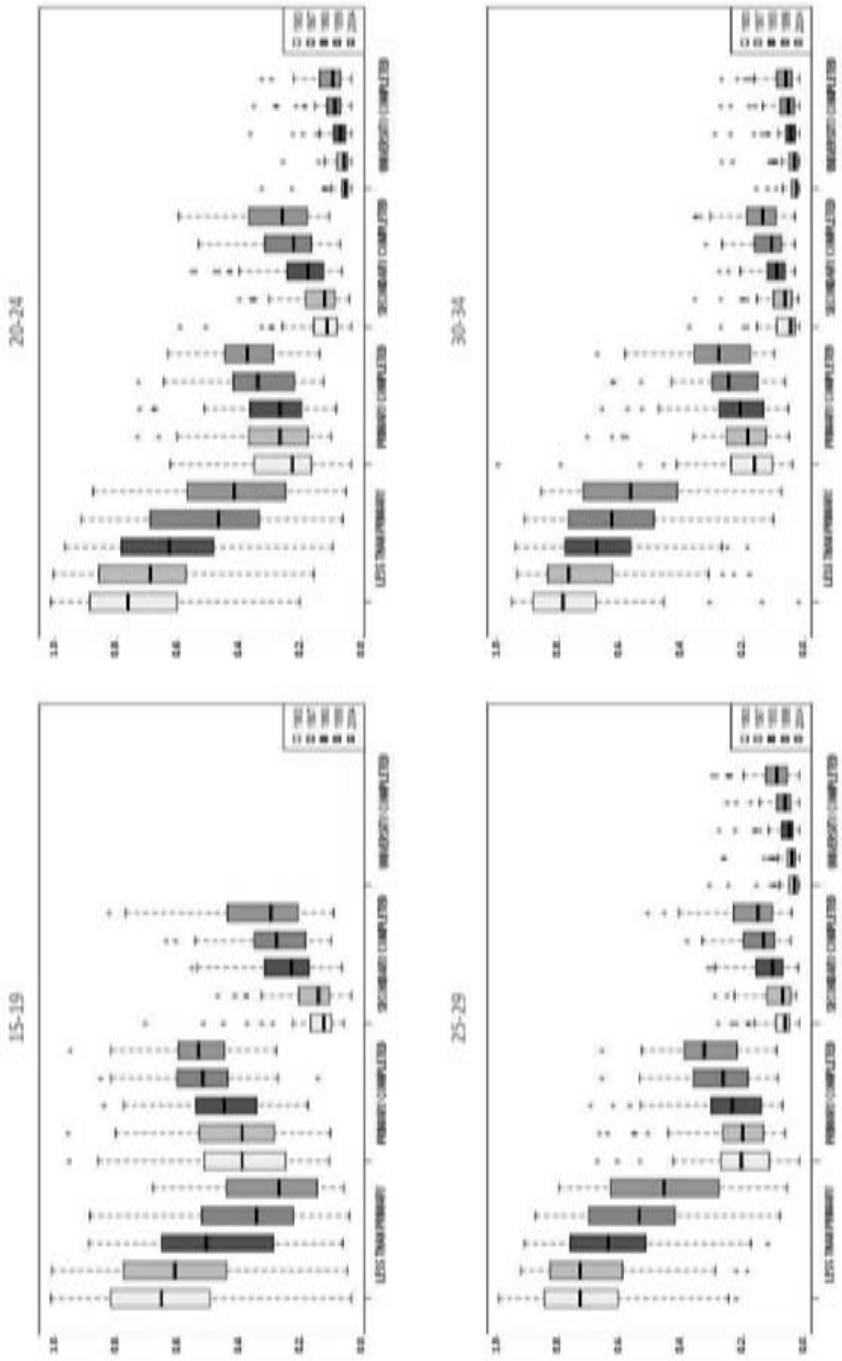
India with better educational levels). Regionally speaking, as Figure 3.4.2 shows, some areas lead in terms of higher proportions of Indian women who have completed this level of education: the Southern Kerala and Tamil Nadu; the Northern Punjab and Himachal Pradesh; coastal and eastern internal areas of Maharashtra in the West; and Eastern Nagaland (with oscillations from Arunachal Pradesh); and more recently, central Andhra Pradesh, and some parts in Gujarat (in the West). Finally, going back to Figure 3.4.1, it is worth mentioning that the average proportion of girls with secondary education completed is considerably lower than those with primary education only. This difference is amplified if we compare it with university education which, even though it has slightly increased over time, the average (even in 2004) does not reach 10%, with regional differences also increasing over time. There are more girls with university education in southern India (Kerala, Tamil Nadu, Coastal Karnataka), coastal Maharashtra (probably due to universities located in Mumbai), northern India (Punjab, Himachal Pradesh, Haryana) as well as the National Capital of Delhi (results not shown here).

With regards to males, the proportion of boys aged 15-19 with only less than primary education has been declining over time, from an average of almost 40% in 1983 to a bit less than 20% in 2004, with regional variability also declining in the last three years taken into consideration. The age groups 20-24 and 25-29 also follow similar patterns, with the only difference of a certain continuity between 1983-1987; while with those aged 30-34 the decrease in the average has been smaller than that of the other age groups. When considering primary education completed, with those aged 15-19 a stability around 50% can be observed throughout the whole period with some regional variability; while for the 20-29 age group there is a minor increase with an average close to 40%; and for those aged 30-34 the stability is around 30-35%. As to secondary schooling, the average has increased from 15% in 1983 to 30% in 2004 for those aged 15-24, with some regional differences; while for the age groups 25-34 there has been a very small increase (less than 10%) with an average proportion of men with secondary studies stable at around 20%, with less regional variability than for younger age groups. Again, the Northern and Southern regions in the country lead in terms of completion of secondary studies also among men, alongside central Maharashtra and Andhra Pradesh (Figure 3.4.2). Finally, when university studies are concerned, for the ages 20-34 there has been certain stability and a slight positive increase in the average proportion of men completing this higher level of education, arriving at 10%, with a slight increase in regional variability.

**Figure 3. 4 : Educational expansion in India and its regional variability (by sex and years):**

**Figure 3.4.1: Box plot for educational expansion and regional variability among women and men, by 5-year age groups and survey year.**

*Females:*

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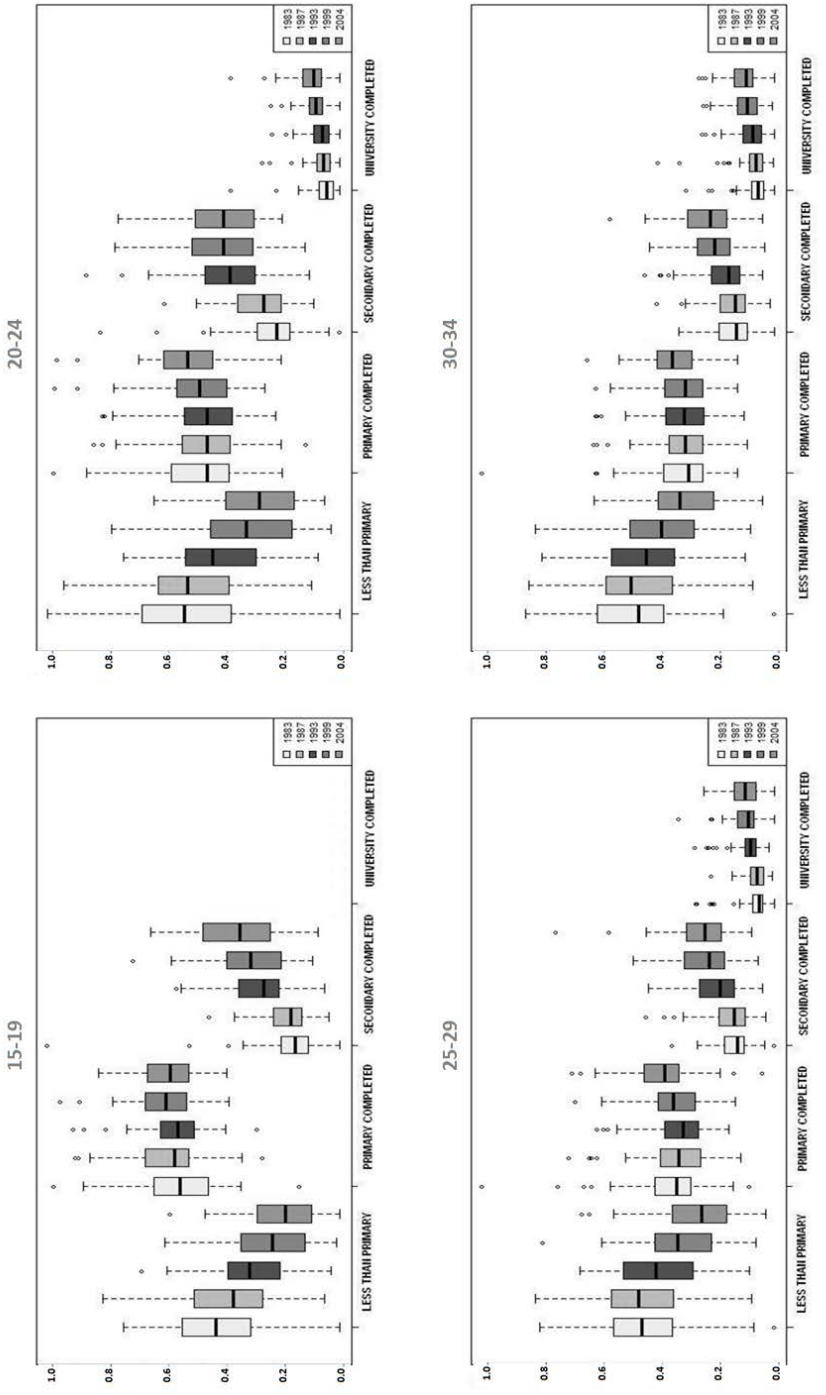
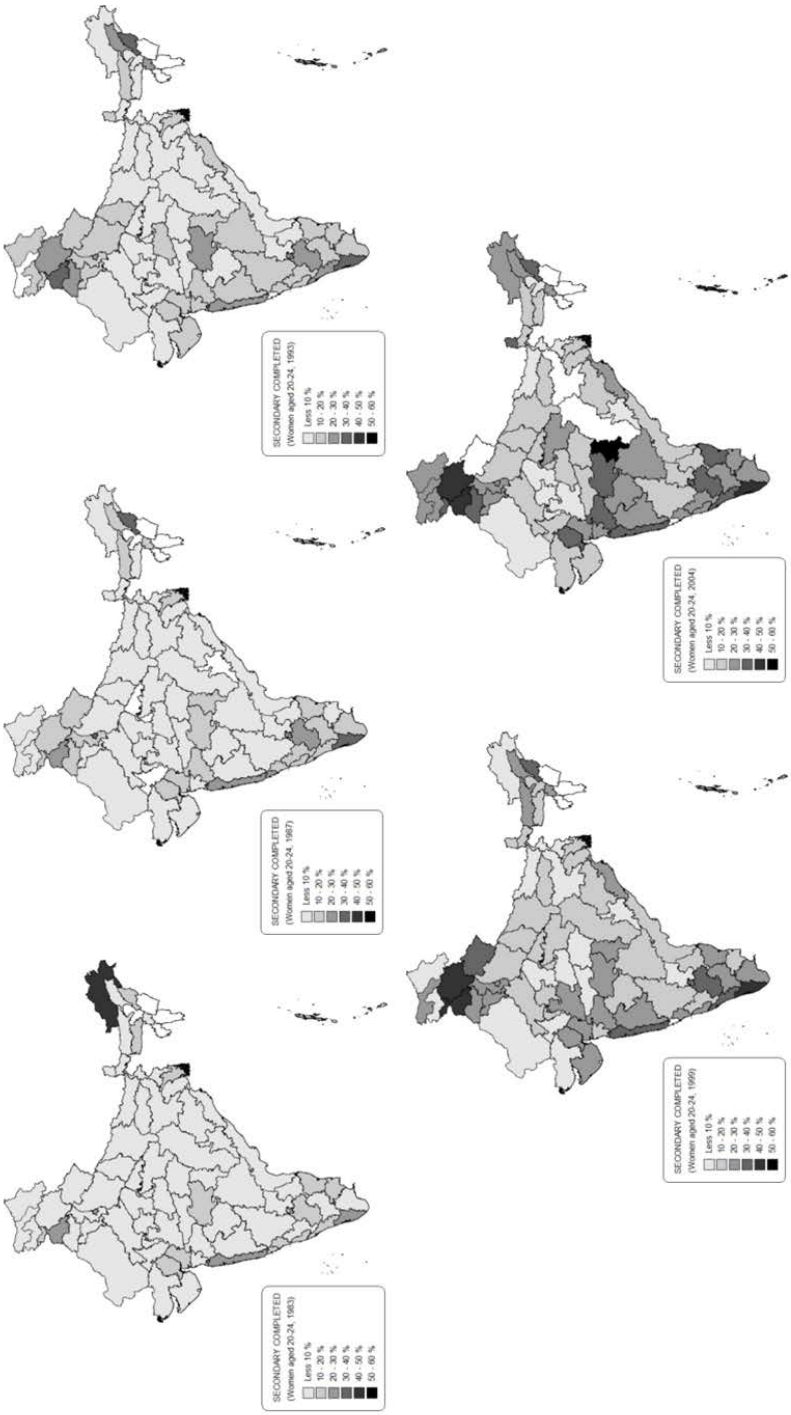
*Males:*




Source: India National Survey. IPUMS-International.

**Figure 3.4.2: Proportion of women and men aged 20-24 who have completed secondary education by year and region.**

*Females:*

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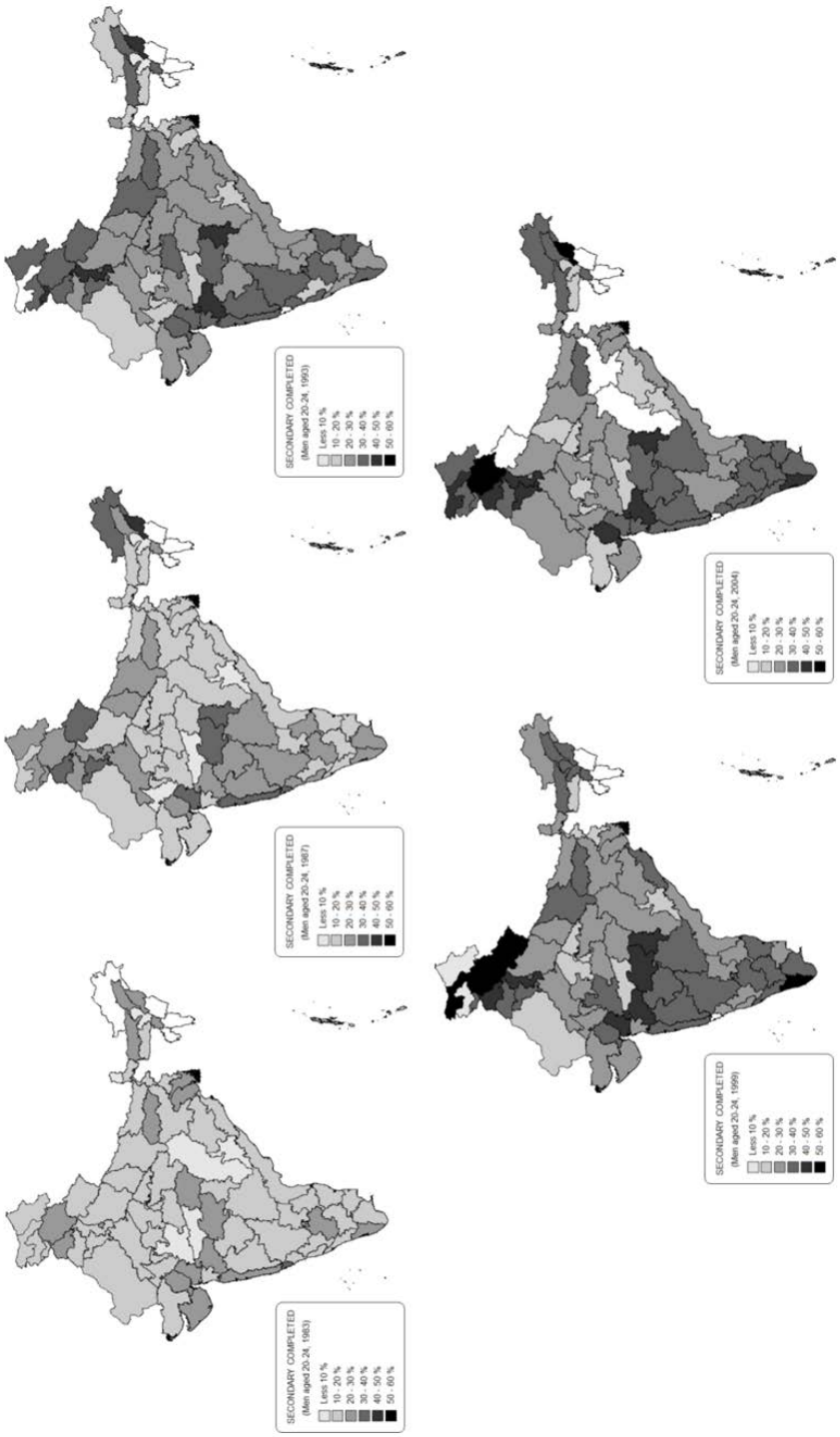
*Males:*



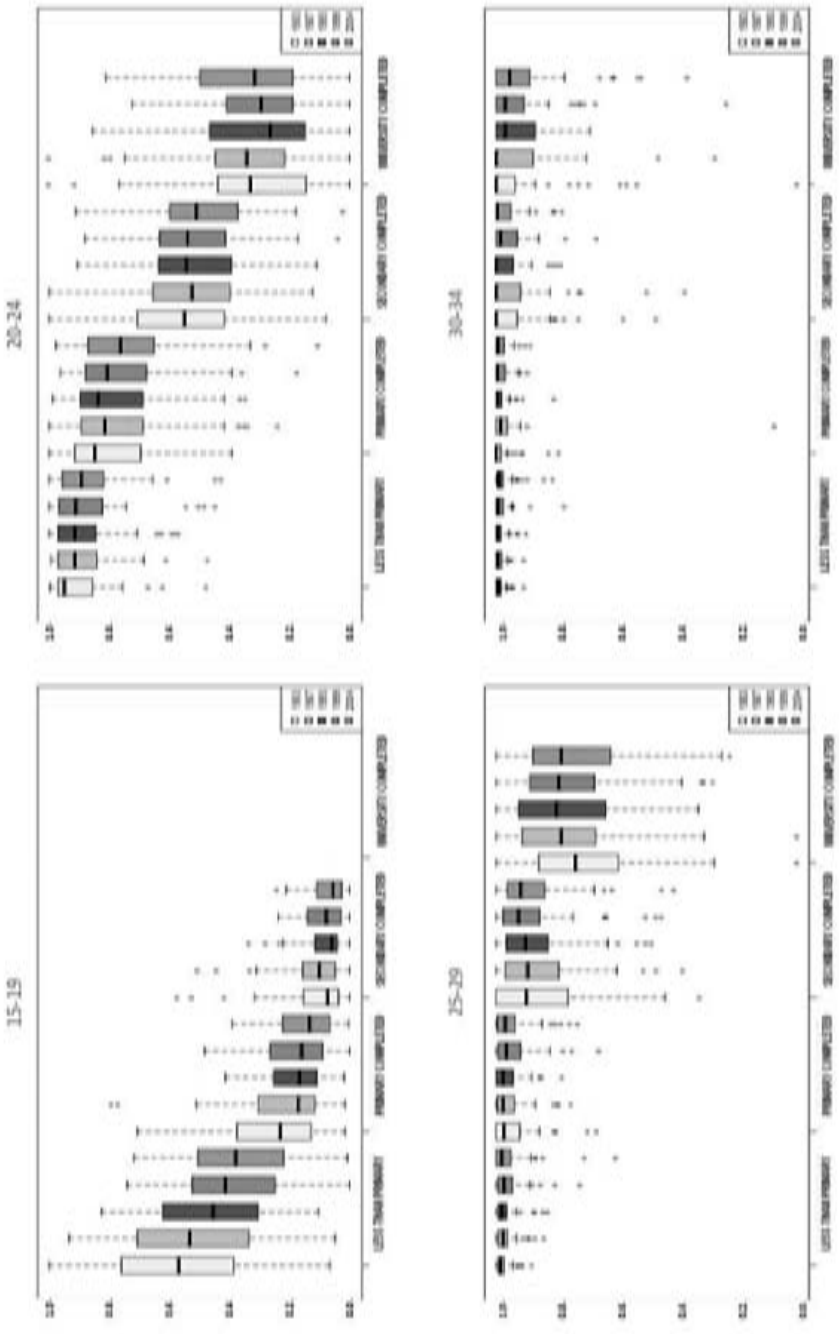

Source: India National Survey. IPUMS-International and National Sample survey (NSS)

Given that in this chapter we intend to study the relationship between educational expansion and the age at first marriage, Figure 3.5 shows that for women, aged 15-19 with less than primary education, the proportions of ever married have declined over time not only in average but also in regional variability (from approximately 55% in 1983 to 37% in 2004); while for the group with primary completed the drop is observed during the period 1983 to 1987, remaining then more or less constant over time and also for the girls with secondary schooling. With regards to the age group 20-24, there are high proportions (average around 90%) of married women with less than primary education, with some regional variability; while for those with primary completed the proportions of ever married are around 80%, with slightly more regional differences than in the previous educational group; for secondary schooling and university education, the proportions lay around 55% and 35% respectively, with higher regional variation in both cases. Finally, with the age groups of 25-29 and, especially 30-34, one can observe the universality of marriage for women throughout our time period, in particular for those with less education (less than primary and primary completed), with little regional variability, but also for those with secondary schooling as well as for university education (years 1983 and 1987), with no outstanding regional differences (except some outliers). However, the pattern in the proportion of ever married for educated women in the age group 25-29 is not the same as in the oldest age group, where regional differences are remarkably higher and the averages are close to 90% for secondary schooling and 80% for university education.

On the other hand, for boys aged 15-19, the proportions of ever married for those with less than primary schooling do not reach 10% in the time period taken into consideration, and even though the proportions have slightly declined, the most important observation is the steady decline in the regional variability. Even though the majority of Indian men tend to marry at the ages 25 to 29, it is observed that most of the decline in the proportions of "ever married" is in the age groups 20-24 and 25-29. In fact, the pattern observed for women at older age groups with almost universal marriage is not so clear for men. That is to say, in the case of men aged 30-34 with less than primary and primary completed education the proportions married are close to 90% but not the 100% as found for women. Given that men marry later than women and that we are only considering the oldest age groups as those reaching 34, it is possible that if we performed this analysis for men aged 35-39 and elder we could possibly find a similar pattern as with women. However, another possible explanation would be the existence of cohabitation, especially among higher educated Indians. Most of the delay on the timing of marriage for men is seen in those aged 20-24 with secondary schooling, as well as those aged 25-29 with secondary and university education, and 30-34 with university completed, with high regional variability.

**Figure 3. 5 : Between region variability in the proportion of ever married men and women by age, year, and educational attainment.**

*Females:*

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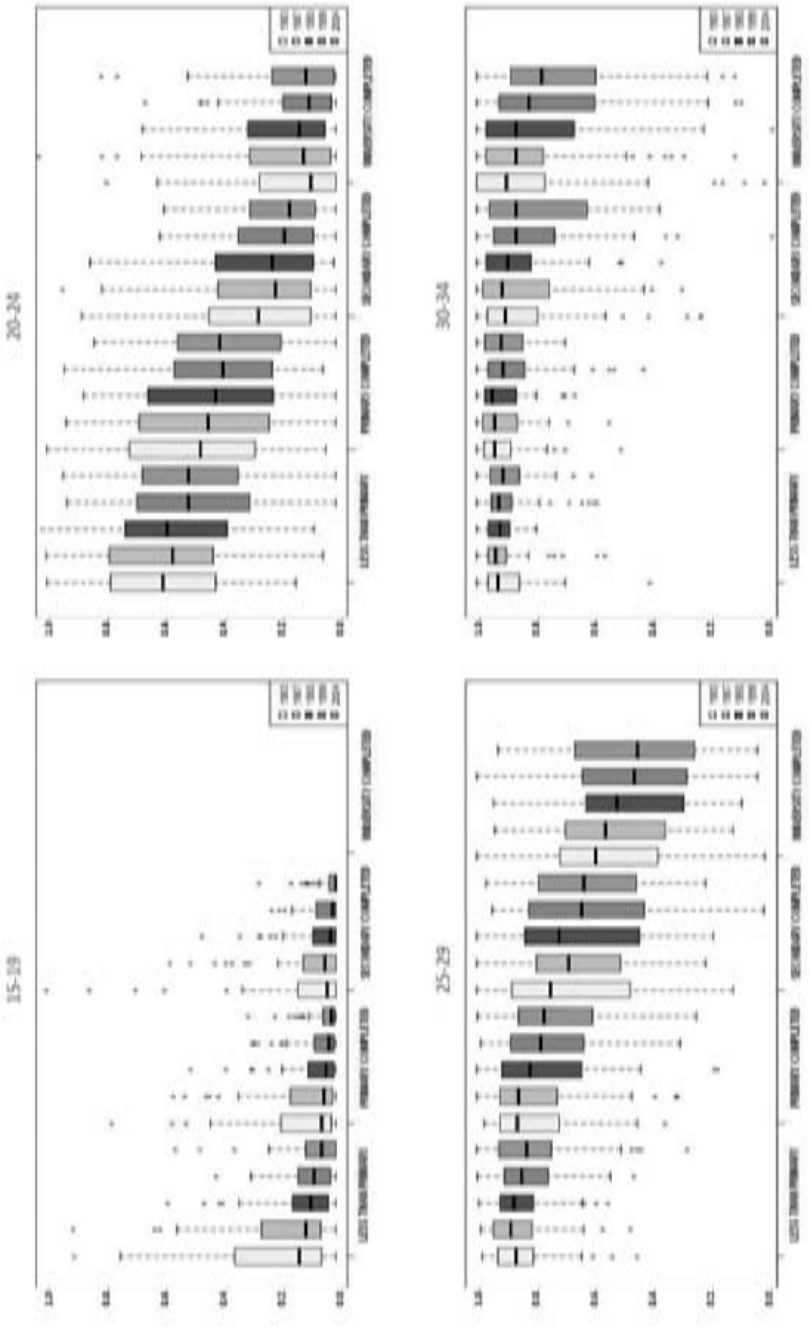
(Cont.)

*Males:*




Source: India National Survey. IPUMS-International

## 3.3. RESULTS MULTILEVEL ANALYSIS

We use multilevel analysis to work simultaneously at two levels of analysis: individual and regional. Multilevel or random effects models are able to exploit hierarchically arranged data to differentiate the contextual effects from background effects for individuals. In other words, they allow us to study the relationships and variations within and between the levels of a system. Hence, they somehow indicate if individuals from a given context will tend to be more similar in their behaviour with respect to other contexts, which allows to statistically model the influence of contextual variables on behaviours that have been measured at an individual level (Andréu, 2011). For instance, social and many other systems, and education in particular, typically have a hierarchical organization in which "units" at one "level" are grouped within units at the next higher level (Goldstein, 1987). And since the addition of random effects to our model will permit to account for different probabilities of getting married or not for the different regions in which Indian men and women live (Browne, 2003), altogether will allow us to observe the variability levels between regions and educational attainment, and also to assess how much of the total variation in family formation can be attributed to differences between individuals and regions. Additionally, by modelling a binary response through Logistic Regression (being married or not) we can predict and highlight the influence of the presence or absence of various factors on the probability of occurrence of an event.

Therefore, with the data provided by the Socioeconomic Surveys for India, held during 1983, 1987, 1993, 1999 and 2004 (integrated and harmonized into the IPUMS-International database), our dependent variable is "Ever married", computed as a binary "Ever married" (1), "Never married" (0) one with Marital Status being its source variable. On the other hand, the independent variables are Education (Less than primary, Primary, Secondary, University completed); the Year of the survey, so as to see the changes in time; Region (using the 77 regions created by the National Sample Survey, which are comparable across samples); and Urban-Rural type of place of residence. An interaction between the year of the survey and the educational level is also introduced.

The results of the multilevel logistic regression model are presented next, where a different model for each sex and age group (15-19; 20-24; 25-29; and 30-34) has been computed (see Table 3.1). Given that the objective in this study is to investigate the effect of education on marriage prevalence by focusing on differences between and within educational groups, while controlling for other variables (age, urban-rural, region of residence and time), the hypotheses used here are the following: a) If educational expansion is the main driving force of marriage postponement, this should not affect the differences between educational groups over time, and b) if marriage

postponement is beyond educational expansion, then one could expect differences within educational groups over time. To do so, in our analysis what we include are three models:

1. Model 1 shows the evolution over time in the probability of getting married.
2. In Model 2 we introduce education as a way to control for compositional effects (educational structure)
3. In Model 3 the Interactions are included as a means to check the effects over time taking educational levels into account.

Our results, if compared between the three models, show that: for instance, with females aged 15-19 the first model indicates a strong decrease in the probabilities of being married over time for this particular age group, while the second model attenuates the fall when controlling for education. With the third model, the fall of those girls with less than primary and primary education is remarkable. On the other hand, for females aged 25-29 the drop in the likelihood of ever married practically disappears when controlling for education (model 2). For males, the drop in the likelihood of being ever married is significantly important for the age group 15-19 in model 1 and also in model 2 when education is introduced. While for males aged 20-24 the drop in the first model is less notable in comparison to the younger age group, in the second model this fall is attenuated when taking education into account (model 2).

With regards to the differences in the probability of being married depending on the urban-rural factor, for women it seems that in the first model being urban reduces the chances of being married at an earlier age, however this situation changes when introducing educational attainment as a controlling factor given that the estimates significantly reduce. With men, introducing education in the second model slightly decreases the estimates from the first model.

If we take a look at the random intercept and its cross-regional variance in Table 3.1, these estimates give us the magnitude of the differences between regions (the bigger the number of the estimate, the more variance between regions). In general, when including the control of the variable of education in models 2 and 3, in comparison to model 1, the value of the cross-regional estimate does not change substantially. In fact, for girls aged 15-19, differences between regions drop slightly and there is still a net effect of time on the probability of being married with independence of the change in the educational structure. The first benchmark model for this particular age group, which takes into account the prevalence of ever-married over time, has a cross-regional variance of 0.661 and, after introducing education as an explanatory variable in models 2 and 3, this variance reduces to 0.491 (a reduction of 25%), with statistically significant coefficients. Moreover, in the case of men the values of the cross-variance are practically the same for all three models. Thus, it seems that for women the regional differences on the likelihood of being ever married are slightly reduced

when controlling for education[40] (for the age group 15-19), but not for men. Therefore, these regional differences are not completely explained through education and there must be other factors involved. A rather fair guess could be differences in the marriage market, taking into account the inner social stratification of this pool of available single men and women; imbalances in the sex ratio; socio-economic regional differences that, together with the access to female labour participation, as well as the increase in the autonomy of women over sexual and reproductive decisions might affect the timing of marriage, among other possible factors.

[40] For instance, multivariate regression analysis with data from the NFHS-3 for Indian women only, shows similar results. With respect to region, some states gain the spotlight in the bivariate analysis where, for instance, in Bihar the odds of marrying before the age of 18 is 10,8 times higher than in Kerala (reference state), but after controlling for education and other socio-demographic factors, the odds reduce to 4,4. In fact, even after applying several controls, those states in which the likelihood of entering into an early marriage is still high for women are Bihar, Andhra Pradesh, Rajasthan, Chhattisgarh, Madhya and Uttar Pradesh; while the southern states of Goa, Tamil Nadu and northern-eastern Manipur, Tripura and northern Punjab are the least likely to wed as a child. Additionally, it is worth mentioning that the difference in the odds ratio with regards to the respondent's wealth is there but it is not as sizeable as one could have expected, once it is controlled by education, age, urban/rural, religion and state (see Annex Table III.III).

**Table 3. 1 : Multilevel model of change, by age and sex**

*Females:*

| Fixed effects | Female 15-19 | Female 15-19 | Female 15-19 | Female 20-24 | Female 20-24 | Female 20-24 | Female 25-29 | Female 25-29 | Female 25-29 | Female 30-34 | Female 30-34 | Female 30-34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Constant | -0,284 *** | 0.059 (.097) | 0.082 | 1,737 *** | 2.170 *** | 2,248 | 3,147 *** | 3.418 *** | 3.672 *** | 4,289 | 4.382 *** | 4.437 *** |
| Year | | | | | | | | | | | | |
| 1983 | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| 1987 | -0,201 *** | -0.142 *** | -0.142 *** | -0,111 *** | -0.043 | -0.051 | -0,055 | -0.017 | -0.279 *** | -0,409 *** | -0.362 *** | -0.203 * |
| 1993 | -0,663 *** | -0.492 *** | -0.507 *** | -0,323 *** | -0.128 *** | -0.206 *** | -0,134 *** | -0.004 | -0.259 *** | -0,234 ** | -0.144 | -0.174 |
| 1999 | -0,924 *** | -0.661 *** | -0.751 *** | -0,532 *** | -0.188 *** | -0.332 *** | -0,302 *** | -0.062 | -0.467 *** | -0,432 *** | -0.295 *** | -0.377 *** |
| 2004 | -1,223 *** | -0.840 *** | -0.901 *** | -0,718 *** | -0.311 *** | -0.528 *** | -0,393 *** | -0.032 | -0.428 *** | -0,459 *** | -0.268 *** | -0.581 *** |
| Education | | | | | | | | | | | | |
| Less primary | | Ref | Ref | | Ref | Ref | | Ref | Ref | | Ref | Ref |
| Primary | | -1.069 *** | -1.121 *** | | -0.790 *** | -0.902 *** | | -0.489 *** | -0.891 *** | | -0.237 * | -0.141 |
| Secondary | | -1.768 *** | -2.054 *** | | -1.819 *** | -2.002 *** | | -1.338 *** | -1.808 *** | | -0.907 *** | -1.340 *** |
| Universitary | | --- | --- | | -2.613 *** | -2.788 *** | | -2.193 *** | -2.564 *** | | -1.386 *** | -1.492 *** |
| Interactions | | | | | | | | | | | | |
| 1987*Primary | | | 0.030 | | | -0.023 | | | 0.495 *** | | | -0.438 ** |
| 1993*Primary | | | 0.018 | | | 0.157 ** | | | 0.507 *** | | | -0.169 |
| 1999*Primary | | | 0.186 *** | | | 0.214 *** | | | 0.441 *** | | | -0.096 |
| 2004*Primary | | | 0.126 | | | 0.261 *** | | | 0.607 *** | | | 0.251 |
| 1987*Secondary | | | 0.229 * | | | 0.049 | | | 0.428 *** | | | -0.131 |
| 1993*Secondary | | | 0.278 ** | | | 0.156 | | | 0.330 ** | | | 0.450 ** |
| 1999*Secondary | | | 0.480 *** | | | 0.264 ** | | | 0.787 *** | | | 0.486 *** |
| 2004*Secondary | | | 0.350 | | | 0.387 *** | | | 0.673 *** | | | 1.009 *** |
| 1987*Universitary | | | --- | | | 0.153 | | | 0.301 ** | | | -0.125 |
| 1993* Universitary | | | --- | | | 0.063 | | | 0.391 *** | | | -0.012 |
| 1999* Universitary | | | --- | | | 0.226 | | | 0.624 *** | | | 0.184 |
| 2004*Universitary | | | --- | | | 0.388 ** | | | 0.481 *** | | | 0.351 |
| Urban | | | | | | | | | | | | |
| Rural | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| Urban | -0,925 *** | -0.552 *** | -0.546 *** | -0,965 *** | -0.435 *** | -0.428 *** | -0,948 *** | -0.392 *** | -0.385 *** | -0,825 *** | -0.467 *** | 0.458 *** |
| Random intercept | | | | | | | | | | | | |
| (cross-country variance) | 0,661*** | 0.491 *** | 0.491 *** | 0.719 *** | 0.638 *** | 0.641 *** | 1.124 *** | 1.073 *** | 1.091 *** | 1.025 *** | 0.925 *** | 0.847 *** |

(Continues...)

(Cont.)

*Males*:

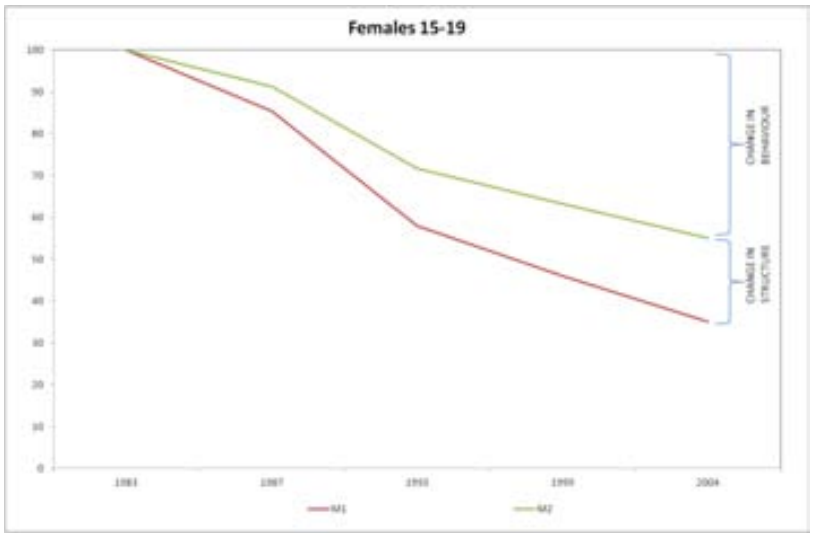
| Fixed effects | Male 15-19 | Male 15-19 | Male 15-19 | Male 20-24 | Male 20-24 | Male 20-24 | Male 25-29 | Male 25-29 | Male 25-29 | Male 30-34 | Male 30-34 | Male 30-34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Constant | -2,093 | -1.856 *** | -1.874 *** | -0,109 | 0.183 * | 0.114 | 1,395 *** | 1.732 *** | 1.638 *** | 2,661 *** | 2.753 *** | 2.596 *** |
| Year | | | | | | | | | | | | |
| 1983 | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| 1987 | -0.216 * | -0.194 * | -0.187 * | -0.143 *** | -0.102 ** | -0.018 | -0.008 | -0.003 | 0.131 *** | 0,038 | 0.044 | 0.166 *** |
| 1993 | -0,735 *** | -0.685 *** | -0.686 *** | -0,338 *** | -0.229 *** | -0.156 *** | -0,232 *** | -0.167 *** | 0.010 | -0,052 *** | -0.027 | 0.192 *** |
| 1999 | -1,108 *** | -1.021 *** | -0.956 *** | -0,521 *** | -0.380 *** | -0.289 *** | -0,381 *** | -0.266 *** | -0.202 *** | -0.226 *** | -0.168 *** | 0.097 * |
| 2004 | -1,485 *** | -1.368 *** | -1.228 *** | -0,627 *** | -0.474 *** | -0.335 *** | -0,485 *** | -0.349 *** | -0.248 *** | 0,300 *** | -0.230 *** | -0.020 |
| Education | | | | | | | | | | | | |
| Less primary | | Ref | Ref | | Ref | Ref | | Ref | Ref | | Ref | Ref |
| Primary | | -0.470 *** | -0.464 *** | | -0.338 *** | -0.206 *** | | -0.359 *** | -0.213 *** | | 0.034 | 0.349 *** |
| Secondary | | -0.572 *** | -0.412 * | | -1.032 *** | -0.899 *** | | -0.887 *** | -0.794 *** | | -0.478 *** | -0.321 ** |
| Universitary | | --- | --- | | -1.387 *** | -1.338 *** | | -1.481 *** | -1.262 *** | | -0.783 *** | -0.406 *** |
| Interactions | | | | | | | | | | | | |
| 1987*Primary | | | 0.010 | | | -0.165 *** | | | -0.189 *** | | | -0.280 *** |
| 1993*Primary | | | 0.027 | | | -0.171 *** | | | -0.187 *** | | | -0.423 *** |
| 1999*Primary | | | -0.072 | | | -0.174 *** | | | -0.135 *** | | | -0.579 *** |
| 2004*Primary | | | -0.103 | | | -0.197 *** | | | -0.206 *** | | | -0.295 *** |
| 1987*Secondary | | | -0.116 | | | -0.150 ** | | | -0.196 *** | | | -0.186 * |
| 1993*Secondary | | | -0.118 | | | -0.109 | | | -0.242 *** | | | -0.191 * |
| 1999*Secondary | | | -0.263 | | | -0.145 * | | | -0.006 | | | -0.207 * |
| 2004*Secondary | | | -0.568 * | | | -0.282 ** | | | -0.065 | | | -0.237 * |
| 1987*Universitary | | | --- | | | -0.031 | | | -0.253 *** | | | -0.118 |
| 1993* Universitary | | | --- | | | 0.061 | | | -0.451 *** | | | -0.517 *** |
| 1999* Universitary | | | --- | | | -0.095 | | | -0.204 * | | | -0.510 *** |
| 2004*Universitary | | | --- | | | -0.197 | | | -0.169 | | | -0.558 *** |
| Urban | | | | | | | | | | | | |
| Rural | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref | Ref |
| Urban | -0,949*** | -0.846 *** | -0.851 *** | -0,906 *** | -0.704 *** | 0.707 *** | -0,729 *** | -0.470 ** | -0.471 *** | -0,588 *** | -0.405 *** | -0.407 *** |
| Random intercept | | | | | | | | | | | | |
| (cross-country variance) | 1.491 *** | 1.445 *** | 1.456 *** | 0.652 *** | 0.641 *** | 0.641 *** | 0.609 *** | 0.612 *** | 0.613 *** | 0,603 *** | 0.601 *** | 0.603 *** |

Source: India National Survey. IPUMS-International (own calculations)

Therefore, when trying to assess if marriage postponement is beyond educational expansion or not, at a national level, it would be interesting to see if the changes in the proportions of ever married for the different age groups have dropped with independence of educational expansion. That is to say, we intend to know to what extent educational expansion accounts for the changes in the prevalence of early marriage between the years 1983-2004, as more and more people reach higher levels of education. In Figure 3.6.1 and 3.6.2 we accomplish this goal by checking the drop in the expected proportions of being ever married in model 2 by maintaining the same educational structure and also by assuming that the change over time is the same (the effect of time as being constant: using the year 1983 as a Base 100). Hence, it is able to distinguish between changes in the structure (M1) versus changes in the behaviour (M2). Results show that, for both men and women, most of the change occurs among the younger age groups (15-19 and to a lesser extent 20-24), which can also be observed in Figure 3.7. For girls aged 15-19, most of the change explaining marriage postponement seems to be due to changes in both the structure (education) and behaviour, although it is the latter the one that accounts for more of the variation. In this case, from Figure 3.6.1 we see that the total drop in the expected marriages is around 64%, and from this fall 30% is due to changes in the structure, while the resting 69% is for changes in the behaviour. For women, as age increases the intensity of the fall decreases and we see that changes have to do more with structure than with behaviour: for instance, girls aged 20-24 the total drop gets reduced to 25% and from this Figure we get around 79% of the change due to structure and 20% due to behaviour. Hence, there seem to be differences between the youngest age group of women (15-19), with respect to elder women (20-34) in the sense that for young girls the postponement of marriage has to do more with changes in behaviour, while for the elder cohorts of women the increase in the age at first marriage had to do more with changes in structure. These findings imply that educational expansion does seem to explain a great deal of the decrease in early marriage for elder generations of women.

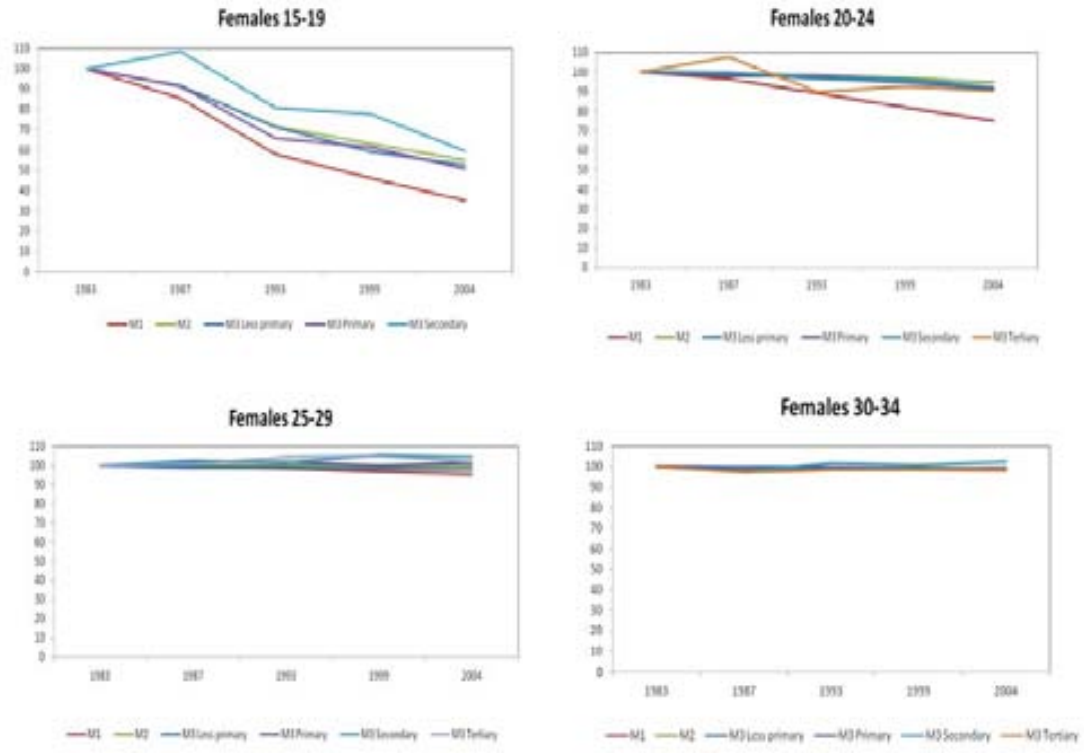
For men, the youngest age group (15-19) and, to a lesser extent, the following one (20-24) also experience the same fall in the expected proportions of ever married as with the youngest women in the sense that it is more a change in the behaviour than in structure. For males aged 15-19, the total drop is of 76 percentage points, where 95% accounts for changes in behaviour while only 4% is for changes in structure due to educational expansion. For the age group 20-24, the fall is less steep (39%) and the changes due to behaviour vs. structure are similar as for women from the same age group (in this case 70% for behaviour and 29% for structure). An interesting observation is for men aged 25-29, where the fall is even less steeper (17%), but changes in behaviour and structure account for 48% and 51% respectively. Finally, if we take a look at older age groups, there are no major differences between the models M1 to M3 with respect to women, although for men having university education does seem to increase the likelihood of marrying later.

**Figure 3. 6. 1 : Multilevel logistic regression results; Example of the change in the expected proportions of being ever married between model 1 and 2, for females aged 15-19 (1983 as Base 100)**




Source: India National Survey. IPUMS-International (own calculations)

**Figure 3. 6. 2 : Multilevel logistic regression results; Change in the expected proportions of being ever married between models 1 to 3, by age and sex (1983 as Base 100)**

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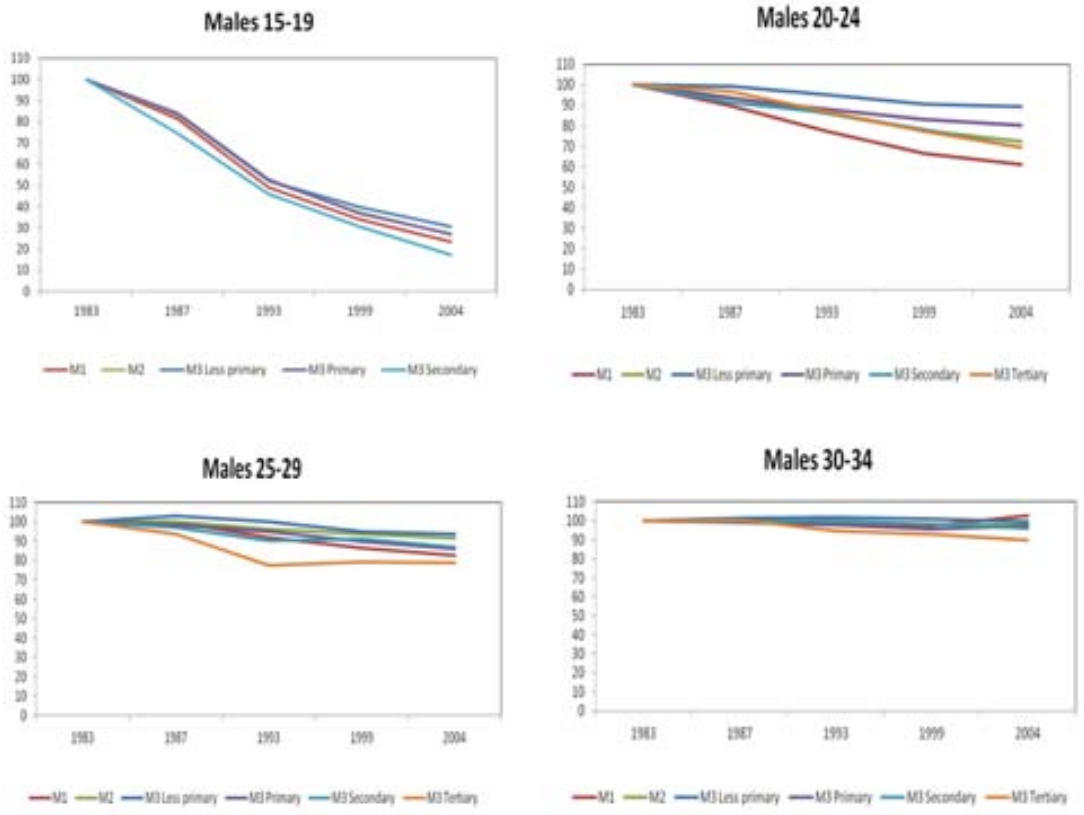
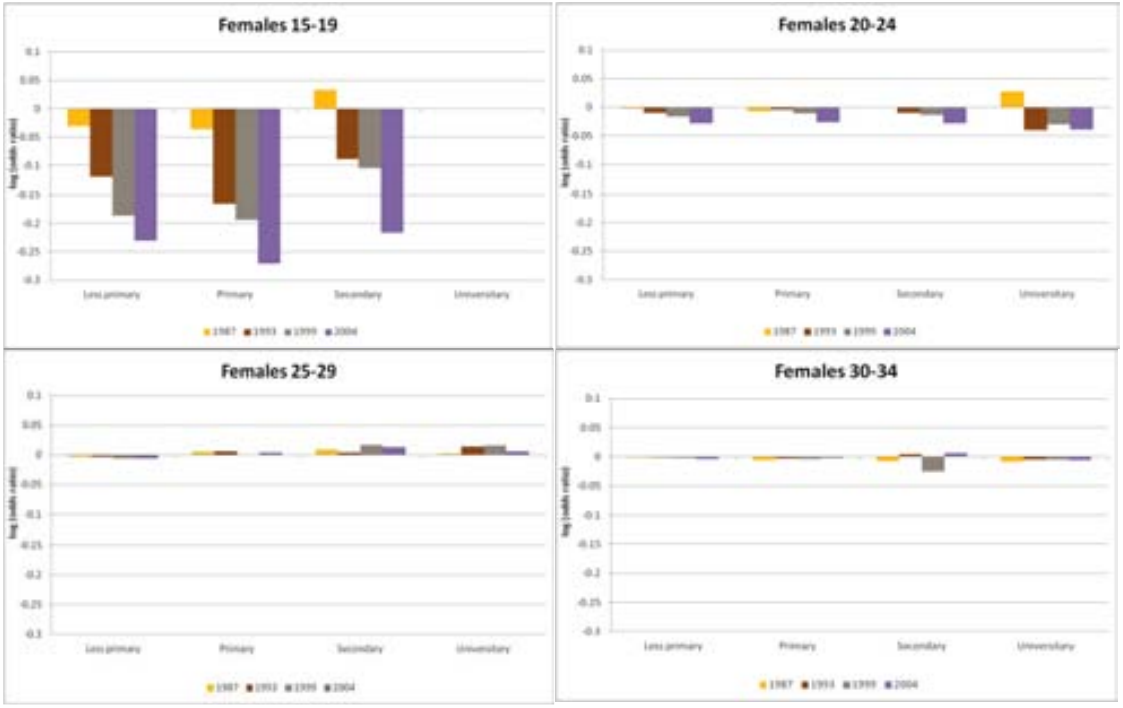
(Cont.)




Source: India National Survey. IPUMS-International (own calculations)

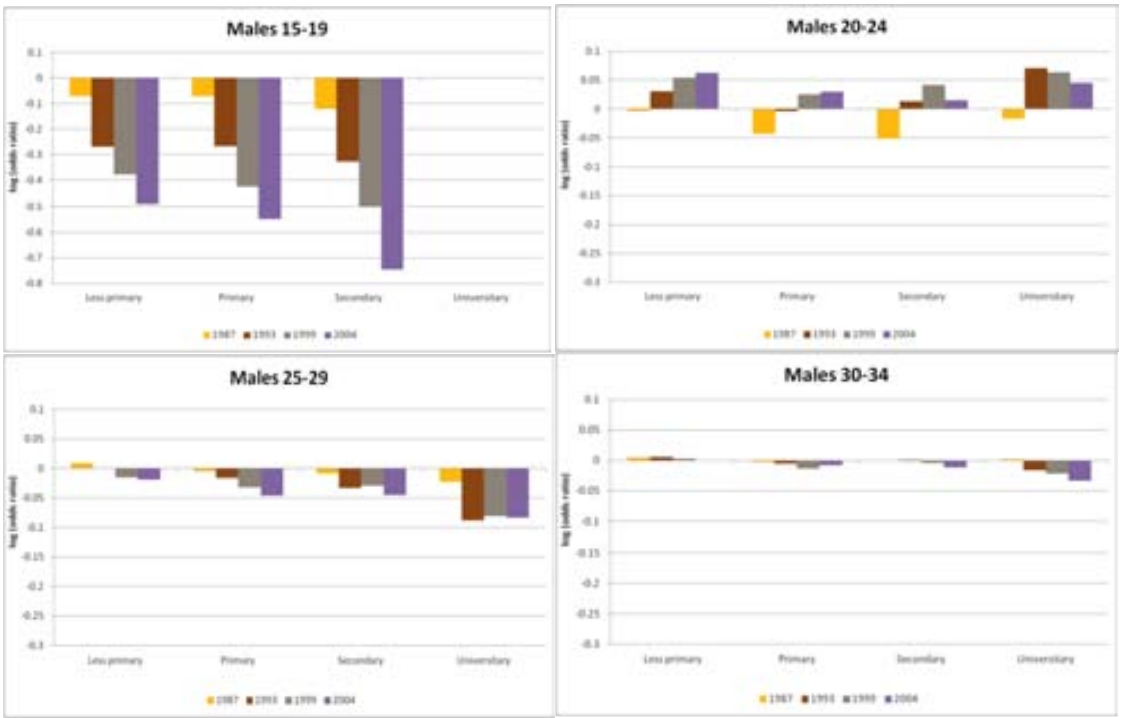
Finally, Figure 3.7 reinforces the idea that the most important contribution to marriage postponement has been made by the youngest age groups and the two lowest segments of the educational hierarchy. Therefore, it is possible to assume that educational expansion is one of the forces behind the decrease in early marriage due to changes in the structure. However, it is noteworthy that there has also been a change in the behaviour among the lowest educated women and men. For the females aged 25-34 the probabilities of being married remain relatively constant over time and for all educational levels, which highlights the universality of marriage for women in the Indian society. For men there are some changes in the predicted probabilities that indicate a tendency towards postponement of marriage as the level of educational attainment rises for the age groups 25-29, and the contrary for those aged 20-24. Altogether, it does not seem that there is any sign of a retreat from marriage over time, especially for women.

**Figure 3. 7. 1 : Multilevel logistic regression results; Change in the predicted probabilities of being married by age, and educational attainment for Indian women (1983 as reference)**




Source: India National Survey. IPUMS-International (own calculations)

**Figure 3. 7. 2 : Multilevel logistic regression results; Change in the predicted probabilities of being married by age, and educational attainment for Indian men (1983 as reference)**




Source: India National Survey. IPUMS-International (own calculations)

## 3.4. CONCLUSIONS AND DISCUSSION

Around the world, and specifically in contexts where early marriage existed, marriage timing patterns are experiencing changes towards postponement of first union formations. We used Indian socio-economic surveys (integrated into IPUMS) to examine the prevalence of ever married young men and women in India from 1983 to 2004, at a regional level. Taking into account that there has been a decrease in the proportion of girls over time who only reached less than primary education, and that the average of women completing primary and secondary schooling levels has risen, in this chapter we intend to acknowledge the extent of this educational expansion on the delay on the timing of first unions. Our aim is not to draw the causality between marriage postponement and education, but rather illustrate the universality of the changes that have been taking place in the marriage calendar, for both men and women, and its relationship with regard to the fact that more people are reaching higher educational levels.

Despite large regional imbalances, there has been some encouraging progress in the educational front in India. Between 1983-2004, for all age groups and for both males and females, the proportions of Indians with less than primary education have declined over time. The educational expansion is specially observed for women as there has been also an increase in the average of girls completing primary and secondary schooling levels (for all age groups); while for men, primary schooling has been rather constant over time for those aged 15-19, with gradual increases in the completion of secondary level among almost all age groups. Finally, a slight augment in the proportion of men and women with university education has been noted.

If we take a look at the broad picture, the proportions of ever married by age have been declining throughout the period of study (1983 to 2004) however, marriage still remains important and almost universal, especially for women (even if they have secondary and university education). For men, even though the common age for first union has been around 25-29, the largest declines in their nuptial calendar have been on the age groups 20-24 as well as 25-29. Nevertheless, marriage patterns within the country are diverse, where its variability is particularly relevant in the age groups 20-29 for men and 15-24 for women. For instance, later entries into first union for women seem to be located in regions bordering the coast, as well as the South of the country (Kerala or Tamil Nadu) and the North/West of India (Punjab and Himachal Pradesh); while the regions where the proportions of ever married girls aged 15-19, in the year 2004, are still relatively high are Rajasthan, West Bengal, Bihar, Madhya Pradesh, Andhra Pradesh and Jharkhand, among others.

Hence, if we compare the nuptial calendar through the proportions of ever married at the ages of 15-19 by educational level, the results show a steady decline in both the average of girls who are married at that age and regional variability if they have less than primary education. In other words, the incidence of early marriage seems to be declining among the lower educated portion of the female population. While for the group of primary completed the drop is observed during the period 1983-1987, remaining then relatively constant over time, as with secondary schooling levels. On the other hand, among men, the decline is less pronounced and concentrated at the age group 20-24. Furthermore, the results from the multilevel logistic regression indicate a strong decrease in the probabilities of being married over time for girls and boys aged 15-19, although this fall is attenuated when controlling for education (especially in the case of girls aged 15-19 and for men in the age group 20-24). A similar pattern occurs when taking into account the type of place of residence, in the sense that being urban seems to reduce the chances of being married at an earlier age for girls, but once we control for education, the estimates significantly reduce for women and slightly for men. Finally, it seems that for women the regional differences on the likelihood of being ever married are slightly reduced also when controlling for education (for the age group 15-19), but not for men.

In this study we intend to outline the extent by which the educational expansion accounts for the changes in the prevalence of early marriage between the years 1983-2004. Given that the most important contribution to marriage postponement for women has been made by the youngest age groups, as well as the two lowest segments of the educational hierarchy, it is rather plausible to assume that there have been changes not only in the educational structure of the population but also in its behaviour. The findings in the present chapter indicate that educational expansion does seem to explain a great deal of the decrease in early marriage for elder generation of Indian women, although for the youngest generations the postponement of marriage has been drawn by changes in behaviour. Likewise, the drop in the proportions of ever married for boys aged 15-19 is also mainly due to changes in behaviour, while for the age group 25-29 the changes in behaviour and structure account for 48% and 51% respectively. Moreover, for men, having university education does seem to delay their entry into first union. Altogether, it does not seem that there is any sign of a retreat from marriage over time, especially for women.

Therefore, the next step in the analysis would be to possible outline the reasons behind this change in the behaviour on younger generations of Indian cohorts who are shifting towards later entries into first marriage. One potential factor which could contribute to the reduction in early marriage among women is a change from arranged marriages to "love marriages", particularly in the urban areas. There is little research on the association between age at marriage and the spouse selection process, and even if there was a link, a rise in the age at marriage would not necessarily imply that the practice of arranged marriages is being eliminated (Malhotra and Tsui 1996). In this same

direction Banerjee (1999) does not believe that love marriages have replaced the arranged ones, but a transformation from "an un-consented to a consented model" seems to be taking place. Despite increasing female education and work participation, familial socio-economic advancement is still viewed as largely achieved through males; hence, "families value sons accordingly while daughter's work and education is usually subjected to the dictates of marriage necessities" (Sudha and Rajan 2003). Basically, the age of marriage of men has largely been determined by the commitment of Indian families to provide daughters with a marriage (and, eventually, sons with land and other property) (Caldwell et al. 1983). Thus, taking into account that in India marriage is established more in terms of the union of two families (and not two individuals), when studying family formation patterns and age into first marriage specifically for this context one should not assume them as an "automatic product of individual decisions, but rather as a broader set of socio-cultural practices" linked to family and gender systems (Spijker and Esteve, 2011).

Also, any analysis on marriage timing in India should account for the sex ratio imbalances in its marriage market. Not only there is a general tendency from parents to discourage girl's schooling, but also the issue of "India's missing women" has raised concern, as it is not particularly due to greater natural frailty of girl children, but results from social practices against unwanted daughters through selective neglect, infanticide (Sudha and Rajan 2003) or sex-selective abortion (Das Gupta and Bhat 1997). A possible explanation of this situation is the rise of dowry as well as its spreading across the country, given the fact that those families with more daughters to marry than sons encounter major economic expenses. In this sense, it would be interesting to observe household dynamics with regards to the timing of marriage depending on the number of children in each household, and especially their sex (e.g. socio-economically speaking a household with only daughters and no sons could probably marry them earlier in order to avoid larger marriage expenses). And in addition to the sex ratio imbalances, one should also account for the artificial imbalances in the marriage pool (of available partners) due to the role of social stratification. As stated by Banerjee (1999), "the stratification of the traditional marriage market by caste, region and gender produced unequal marriage opportunities that depended on the availability of partners within a narrow marriage circle, regardless of the number of individuals in the marriageable ages". Therefore, it is necessary, if data allows doing so, to include the effects of socio/regional stratification, household configuration, along with sex ratio imbalances when explaining Indian marriage patterns and timing and the marriage payment system affected by it.

# CHAPTER 4 :

# ARE KENYAN WOMEN DELAYING THEIR ENTRY INTO FIRST MARRIAGE, SEXUAL ACTIVITY AND CHILDBIRTH IN A CONTEXT OF EDUCATIONAL EXPANSION?

## 4.1. INTRODUCTION AND CONTEXTUAL BACKGROUND

One may ask the reason **why Kenya** is the country chosen for the research on early marriage, especially when there are other Sub-Saharan countries with much higher prevalence of child brides, such as Niger or Chad. The answer lies on the fact that, if the main goal is to study the transition into adulthood by adolescents through the age at marriage and its link with their educational level, Kenya offers a perfect opportunity to do so given that not only is it a country characterized by its youthful population, but the educational expansion for its female population has been positive. Still, as Wils and Goujon state (1998), school enrolment has increased significantly at almost all educational levels and for both boys and girls; yet, given the regional variability, these changes are not occurring everywhere or at the same pace.

In recent literature, Kenya has been one of the countries that has gained most attention among researchers due to its rapid and well established fertility decline (Brass and Jolly, 1993; Harwood-Lejeune, 2001; Kirk and Pillet, 1998; Robinson, 1992; Westoff and Rodriguez, 1995). In addition, during the last thirty years, the age at first marriage and at first birth has been rising in Kenya as a whole (Blacker et al. 2005), and the variation by provinces is even larger and has remained constant over time: where women from North Eastern, Nyanza, and Coast provinces generally enter into marriage earlier than women in other provinces (CBS, MOH, & ORC-Macro, 2004). In fact, the

delay in the entry into first union was found to be more pronounced in Nairobi than for Kenya as a whole (Bocquier and Khasakhala, 2009); while women in Coast, Nyanza, Western, and Rift Valley where more likely to marry early than in Nairobi province (Ikamari, 2005). Probably the differences between urban-rural areas might also uncover regional socio-economic development differences. In this case, if we apply the theory on modernisation on the rise in the age at first marriage, the expansion of education and urbanization are important factors that explain such postponement. As in the rest of Southern and Eastern Africa, in Kenya it is the educated and urban women who have higher ages at first marriage and at first birth (Harwood-Lejeune, 2001).

Henceforth, the structure of this case study is the following: the first section consists of the theoretical and contextual background on early marriage and education in Kenya, giving special attention to the mechanisms by which education can have an impact on union formation. Secondly, there will be another section regarding the data and the methodology, which is simply a continuation of what was stated earlier with a particular focus on the Kenyan/East African context, followed by an extensive section with the descriptive analysis as well as some analytical results, and finally the conclusions and discussion are presented.

### ❖ *Marriage prevalence in Kenya*

In Kenya studies that focus on adolescents can be considered of great relevance given that it is a country characterized by its youthful population (over three-fifths of Kenya's population are less than 25 years old) (KNBS, 2010). Key life course events occur during the adolescent ages well until the mid twenties, such as gaining independence by leaving the parental home and entering the labour force, or getting married and having children. These events are often considered as indicators on the transition from adolescence to adulthood and its sequencing can be influenced and encompass multiple domains ranging from socioeconomic, demographic or educational changes, as well as biological factors (e.g. timing of puberty) and psychosocial characteristics (e.g. one's personality), to socio-cultural factors (e.g. gender specific norms regarding sexual negotiations and peer pressure) and family influences (Zabin & Kiragu, 1998; Rwenge, 2002; Magadi & Agwanda, 2009; Beguy et al. 2011). As Ikamari (2005) states, age at marriage is specifically remarkable when studying the transition to adulthood in many societies. By focusing on variations in the timing of first marriage, one can explain differences in fertility trends not only across populations but also within individual societies over time (Ikamari, 2005; Ezeh and Dodoo, 2001).

Although structural explanations still dominate in theories of family change, "there is growing recognition that structural forces alone are insufficient for explaining family changes across the globe" (Jayakody et al. 2008, p. 2). Although education has generally been linked to positive

reproductive health outcomes for adolescents, including delayed marriage and childbearing, education has at the same time been observed to remove young people from the supervision of adult relatives (Zabin & Kiragu, 1998; Magadi & Agwanda, 2009), creating alternative authority structures (Jayakody et al. 2008). In fact, education can contribute in different ways into changing demographic outcomes with its "incarceration effect" – i.e. reducing time availability to engage in childbearing; the "knowledge effect" that enables young women to gather information on various issues, including family planning; as well as the "autonomy effect", allowing them to obtain decision making power (Ferré, 2009, p. 3; Jejeebhoy, 1995).

The modernization theory, for instance, predicts that traditional family arrangements will gradually converge to a Western conjugal family due to industrialization and increasing levels of education (Caldwell, 1982; Goode, 1963). In Sub-Saharan Africa, social disruption can arise within a new global context where youth have greater access to information and have further possibilities that pose a threat to traditional customs and values (Blum, 2007). However, in Africa there are signs suggesting an integration of traditional and Western styles of family as socioeconomic changes are altering the social meaning of marriage and its patterns (Meekers, 1992). For example, whereas in the rural economy marriage is viewed and used as a means to smoothen economic risks, in the new urban setting the institution of marriage has adapted this traditional role towards new forms of support such as the management of job recruitment (Luke and Munshi, 2006). Yet, much of the literature on family still focuses on the contrast between traditional and modern systems, making such polarisation an issue to overcome, largely through longitudinal data (Prazak, 2007). The author (p.205), in agreement to previous research from Kilbride & Kilbride (1990), states that "*forces such as industrialism, nationalism, missionary activity, formal education, and monetized economy have influenced marriage and family life, largely negatively",* where gender relations within this new context is more unfavourable for women, as opposed to men.

In Kenya, as in other African countries, its urban population has rapidly been expanding since its independence in 1963, mainly due to several factors such as the inflow of migration from rural areas, improvements and expansion of formal education, economic growth, and greater exposure to capitalist markets (Clark et al. 2010). If one applies this theory on the process of socioeconomic change occurring in sub-Saharan Africa, it is argued that the expected outcomes would be an increase in the age at first marriage (for women in particular), and a decrease not only on arranged unions but also on polygyny (Meekers, 1992; Timæus and Reynar, 1998). Ikamari (2005) demonstrated empirically, with Kenyan DHS data from 1998 that more education led to a delay in women's first age at marriage in Kenya, the effect being greater for the younger women. The author also found that premarital sexual activity at an early age is associated with increased probability of first marriage; while having an ex-nuptial birth lowers the risk of marriage as men tend to avoid them.

In Sub-Saharan Africa marriage is not typically reducible to a distinct single event, rather it is mostly considered as a gradual process that can easily take years and several stages to its completion, which can mainly depend on lineage and tradition (Meekers, 1992; Hattori and Dodoo, 2007; Harwood-Lejeune, 2001; Clark, 2004; Magadi and Agwanda, 2009). Even though these stages can take place in different lengths of time or in another order, they are mainly comprised of a payment of bridewealth, a ceremony, the cohabitation of both spouses, and the consummation of the union (Harwood-Lejeune, 2001; Meekers, 1992). Cohabitation sometimes can be difficult to differentiate it from a formal type of marriage (Bledsoe and Cohen, 1993). Nevertheless, it is considered as a step in the marital process and "has recently been recognized by the Kenyan courts as being marriage, albeit without a ceremony" (Humans Right Watch, 2003; Hattori and Dodoo, 2007). In fact, in Kenya there are five separate legal systems for marriage consisting on civil, Christian, Islamic, Hindu, and customary matrimonies; however, even though couples must register their union (except for customary), since the registries are unconnected and different, having multiple marriages which is against the law is a possibility (Humans Right Watch, 2003). This is due to the fact that monogamy is a legal requirement for those who marry under the civil, Christian and Hindu law. On the contrary, polygyny is permitted under Islamic and customary regimes (Mucai-Kattambo et al. 1995)[41], and even though polygamy is a distinctive feature in Africa, in Kenya it is not its dominant form of marriage (Hattori and Dodoo, 2007), and according to DHS data it has been in decline too (Timæus and Reynar, 1998). Furthermore, as in other countries around the world, Kenyan legal age at marriage is established in 18 years, or 16 with the consent of a guardian (Hattori and Dodoo, 2007). However, for example in their slum communities it has been found that a significant number of young females are marrying at a relatively young age (Beguy et al. 2011). Recently there has been some controversy on such early unions, and an acceptance against the practice of child marriages is underway, given that they are considered as contrary to the interests of women as stated by women's and children's right advocates (Mucai-Kattambo et al. 1995).

Marriage in the African continent, in general, had been mostly universal (Lesthaeghe et al. 1989). Although before the 1950s, early marriage was mostly common in traditional societies from Asia and Africa, it is still the pattern in some of these regions (Garenne, 2004). To give an African overview on the subject matter, using DHS data for Sub-Saharan Africa, Singh and Samara (1996) found that, in general, women marry at young ages ranging from 16 to 19 years, yet there are some exceptions such as Mali or Niger where the median age at first marriage is below 16, or other countries like Botswana and Namibia where the median age is around 24-25. In fact, Garenne

[41] Polygyny is a form of union still prevalent in Sub-Saharan Africa and, with the exception of areas where migration has led to an imbalance on the sex ratio (Lesthaeghe et al. 1989), it is assumed to lower the age at first marriage for women, especially given the fact that it entails more marriage opportunities for them (Garenne, 2004). On the contrary, for men, polygyny leads to union postponement (Lesthaeghe et al. 1989), as they require a certain level of economic stability to support another wife.

(2004) also includes South Africa in this last group and Chad in the lower age at first marriage group. Additionally, according to Jensen and Thornton (2003), the incidence of early marriage has decreased by 8-12% in Cameroon, Kenya, Zambia, Zimbabwe; while the drop has been slightly more pronounced (15%) in Tanzania and Ethiopia. In Kenya, the median age at first marriage for women is 19.7 years; while for men (at age 30 and above) it is 25.1 years, and, unlike for women, the median age at first marriage for men is almost constant across the age cohorts, reflecting stability over time. (CBS, MOH, & ORC-Macro, 2004). Clark et al. (2010), found that in Kisumu (Kenya) women are not that much likely to "wanting to get married", but only that "they are able to achieve their marital aspirations" earlier than men.

During the last thirty years, the age at first marriage and at first birth has been rising in Kenya (Blacker et al. 2005). The country's median age at first marriage among the 25-49 age cohorts has slightly increased during this last decade: from 19.2 in 1998, to 19.7 in 2003 and to 20.0 in 2008 (Beguy et al. 2011). Nonetheless, the variation by provinces is even larger and has remained constant over time: where women from North Eastern, Nyanza, and Coast provinces generally enter into marriage earlier than women in other provinces (CBS, MOH, & ORC-Macro, 2004). However, not much further impact can be expected on fertility since the rise in age at first birth was less sharp than that in age at marriage, so much so that after 1975 there has been a reversal with first births preceding marriage (Blacker: 2002, 2005). As Ikamari (2008) states "In Kenya, as in many societies, the ordering of these two events is not very clear in the sense that whereas the majority of first births occur soon after getting married, some first births occur before marriage". As Derose and Kravdal (2007) point out, "decisions about marriage and parenthood may be simultaneous, or the causality may run from birth to marriage".

In South Nyanza, higher socioeconomic status and educational level were associated with older age at first marriage among 10-19 year old adolescent girls (Magadi and Agwanda, 2009). In Kenya, as in the rest of Southern and Eastern Africa, it is the educated and urban women who have higher ages at first marriage and at first birth (Harwood-Lejeune, 2001). During the last half century, in a context of global economy and society, given that "enormous increases in non-farming populations, in the size of urban centres, and in the reach of the media and full-time education have occurred" it is desirable to remain in school for as long as possible so as to obtain better job opportunities, thus early marriage and childbearing become "obstacles" (Caldwell et al. 1993). In other words, by avoiding having children at younger ages, women can manage to reach a higher educational level (Derose and Kravdal, 2007). Bocquier and Khasakhala (2009) demonstrated that, for Nairobi, factors including religion, ethnicity, and migration explained little of the timing in union formation; confirming that postponement towards marriage was linked more to people who fell in the category of students, unemployed or occupied in very informal jobs. The authors suggested that, for men, it is job security the major factor explaining the timing on marriage, while

for women it is factors relating to fertility prior to the union. For instance, given their early access to colonial education, in terms of educational achievement by ethnicity, the Kikuyu are the best educated, followed by the Kamba (Ferré, 2009). For example, recent generations of Kikuyu women identify themselves as "westernized and progressive and hope to avoid polygyny", believing to have responded not only to changes in the economic life but also to the ideals brought by Christian missionaries (Hetherington, 2001). Ikamari (2005) found that Catholic and Protestant women are more likely to marry later compared to other religions (in the Annex, this particular finding is confirmed).

Each ethnic group has its own socio-cultural ideologies about childbearing and its initiation. These group norms, ideals and beliefs have been used to explain ethnic variation in the timing of marriage and childbearing (Addai and Trovato, 1999; Arnaldo, 2004). For example in the case of the Borana in Kenya, the practice of brideprice increases the parents' socioeconomic status when the daughter is married at an early age with the stock obtained from this union (Nyamongo, 2000). Since brideprice gains drop considerably if the girl is pregnant before marriage, parents would rather marry their daughters before they finish primary school as a means to prevent any further economic loss (Nyamongo, 2000). Both polygyny and the importance of bridewealth payments have declined substantially in recent years, particularly in the city, so traditional barriers to entry in the marriage market are less relevant today (Luke and Munshi, 2006). In Kenya, bridewealth, although in an attenuated form, it is still a custom followed by parts of its society which translates into an issue of great importance on marriage arrangements due to the economic value put on daughters (Hetherington, 2001). Even though the increase in women's educational level is one of the main factors used by scholars to explain the decline in early marriage, bridewealth is another element that has gained relevance over the years. In this sense, since the practice of brideprice has adjusted to the market economy (cash payment) instead of the traditional way of paying the daughters family (through commodities), and given the context of high unemployment, males are finding serious difficulties in generating sufficient funds to marry (Blum, 2007).

### ❖ *Educational expansion: the Kenyan context*

In Africa, the school is viewed as an increasingly important institution in the "socialization and training of the next generation, exposing them to non-familial attitudes, information, and ideas emanating from teachers, peers, and a centrally designed curriculum" (Mensch and Lloyd, 1998). At independence in 1963, the Kenyan state promoted school expansion in order to motion educational opportunity and to legitimate Kenya as a modern nation-state, as the key to social and economic development at the national level and as a means to social mobility and better life quality at the individual one (Buchmann, 1999, 2000). Thus, education has been treated by the government as a

basic need, and although the Education Act does not make education a right for all Kenyans, current policy makes it compulsory (Mucai-Kattambo et al. 1995) with 22.9% of the Kenyan State Budget being allocated to education (Ferré, 2009). For almost 25 years, investments and governmental policy led to impressive gains in educational access at all levels (Bedi et al. 2004). Such logic is understandable given the country's history in terms of educating its citizens. Until shortly before Independence in 1963, educational provision in Kenya was segregated along racial lines, with separate systems for pupils of European, Asian and African origin, producing unequal educational outcomes (Woolman, 2001). In common with practice elsewhere, the colonial government not only provided few formal education opportunities for African children, but also segregationist inequalities existed as well as an associated devaluation of their culture (Eshiwani, 1993: in Colclough & Webb, 2010, p. 5). In the former British Africa "no uniform policy existed", where "each territory supported its own educational program and each governor had his own ideas on how to educate the 'natives' ", being a contrasting practice to those of the French or Portuguese colonies (Urch, 1971, p. 249). Hence, on the whole, African assessment of pre-independence schooling had been negative not only with its inequality but also the undermining of traditional societies (Woolman, 2001).

Indeed, the policy emphasis put on education did increase literacy levels, especially for women, owing to the fact that parents gave a high value on education being aware of its costs due to the "fee-based cost-sharing approach" to pay for education implemented by the Government (Robinson, 1992). However, in practice, the states priority was heavily placed on secondary and higher education (O'Connor, 1974) and primary school fees were maintained due to the departure of expatriates who held middle and high level positions in the Kenyan economy and there being a shortage of such graduates who would have to take over these occupations (Somerset, 2009). Thus, even though enrolment rates in primary schools among Kenyan adolescents is high, the large majority of them are actually behind grade for their age because of late ages of entry and grade repetition (irregular attendance mainly due to familial demands, non-payment school fees or students need for extra time to prepare the national exams to access secondary school[42]) (Mensch and Lloyd, 1998); and since the mid-to late eighties there appears to have been an erosion in educational participation and a reversal of the gains achieved in previous decades, especially due to several factors including the role of school fees[43], school inputs and curriculum, school availability, expected benefits of education and the spread of HIV/AIDS (Bedi et al. 2004).

[42] This intense competition to gain access to secondary levels, particularly in high-quality schools, has led to a system of "shadow education" (after-school tutoring) (Buchmann, 1999, p. 106). Additionally, in the 90's for instance, the Kenyan secondary program was criticized due to students being overload with too many subjects, which in turn contributed to higher failure (Woolman, 2001).

[43] Somerset (2009) studied the three different initiatives undertaken by the government on the educational front that were intended to improve its participation yet failed to some extent due to various reasons:

Not only that, the aim of achieving Universal Primary Education has also faced an important drawback over the last decade given the declining gross enrolment and completion rates, as well as regional and gender disparities (Alwy and Schech, 2004; Abagi, 1997). In most African countries, population growth and low levels of economic development create an environment where the educational system is very competitive but high educational attainment does not guarantee occupational mobility, since white-collar jobs are scarce (Buchmann, 2000). It was noted that, since the late 60's, employment opportunities in the formal sector had not kept pace with educational expansion (O'Connor, 1974). In fact, Bedi et al (2004) found that for instance in Kenya in the 90's unemployment amongst individuals with other levels of education (except university level) was not substantially different from uneducated individuals. The authors argued that, overall, the reduced employment prospects, the reduction in formal sector employment, and the reduction in wage returns for educated individuals may have played a role in reducing economic incentive to acquire education. Additionally, cultural and linguistic diversity can pose as a challenge for schools, which "*are expected to cultivate a common national spirit and unity*" (Woolman, 2001, p. 27). The gist of it is that in African societies, institutions encounter "pre-modern" residues that not only accentuate community and family over the individual, but also widely practiced traditions are often at odds with formal schooling (Buchmann, 2000).

Although there was a major change in the attitude of parents and the community that enabled higher participation rates of girls in schools, as grade progression would take place, differences emerged between boys and girls in their exam performance and dropout rates, despite achieving nearly equal participation between both sexes (Mensch and Lloyd, 1998; Somerset, 2009). Among those in secondary level, during the period 1992-2002, the average dropout for girls and boys was twenty and fourteen percent respectively (Achoka, 2007). Research has shown that both male and female teachers view girls as more self-absorbed, less motivated, and less competent than their male counterparts (Blum, 2007; Lloyd et al. 2005), whereas poverty, early pregnancies/marriages, HIV/AIDS, drug abuse and low-self esteem also assist in them quitting the school system (Achoka,

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The first Free Primary Education initiative (FPE-1, 1974): In 1974 formal school fees for Grades 1 to 4 were abolished, in 1978 Grade 5 followed and by 1980 there were no fees for all primary grades. Hence, in addition to regular 6-7 year old boys and girls starting their first grade, a massive influx of overage pupils (adolescents and some adults) initiated their studies too. However, by 1978, the dropout rates remarkably rose due to non-fee charges (also called *harambee*), primarily building costs (where in some cases the levies were higher than the old school fee); along with the vulnerability of marginal groups, overcrowded classrooms, and shortages of schooling materials affecting the quality of pedagogy.

The second Free Primary Education initiative (FPE-2, 1979): the direct imposition of building levies and other non-fee charges on parents was prohibited, the funds being raised through community-based *harambee* activities. However, parental levies were gradually reintroduced. Thus, as in 1974, the enrolment increased massively (including also overage late recruits), followed by a another high dropout rate for the same reasons as in the previous initiative with an additional problems in distribution and supply of teachers. Also, the KCPE performance tables introduced established merits among districts and schools, ranking them, which provoked upper-grade retention and repetition patterns (also known as "sifting") (p.241). In 1985 a new system with major curriculum changes was set in, the 8-4-4 as opposed to the old system 7-(4-2)-3, that placed new burdens on parents and communities. Finally, in 1988, another drawback was brought in as cost-sharing was reinstated and schooling participation rates fell.

The third Free Primary Education initiative (FPE-3, 2003): the cost-sharing scheme and parental levies were again abolished, enabling many dropouts to resume their education. However, still education was not cost-free.

2007). As Mensch and Lloyd (1998, p. 182) state, "by demeaning girls' intelligence and not providing them with special encouragement to counteract the sexual stereotypes they encounter outside of school, primary-school teachers limit girls' incentives to continue their education and to delay marriage and childbearing". Additionally, there are regional imbalances especially in areas where girls are married at an early age, without being able to complete in most cases their primary education (Mucai-Kattambo et al. 1995). In several pastoral communities in Africa, parents would rather marry their daughters at an early age than provide them with continued education (Nyamongo, 2000).

## 4.2. DATA AND METHODOLOGY

In order to explore the trends on early transitions into adulthood in a context of educational expansion, the standard Kenyan Demographic and Health Survey has been used, as it provides not only data on population and health situation in Kenya, but also information on marriage, sexual initiation and childbirth, among other issues such as fertility, family planning, reproductive health, child health, and HIV/AIDS. This household-based survey is conducted every five years focusing on women of reproductive ages (15-49) and, for this study in particular, the selected total period of observation is from the survey years 1988-89, 1993, 1998, 2003 and 2008-09. Taking the latter into account, in the following research on this East African country, we will draw attention to women aged 20-49, and not younger, as we will hence indirectly avoid unfinished and ongoing schooling of the adolescent girls from the younger generations[44].

In this chapter we aim to examine to what extent educational expansion explains the delay in the age of these transitions, by performing not only a descriptive analysis of these event's patterns, but also a logistic regression in order to predict their probability of occurrence. Therefore, the object of analysis has been computed as 3 dichotomous dependant variables over 4 age groups consisting of those Kenyan women who have had a first marriage, first sexual intercourse, and first birth before the ages of 16, 18, 20 and 22. Instead of using the mean age or the median age as the measure for these transitional events, in this study we will focus on the proportions of women who have undergone these transitions before the mentioned ages. Additionally, educational expansion has been included in the form of achieved educational level as well as mean years of schooling. And,

[44] As Mensch and Lloyd (1998) state, in Kenya a large majority of adolescents are behind grade for their age, it being because of late ages of entry and grade repetition (irregular attendance mainly due to familial demands, non-payment school fees or students need for extra time to prepare the national exams to access secondary school). This issue is rather important, so by establishing the threshold on 20 years of age and not 15 we try to capture as much as possible these girls who are under this phenomenon.

given the complexity of the country, other factors have also been considered: ethnicity, region, and type of place of residence (urban – rural).

Initially, religion was also a variable that was taken into account, however, in the case of Kenya, ethnicity presents a more ample picture on the issue at hand. Kenyan people define themselves as Protestants, with a remaining 20-30% of Catholics, and on the minority side we have less than 10% of Muslims, and even less percentage of those with no religion or another. Given that among the majority (Protestant and Catholic), there is very little difference between their educational achievement and their age marriage pattern, religion was a variable that was finally dropped out of the analysis. In addition, since polygyny is in decline, reaching less than 10% for the young generations, this variable did not make the cut either[45]. However, in the near future those are element that will be taken into account as they may explain part of the marriage postponement occurring in Kenya and offer additional information on the country's socio-cultural context.

Most of the descriptive analysis has been transformed towards a cohort based study, although some graphs do account for the years in which the survey was conducted. The reason why it has been decided to use the year of birth of the respondent instead of the year of the survey is that DHS data permits to reconstruct retrospectively the cohorts of its respondents. Instead of comparing between DHS surveys, we use 5-year birth cohort groups (ranging from those born in 1944 to the youngest generations born in 1988) in order to grasp trends over time[46]. The reason for using several DHS surveys instead of concentrating on only one is that the final sample size not only becomes larger, which helps to obtain better estimates and significative results in the analysis, but it also permits to lengthen the period of study (i.e. study more cohorts).

When dividing the information on early marriage between ethnicities, due to the fact that the DHS is a survey sample, there are several minority groups with few cases. Although some graphs do shed light on all ethnicities, in the analysis only the five major ethnicities are taken into account (Kikuyu, Luhya, Luo, Kamba and Kalenjin). Additionally, there are discernible regional cultural variations in Kenya, as one or two ethnic groups predominantly inhabit each of the eight regions (Ikamari, 2008). Since DHS questionnaires do not record the province of childhood, ethnic groups can serve as good proxies for regions: the Kalenjin reside in the Rift Valley, the Kikuyu in the Central region (but have also migrated to Nairobi and the Rift Valley); the Embu/Meru live in the North and East; the Luhya live in the Western province (but have also migrated to Nairobi or Mombasa); the Luo

[45] See the Annex for further information on religion and polygamy (set of figures from IV.III and IV.V).

[46] We are aware that there could be differences between cohorts and their respective surveys; that is that a same cohort could show a particular pattern in one survey and another one on the subsequent survey. However, after a simple descriptive analysis, these differences are not substantial. In fact, by broadening the year of birth into 5-year groups it helps diminish those small discrepancies. In a similar fashion, by using 5-year groups we also hope to somehow indirectly tackle the ongoing problem often found in most Sub-Saharan countries where there are people who do not know their exact age, and who tend to approximate it to Figures close to 0 and 5.

and Kisii live in Nyanza; the Kamba live in the East and close to Nairobi; the Mijekenda can be found in the Coast Province; the Somali and Boran in the North Eastern region; while Nairobi province is considered as metropolitan (Ferré, 2009; Ikamari, 2008). The Kikuyu, Luo and Kalenjin are the three largest ethnic groups in Kenya (Weinreb, 2001). The samples in the last two surveys cover the entire country, consistent of eight provinces, including areas in the northern region and arid districts that had not been included in previous surveys (CBS, 2004; KNBS, 2010).

It should be noted that in this study the regions have suffered slight changes, particularly the ones in the Eastern part of the country: In the KDHS surveys, until 1998 there were only 7 regions, while since 2003 and onwards we find 8 regions as the Eastern area has been divided in two: Eastern and North Eastern. In this present investigation, it has been decided to use the first distribution of regions (the 7 regions from the KDHS 1988-1998), uniting the Eastern region again for the KDHS 2003-2008. The main reason for this decision was obtaining sufficient number of cases possible for each region, so as to facilitate reaching significant statistical levels. Also it was noticed, that for the North Eastern region almost all of the women were Somali (for the 2003 KDHS, 167 of 168 women were Somali for the Northern Eastern region; while for the 2008 KDHS, 180 of 185 were also Somali). And even though in the descriptive analysis there is some insight into the timing patterns by ethnicity, not only the main ones but also the rest – including the Somali –, it is hoped that the information for that particular region won't be totally lost. However, because in this analysis both Eastern regions have been joined together, when interpreting the results one will have to be cautious due to its heterogeneity on the prevalence in child marriage[47], and in future research it will be important to distinguish between both.

With regards to limitations on the data, in Sub-Saharan Africa marriage is not typically reducible to a distinct single event, rather it is mostly considered as a process that can easily take years and several stages to its completion, which can mainly depend on lineage and tradition (Meekers, 1992; Hattori and Dodoo, 2007; Harwood-Lejeune, 2001). As a result, when studying the ages at first marriage in sub-Saharan Africa one encounters the problem of defining an exact time for this particular event. As Harwood-Lejeune (2001) states, the DHS surveys avoid this imprecision by recording the date of first marriage for all non-single women as the "time when a woman started to live with her (first) husband/partner" (see DHS questionnaire in the Annex for chapter 2 on Data

[47] As it is stated in the UNFPA (published in October, 2012) country facts sheet for Kenya on child marriage: the National Average is 26% (percentage of 20-24 year old females married by the age of 18); where the North Eastern region has the highest prevalence of early marriage (56%), followed by Coast (41%), Nyanza (32%), Rift Valley (30%), Western (27%), Eastern (18%), Central (17%), and Nairobi (7%) (http://www.girlsnotbrides.org/reports-and-publications/unfpa-child-marriage-country-profile-kenya/).

Because this analysis is established on a cohort basis, the North Eastern females would only be included in the youngest cohorts (from the 2003 and 2008 DHS only), so in future research with new survey waves it will be imperative to use the new regional classification of 8 regions, with North Eastern separately so as to improve the results and reduce its heterogeneity.

and Methods). In other words, African marriages are measured through a new concept: "living in union" or "living with a man" for the female respondents in these surveys (Van de Walle, 1993). In this sense, the types of marriage considered here are legal marriage, customary marriage and cohabitation. In the 2008-09 Kenyan Demographic and Health Surveys (KDHS), for instance, the term "*married*" refers to legal or formal marriage, while the concept "*living together*" designates an informal union in which a man and a woman live together, even if a formal civil or religious ceremony has not occurred.

Besides the problem of definition mentioned above, in a context where there are people who do not know their exact age, there is another problem concerning the quality of reporting on retrospective questions from the DHS such as "*In what month and year did you start living with your first husband?*" (Van de Walle, 1993). Moreover, as the author states the quality of the reporting is also related to the level of education of the respondents, and it is possible that older women tend to "forget" the existence of earlier unions or to edit them out in their reports. In fact, in the same DHS questionnaire, respondents are also asked "*How old were you at your last birthday?*"; which permits to contrast the information and see if the age and the birth month/year given are correct or not. Close examination of African data has often revealed gross internal inconsistencies within datasets that could only be the results of the omission or systematic displacement of vital events as well as age misreporting (Cohen, 1998), with major concentration in ages ending into 0 and 5[48] (Garenne, 2012). Blanc and Rutenberg (1990) suggest that it might be difficult for the respondent to recall when she first began to live with her first partner or even when the marriage process began. Unfortunately, it is noted that age misreporting around the age at first marriage occurs, especially with teenage girls (under-reporting) and women over the age of 20 (over-reporting), suggesting that "young married women preferred to appear older than they were" (Van de Walle, 1967). Finally, some women may "displace events to avoid truthfully reporting that they had births before cohabitation, or give an ideal sequence of events which is not the reality" (Harwood-Lejeune, 2001).

With regards to information on education, the KDHS stick to its official regulations: the age of entry into primary school is six years (its total duration is eight years going from standard 1 to standard 8); while the number of years often needed to complete secondary school is about four years (KNBS, 2010). Nonetheless, one should keep in mind, as Sah (2008) asserts, that the educational level reported in the DHS is the one at the time of the survey, not at the time of marriage itself. Consequently, it is rather difficult to obtain the exact years of schooling until first marriage for women who do not interrupt their education after their first union. It is important to mention the classification of educational levels used in this study. As mentioned earlier, the DHS follows national regulations on the Kenyan educational system, where the total duration of primary

[48] See Annex (Figure IV.II), where for the case of Kenya, after simply representing the frequencies of the respondent's current age by survey year (we only compared the earliest and latest ones) one can find slight concentrations too in the age digits ending in 0 and 5.

school is 8 years, or 8 standards. However, prior to 1985 primary education consisted of 7 grades or standards, but that year a modification in the law was introduced where another grade was added. Consequently, and due to the use of cohorts that were affected by this change in the law, the threshold used in the final classification for education used is 7 years. Therefore, for less than primary, the female respondents that enter this category are those who have had less than 7 years of schooling.

## 4.3. RESULTS DESCRIPTIVE ANALYSIS

In this section, early marriage in Kenya among female young adults will be explored, taking into account their educational level, as well as the cohort in which they were born. Given the complexity of the country, other factors will be considered: ethnicity, region, and type of place of residence (urban – rural). In order to better comprehend the marriage pattern occurring in Kenya it is rather necessary to include the transitions into first sexual intercourse and first birth for women in the equation. The reasoning behind such decision lies in the fact that the order of these events (especially marriage and birth) is not so clear. Therefore, the timing and the patterns of the transitions into first marriage, first sexual intercourse and first birth for Kenyan women will be analysed in this segment. On the other hand, in this study we intend to assess the plausible role of educational expansion on the delay in the timing of these transitions.

### 4.3.1. EARLY MARRIAGE

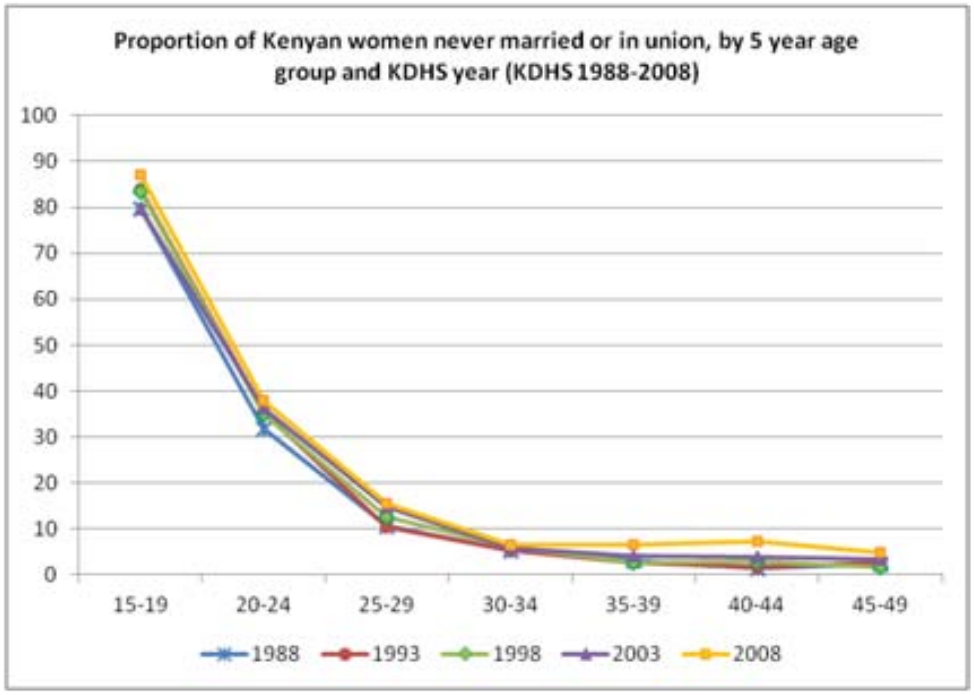
The first research question we intend to answer in the descriptive analysis is if we can observe a trend towards postponement and reduction in early marriage among Kenyan girls, with the available data from the Kenyan Demographic and Health Surveys (1988-2008). As a general overview, there has been a slight increase in the age at first marriage or union during the last two decades, as there has been a reduction of almost ten percentage points in the proportions of ever married for the age groups 15-19 and 20-24, as well as a small increase in the proportions single at the elder age groups considered here when comparing between survey years (Figure 4.1). In Kenya, the transition into first union for women starts broadly taking place around the ages of 20-24, given that the proportions single drop from approximately 80% for the youngest age group (15-19) to 30-40% for the next age group (20-24), while for the ages 25-29 those who remain unmarried are only 10-15%, and these proportions keep declining at elder age groups (Figure 4.1). Hence, it can be said that in this particular East African country being in a union is almost universal for women.

As Blacker (2002, 2005) and Ikamari (2008) stated, in Kenya the ordering of the events relating to first marriage and first birth for women is rather vague. In fact, according to Figure 4.2 a similar trend can be found when considering the timing and intensity of the transition into first birth, compared to first union. For those Kenyan women aged 15 to 29 there is a delay in the timing of the event regarding having a first child over the period taken into account, as the proportions of women who are childless have increased throughout the KDHS surveys, and more so for the age group 20-24 (Figure 4.2). Also, the proportions of childless and single women at the age group 15-19 are practically the same, however, the following age group (20-24) shows a minor difference on the intensity of the occurrence of both events – the proportions of childless being around 20-30% approximately, compared to the 30-38% of single women aged 20-24 (Figures 4.1 and 4.2). Moreover, in contrast to the first marriage pattern, the transition to first birth at higher age groups (30-44) does not seem to have substantially changed over time (Figures 4.1 and 4.2). In addition, it is also possible that there is more an effect of generation rather than of age.

Since the order of first events (marriage and birth) in Kenya is not particularly clear, the following graphs by cohort show the proportions of Kenyan women who have had a first birth, first marriage/union, and first sexual intercourse before the ages of 16, 18, 20 and 22. Instead of comparing KDHS surveys, we use 5-year birth cohort groups (ranging from those born in 1944 to the youngest generations born in 1988) in order to see trends over time. For all ages taken into consideration, the proportions of women who have had a first sexual intercourse are considerably higher than the proportions for first union and birth (Figure 4.3). Thus, it can be assumed that the timing for first intercourse takes place rather earlier than the one for the other two transitional events. In this sense, in Kenya when talking about "early marriage" among women one should not leave out of the picture the issue on "earlier sex".

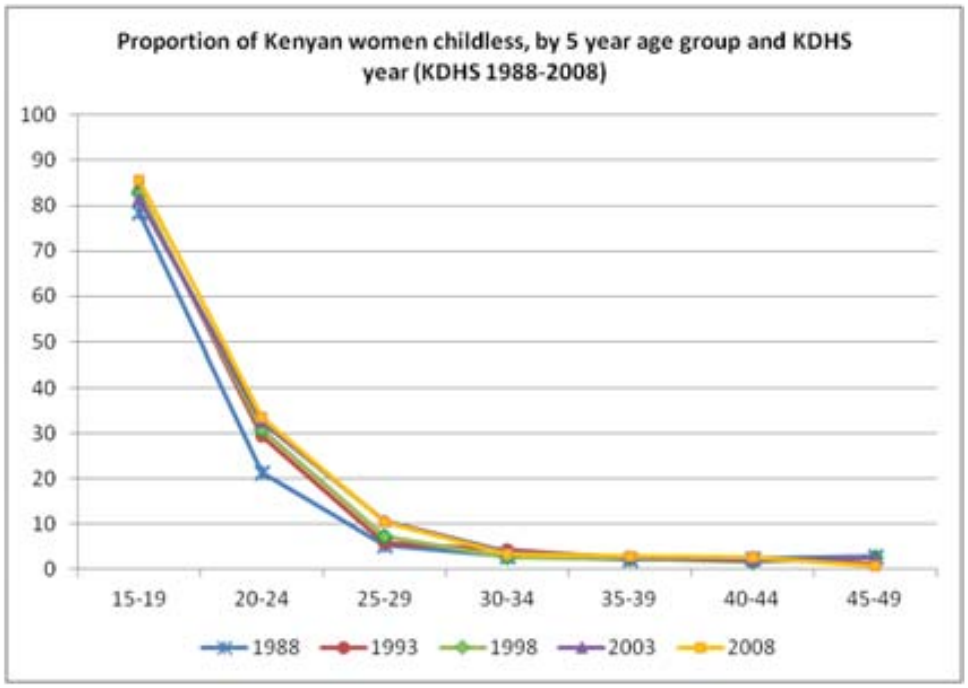
Having said that, a decline over time is observed in the proportions of women who have experienced a first sexual intercourse before the age of 16 – from 60% approximately for those born between the years 1944-48 to 35% for the youngest cohort born in the late 80s. Although this decline is less steep for this transitional episode before the age of 18, compared to the age 16; the intensity of the event on first sex is far greater. Before the age of 18, 75% of girls born in the late 40s had already had their first sexual intercourse, remaining fairly constant around 70% until the cohorts born in the late 70s, when it started to go down to proportions of a bit more than 60% for those born in the 80s. Despite this modest delay in the timing of first sex, about 80-90% of Kenyan girls have already gone through this event before the age of 20 (with minor declines towards 80% for the youngest generations); while the trend for first sexual activity before the age of 22 is relatively constant in the proportions (around 90%) having experienced that event over time.

Figure 4. 1 : Proportion of Kenyan women never married (or in union), by 5 year age groups:




*(Source: own calculations based on KDHS data)*

Figure 4. 2 : Proportion of Kenyan women who still haven't had a child, by 5 year age groups:

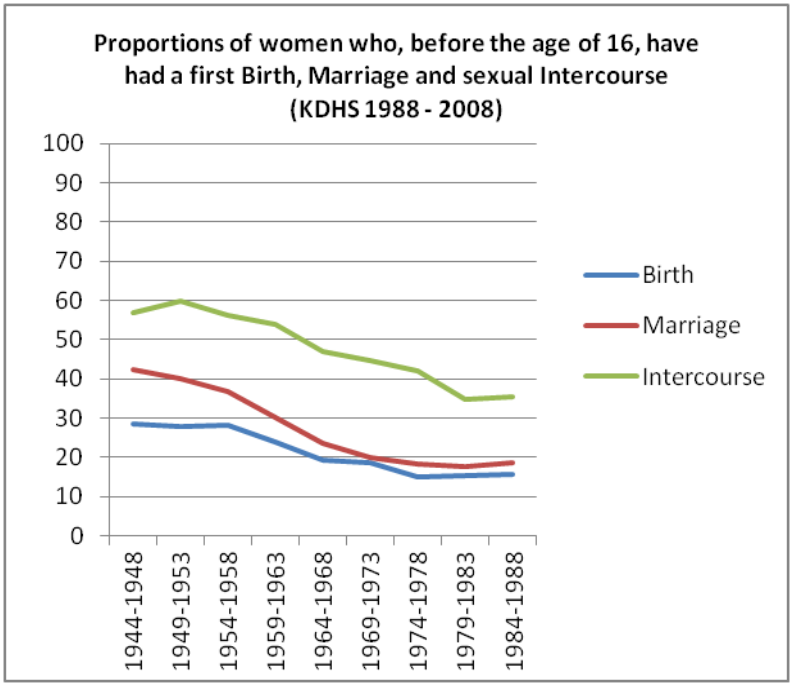


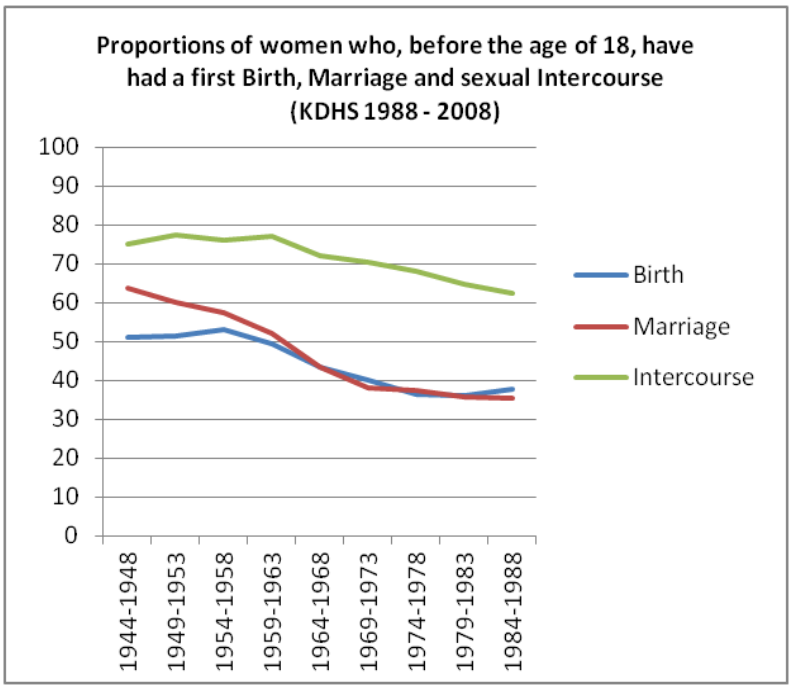

*(Source: own calculations based on KDHS data)*

On the other hand, the delay in the transitions towards first marriage or union and first birth are quite noticeable. If we take a look at the prevalence of child marriage, that is those girls who have married or have been in a union before the age of 16, it has diminished over time for the overall female population from the KDHS surveys – as the elder generations born in the late 40s and early 50s accounted for 40%, it already reduced in half for those born in the early 70s and since has remained fairly constant around 20% (Figure 4.3). Furthermore, a declining trend can also be found for early marriage among Kenyan girls. While child marriage has reduced from percentages around 40% to 20% over time, early marriage (before age 18) has only decreased from 60% to a bit less than 40% over our time period. Hence, even though the intensity of early and very early marriage among women seems to have been brought down in Kenya, the plateau in the trend of the proportions of girls marrying before the ages of 16 among those born in the 70s and 80s, alongside with a similar trend for those married before the age of 18, means that early marriage in Kenya comes across as an issue that will still have to be tackled. Finally, for the proportions of women who have entered a first union before the ages of 20 and 22, there has also been a drop over time, ranging from percentages around 80% and 90%, respectively, for our eldest generation in our data to 50% and 60% for the youngest one (Figure 4.3). Hence, the overall trend is towards marriage postponement for women in Kenya in the time period considered here.

With regards to the timing of first birth, when compared with the timing of early marriage, two patterns can be observed in Figure 4.3: the proportions of child and early marriage are higher than the proportions of first birth for the elder generations (those born until the late 60s for before the age of 16, and those born in the early 60s for the age of 18); and then the proportions are relatively similar for the younger generations in the case of child marriage and first birth before the age of 16, while for early marriage and first birth before the age of 18, the proportions go almost hand in hand. Precisely, when observing the second graph, the one for before the age of 18, the uncertainty found in the literature on the timing of both events, first marriage and birth, is pretty clear, especially for the younger generations of Kenyan women. However, at the later ages of 20 and 22, except for the eldest generations, the proportions are a tad higher for having a first birth, compared to entering a first union.

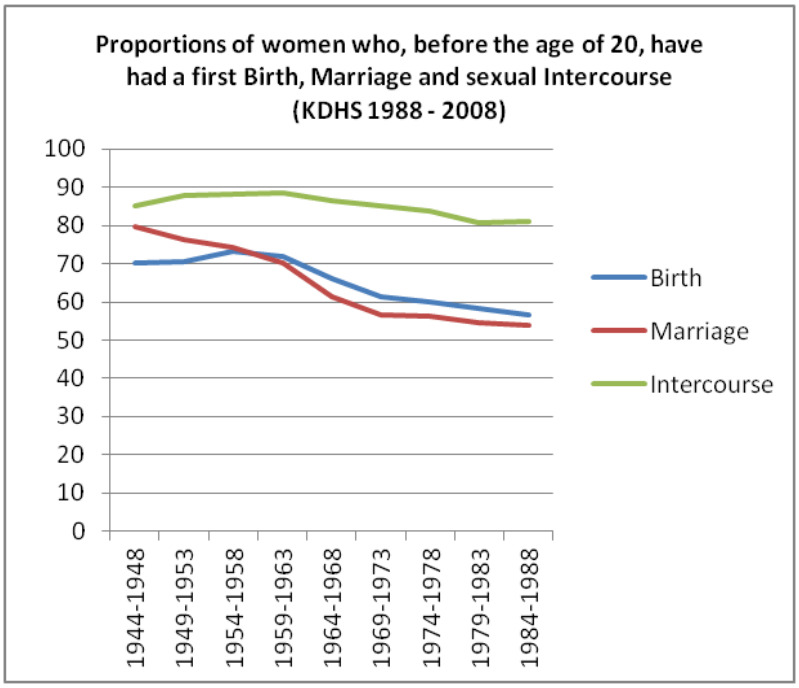
Figure 4. 3 : Proportions of women who have had a first birth, marriage and intercourse before the ages of 16, 18, 20 and 22, by cohort.

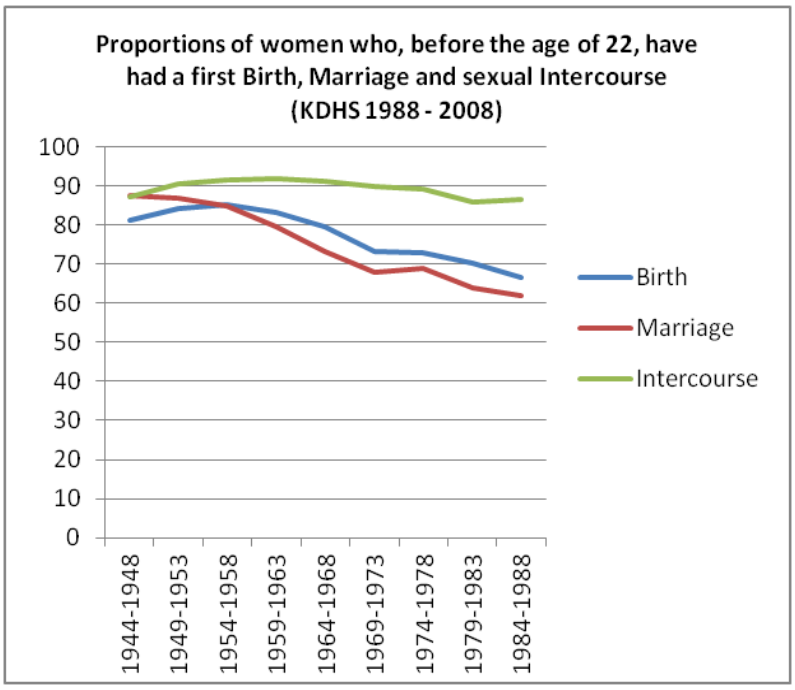



*(Continues...)*

*(Cont.)*




*(Source: own calculations based on KDHS data)*

## 4.3.2. EDUCATIONAL EXPANSION AND EARLY MARRIAGE

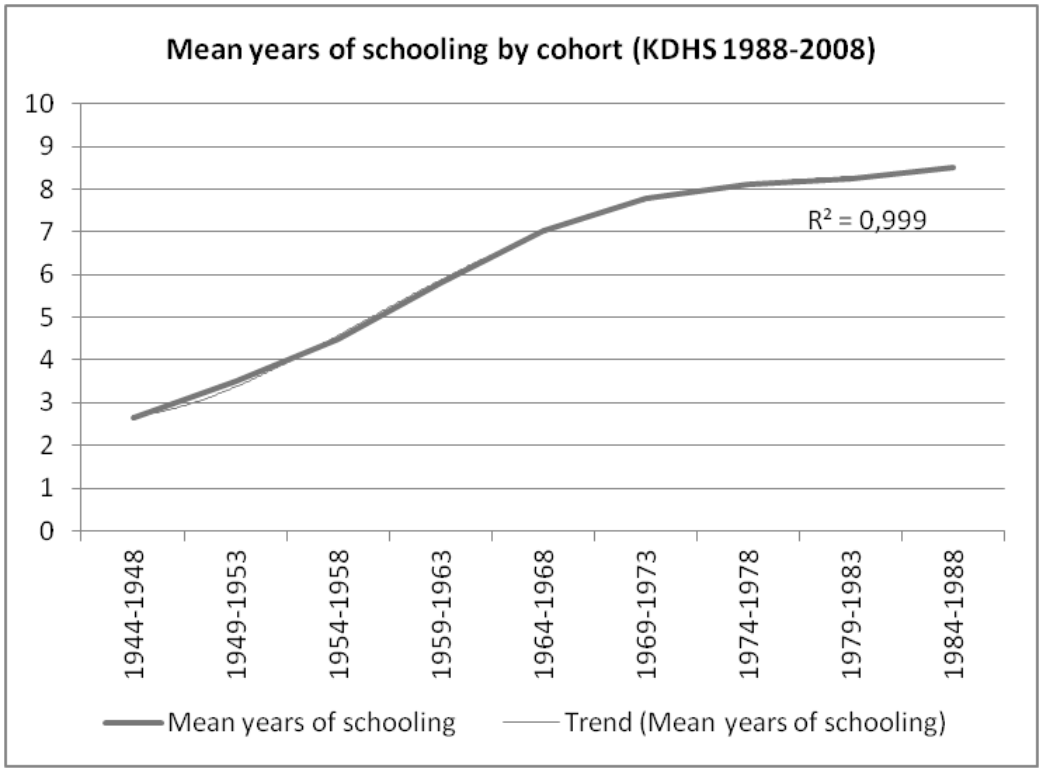
At the national level, the KDHS data confirms the trend in which there not only has been a steady increase in the mean years of schooling[49] for Kenyan women, but also a rise in the proportions of women with Primary and Secondary and more education (Figures 4.4 and 4.5). On the whole, the mean and median years of schooling have been increasing over the consecutive KDHS surveys, from 5.2 and 6 for the 1988 KDHS to 7.8 and 8 for the latest survey in 2008. In fact, the mean years of schooling for the younger generations is almost three times more than the eldest cohort in our data (reaching approximately 8.5 for those born in the 80s) (Figure 4.4).

Indeed, in the last two decades the Kenyan government has achieved a remarkable improvement in educating their citizens. And if we make the distinction between educational levels, a striking decline over time in the proportions of Kenyan women with no education has been observed – from 50% for the eldest cohort to 10% approximately for the youngest generations (Figure 4.5). In fact, completion of primary studies has impressively grown, as the proportions of girls with primary education have increased in almost 40 percentage points between cohorts, and those with less than primary have also decreased over the decades (Figure 4.5). However, still more efforts are needed to attain universal education and augment the proportions of women with at least primary education to its maximum. Overall, the percentage of women with secondary or more education has timidly but positively spread from figures around 5% for the eldest cohort to 30% for the youngest one (Figure 4.5). One should bear in mind that in this section only the national overall figures have been illustrated, and as will be seen later on in this chapter, Kenya is a country where the educational outcomes are relatively different when taking into account its diversity with regards to ethnicity, region and even socio-economical status[50].

[49] For computing the increase in the mean years of schooling of Kenyan women, only those women who have reached 20 years of age are included. The reason is that if we add girls younger than 20 we get a downfall in the mean years of schooling in the latest years of birth, which can probably be due to unfinished and ongoing schooling of these younger generations.

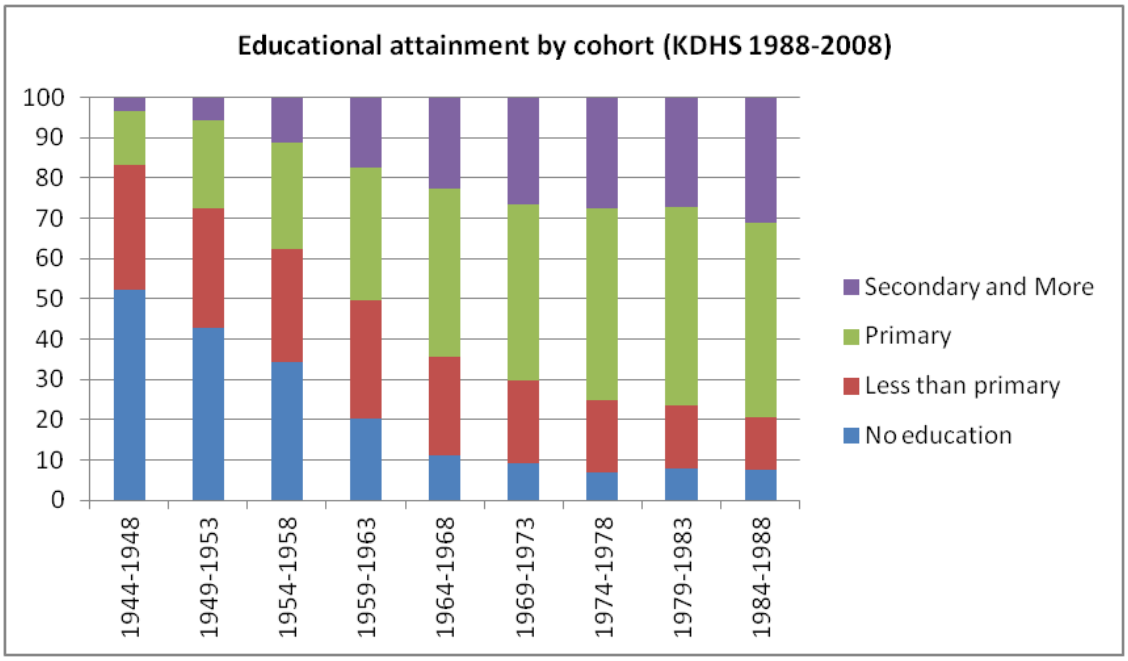
[50] The results for the descriptive analysis in the present chapter does not include the socio-economic aspect, however in the Annex (Figures IV.IV) some extra information on this regard has been included thanks to the KDHS of the year 2003, for the city of Nairobi. This particular survey added a variable in which there was a clear distinction between those poor and those living in slums, which is an issue that is often overshadowed due to lack of data.

Figure 4. 4 : Mean years of schooling of Kenyan women by cohort.




*(Source: own calculations based on KDHS data)*

Figure 4. 5 : Educational expansion by educational level and cohort.




*(Source: own calculations based on KDHS data)*

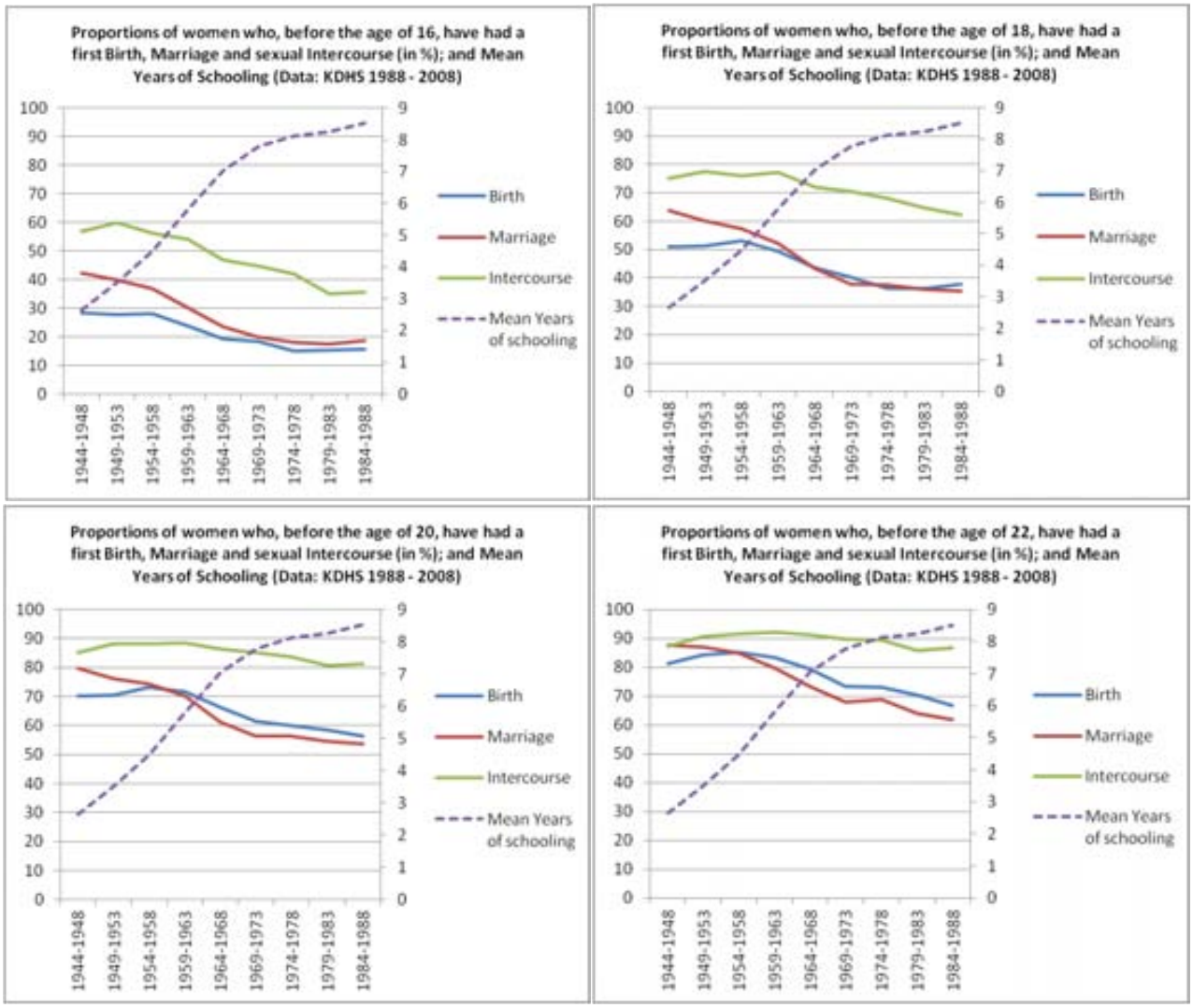
For Kenya, women's education has significantly improved in general as there has been an increase in school enrolment and educational opportunities. However, early marriage may limit and/or undermine their educational opportunities, especially when these girls are forced out of school. It is often the case in Kenya that girls have to abandon their studies due to marriage or pregnancy. School administrations are required by law to temporarily expel girls who become pregnant and most of them do not return to finish their education, which has been an issue already studied throughout the literature[51] (Mucai-Kattambo et al. 1995; Ferré, 2009; Mensch and Lloyd, 1998). In this context, studying early marriage and first births at young ages becomes an important political and social issue. It is relatively fair to say that, within the Kenyan context, those women who make it to secondary education will probably tend to delay the entrance into their first union. Due to the fact that in Kenya, law discriminates pregnant girls who have to interrupt their studies it is possible to expect certain parallelisms in schooling differences between those girls who remaining childless and unmarried and those who do not. In spite of this, one should bear in mind when interpreting results on early marriage by educational level that many students are actually behind grade for their age due to irregular attendance (Mensch and Lloyd, 1998).

So, does there seem to be a linking trend between the increase in the educational outcomes of Kenyan women and their delay in the age at first marriage? It appears so at first sight, especially for the graph on the transitional events before the age of 18 (Figure 4.6), where we can observe that as the proportions of girls married before that age have been diminishing, the mean years of schooling have been going up over time. For the other transitions into first birth and first sexual intercourse, as the proportions of women who have gone through these events are relatively constant for the elder cohorts (where the slope of the increase in the mean years of schooling seems to be notable), one has to be careful in interpreting the possible relationship between educational expansion and the timing of these life events. In this sense, it would be interesting to see if the changes in the educational level in Kenya have been the same depending for those women who have experienced an early marriage, compared to those who haven't. If we look at Figure 4.7, even though there has been a decay in the proportions with no or little education, the decline in the proportions of women with no education has been relatively greater for those who have not married before the age of 18 (reaching minor proportions at the younger cohorts). Plus, the proportions with less than primary are higher in all cohorts for those who have had their nuptials at an early stage in their life. Nevertheless, what the data shows is that although there has been a solid increase in the proportions of early married girls who have primary education, those who haven't experienced this transitional event have reached even higher educational levels (secondary and more). The latter is

[51] Under the Kenyan law, abortion is illegal and only possible in certain cases, with at least two medical opinions (Mucai-Kattambo et al. 1995), and if not detected by the school administration, girls can avoid being forced out of school when having accessed to an abortion (Mensch and Lloyd, 1998). Therefore, more efforts on improving an effective use of modern contraception would allow girls to avoid unwanted pregnancies, which can be dangerous if at young ages, and having to stop their education, giving them a chance to better their economic and social status.

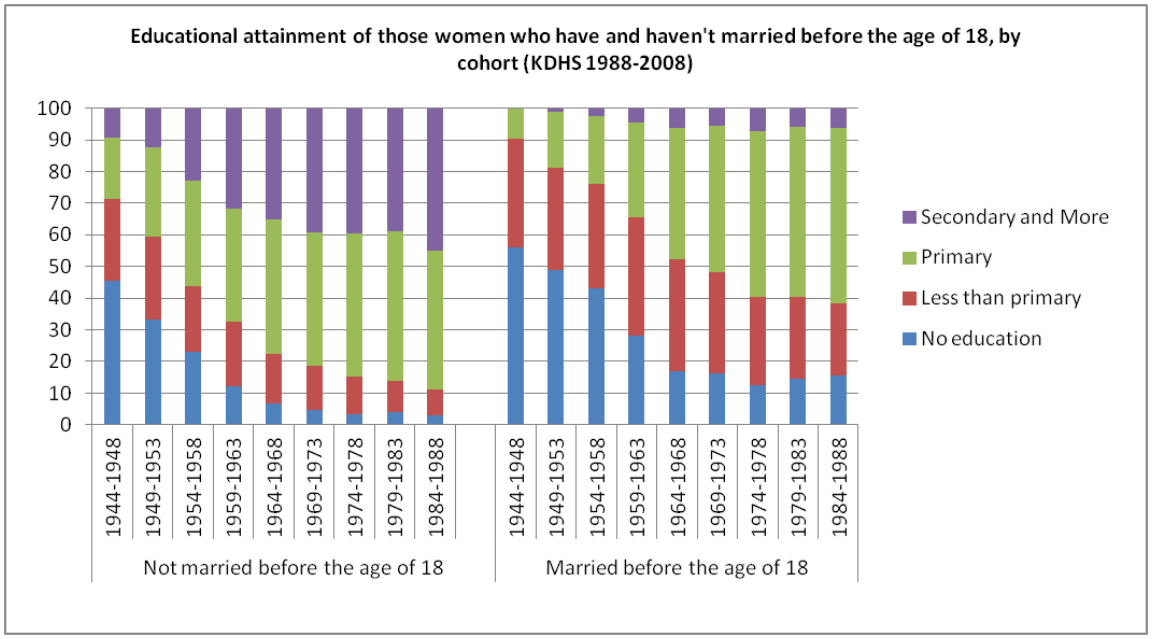
further confirmed if we look at those women aged 22 or more who are still single and have substantially more post-primary education than those who have entered a union.

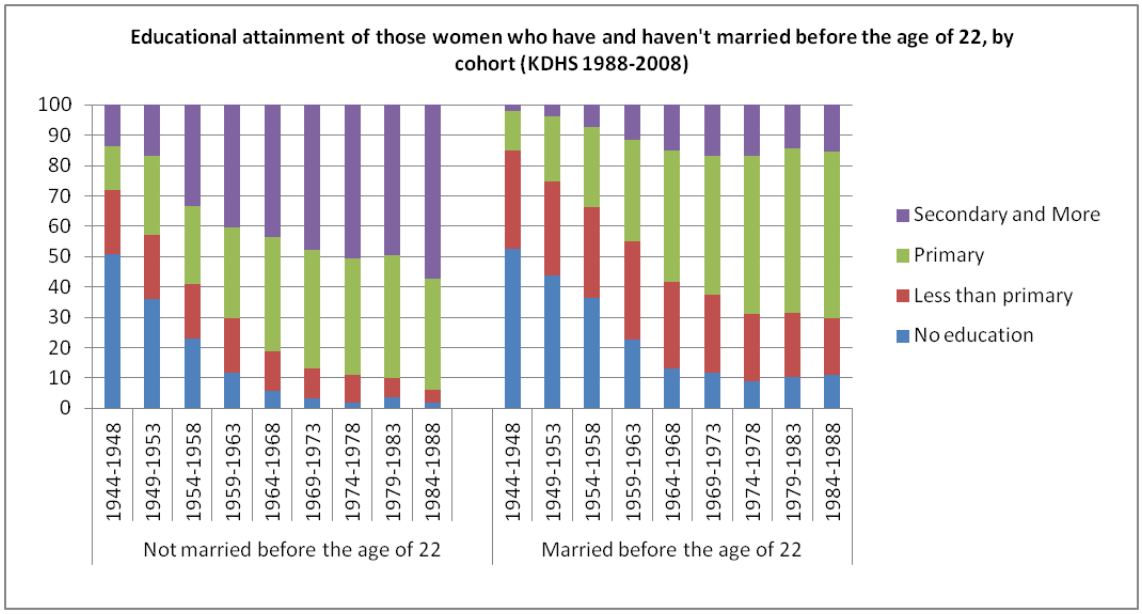
**Figure 4. 6 : Mean years of schooling and Proportions of women who have experienced the transitions into first birth, marriage/union and sexual intercourse before the ages of 16, 18, 20, and 22 by cohort.**




*(Source: own calculations based on KDHS data)*

Figure 4. 7 : Educational attainment of Kenyan women who have and have not experienced early marriage, by cohort.




*(Source: own calculations based on KDHS data)*

Therefore, it is rather more preferable to compare the calendar of first unions, birth and sexual intercourse by educational level instead of mean years of schooling so as to obtain a clear picture of the subject matter. One could probably expect that if there is little change going on between cohorts within the same educational level, reflected in relative constant proportions throughout time, the changes towards postponement in the national level in Kenya would be due to changes in the population structure (in this case, the educational structure). Thus, as more women reach higher

educational levels, these women somewhat adopt the patterns of their educational level counterparts. According to Figure 4.8, such trend can be found for the post-primary educated women, where the proportions of child marriage and very early timing of first birth (before the age of 16) are remarkably stable at very low percentages throughout the different cohorts. Additionally, for those uneducated women, despite the fluctuations at the younger cohorts[52], their early transitions follow a pattern of relatively stable proportions of child and early marriage over time (around 50% and 70%, respectively). However, again with regards to early marriage, we do observe a small declining trend in the proportions married for those with less than primary and completed primary education. Hence, given the changes within the primary educational levels (completed and non-completed), in Kenya not only there seems to have been a change in the educational structure but also some change in the behaviour of women who have been delaying their entry into first union. It could also mean that having at least some education, even if small, can possibly lead towards adjourning the entry into matrimony.

Having asserted the substantially later timing for marriage for those women with secondary and more schooling, even when compared to those with primary education, the patterns for the other two transitional events towards first birth and first sexual intercourse are not only also considerably later but the intensity of the event is lower too (Figure 4.8). This pattern of remaining single for the educated is later confirmed with the trend for the marriage transition before the age of 22, with the steep decline in the proportions of women married before that age with primary and especially post-primary education.

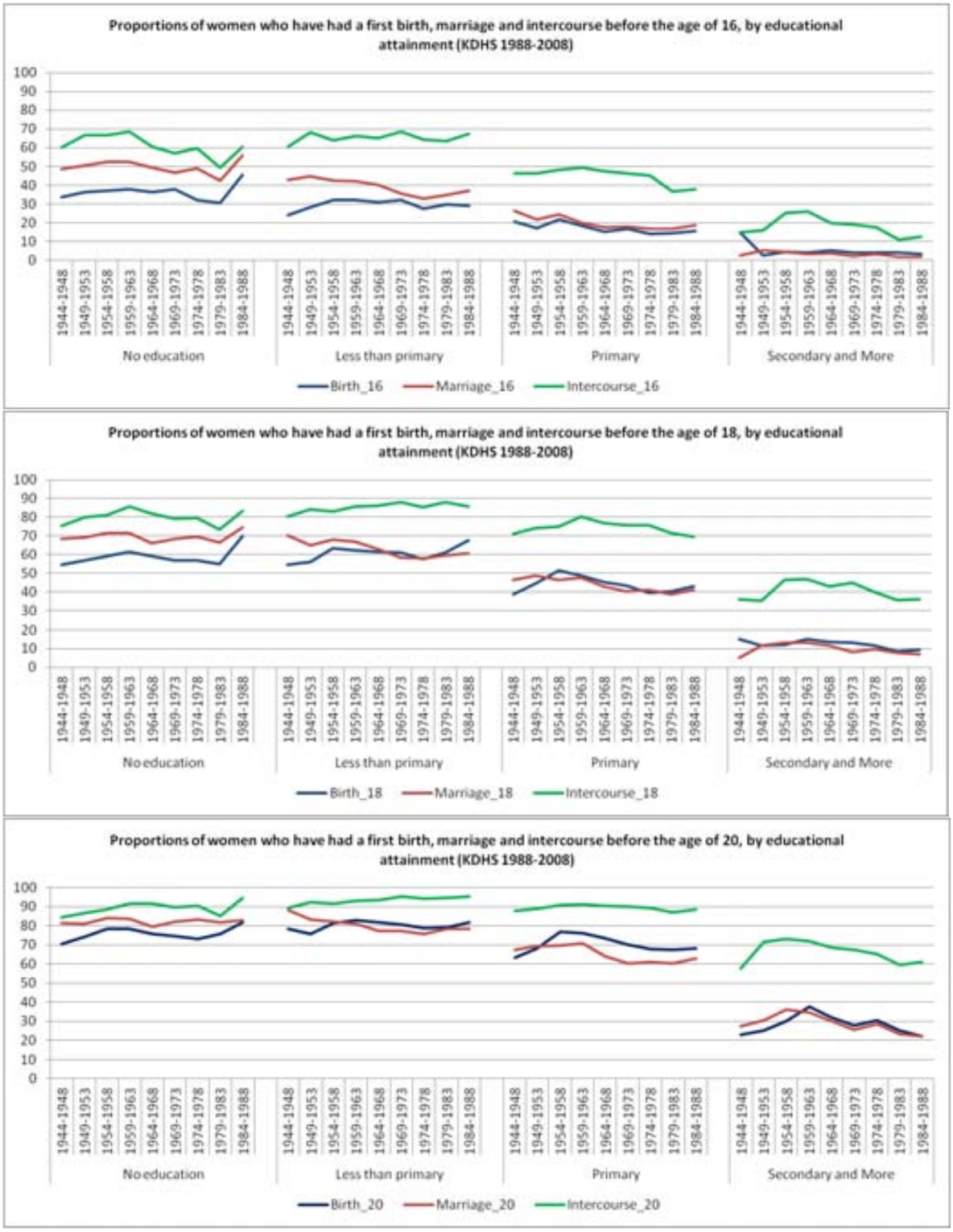
On the other hand, the previous pattern observed on the "early sex" among Kenyan women is also strengthened when taking into account the educational level, since the proportions for this particular event are higher than the ones for marriage and birth in all cases (except for the elder generations of non-educated women experiencing this event before the age of 22). If we draw a distinction between educational levels, again those women with secondary and more schooling have significantly lower proportions of women who have engaged into sexual relations before the age of 16 to 22. When comparing "early sex" patterns between uneducated women and those with less than primary, the proportions of women who have experienced their first sexual intercourse are slightly higher for those with a bit of education – there is a slight decline for those with no education, while for the less than primary group the trend is of about 60-70% before the age of 16, and 80-90% before the age of 18 –; whereas, for those with primary schooling the trend of "very early sex" is relatively constant at 50% (throughout the cohorts born between 1944 and 1973, and declines with the younger cohorts towards proportions of 40%) and "early sex" oscillates between

[52] These fluctuations among those with no education on Figure 4.8 is mainly due to the number of cases for the youngest cohorts, which have been reducing over time as the educational expansion has been taking place. It has been also noticed that there has been a slight change in the ethnical composition of those younger cohorts which could also be behind these changes on the proportions for these last three cohorts. It should also be noted that the number of cases for the eldest cohort at the secondary and more level is less than 50.

70-80%; and finally, sexual activity before the ages of 20, and especially 22, is a transition undergone in a similar fashion for all educational levels, except post-primary, with elevated intensity of occurrence.

Finally, in Figure 4.8 it is revealed that there are some differences on the calendar of the transition towards first birth when contemplating the educational level. For those with no education, what apparently comes into sight is that women marry or enter a union before having their first child, as the proportions of women who have produced offspring are relatively lower than the nuptials proportions – more so on the cases before the age of 16 and 18, and to a lesser extent before the ages of 20 and 22. We find a similar scenario for the women with less than primary and primary education who have had their first birth before the age of 16, but in the latter case the proportions for birth and marriage are extremely close. On the opposite side of the educational stage, the pattern for women with secondary and more education is that of proportions of first birth slightly higher than the proportions for first union, except for earlier cohorts. This same calendar is found for those Kenyan women with less than primary and primary education who have experienced these transitions before the ages of 20 and 22. Lastly, when looking into the transitions before the age of 18, for those with less than primary education the proportions who have married are higher for the elder cohorts (those born until the early 60s) and then shifts towards the contrary pattern; although for those with primary completed education the proportions for first birth and first marriage go almost hand in hand from the cohorts born in the 50s onwards.

**Figure 4. 8 : Proportions of women who have experienced the transitional events of first birth, marriage, and sexual intercourse before the ages of 16, 18, 20 and 22, by cohort and educational level.**

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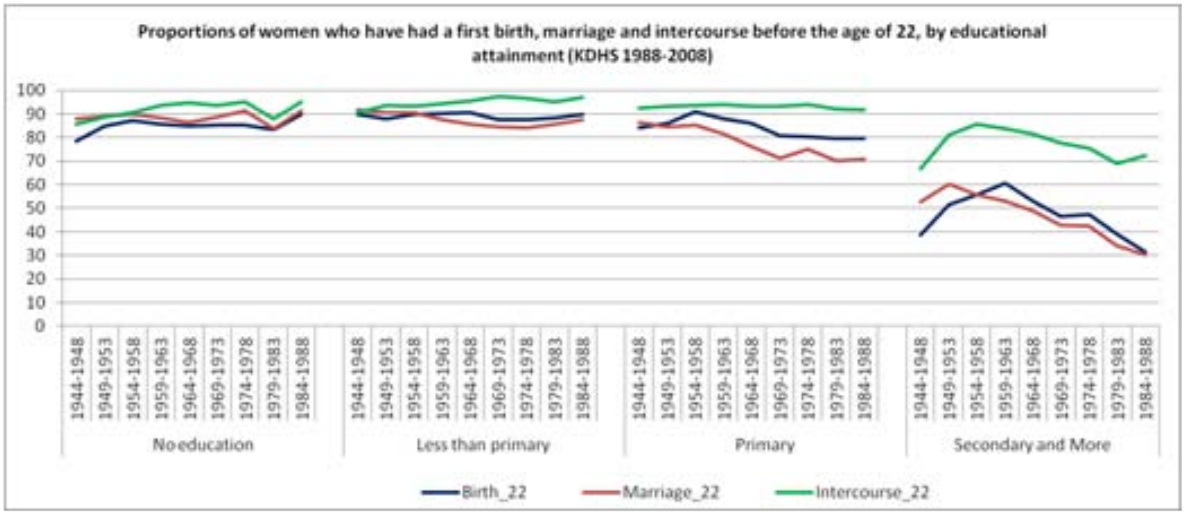



*(Source: own calculations based on KDHS data)*

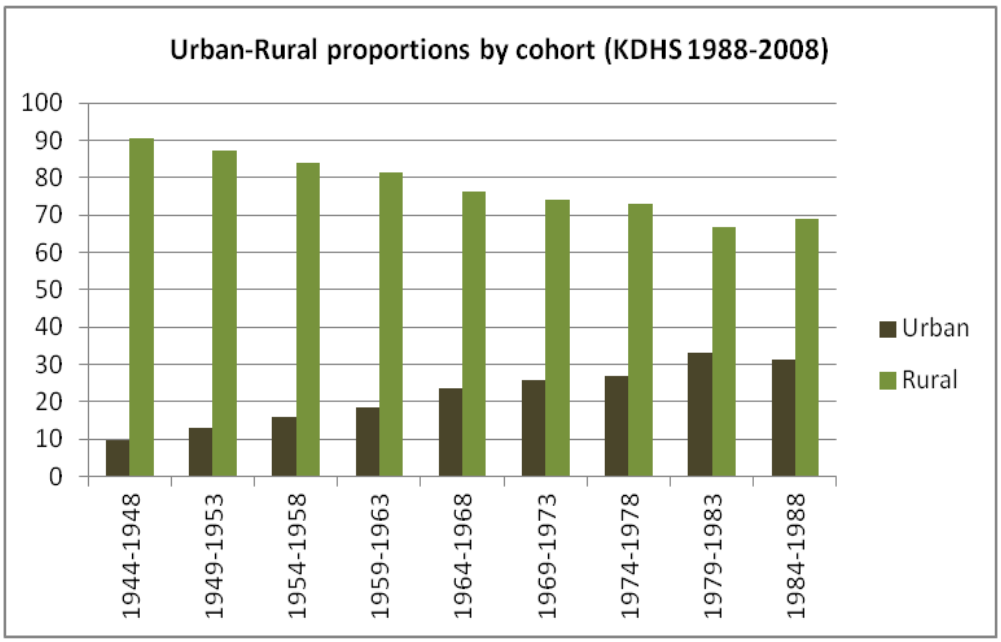
### 4.3.3. OTHER CONTEXTUAL FACTORS

In the sections above the trends on marriage, birth and sex patterns, as well as the educational expansion for Kenya, taken as a whole, have been pointed out. Nevertheless, within its boundaries the country is rich in its complexity. As in other nations, and especially those located in the African continent, one can find socioeconomic differences and regional disparity that account for differences on the stage of the development process itself. In this East African state, there are significant socio-economic and regional variations, but also each ethnic group has its own socio-cultural ideologies about marriage as a transition towards adulthood. Therefore, what follows next is the descriptive analysis on the educational expansion, marriage timing and it link to the schooling progress by type of place of residence, ethnicity and region, while other factors such as religion, polygamy, arranged union versus own choice, or socioeconomic status for Nairobi capital can be found in the annex.

### 4.3.3.1. URBAN/RURAL PLACE OF RESIDENCE

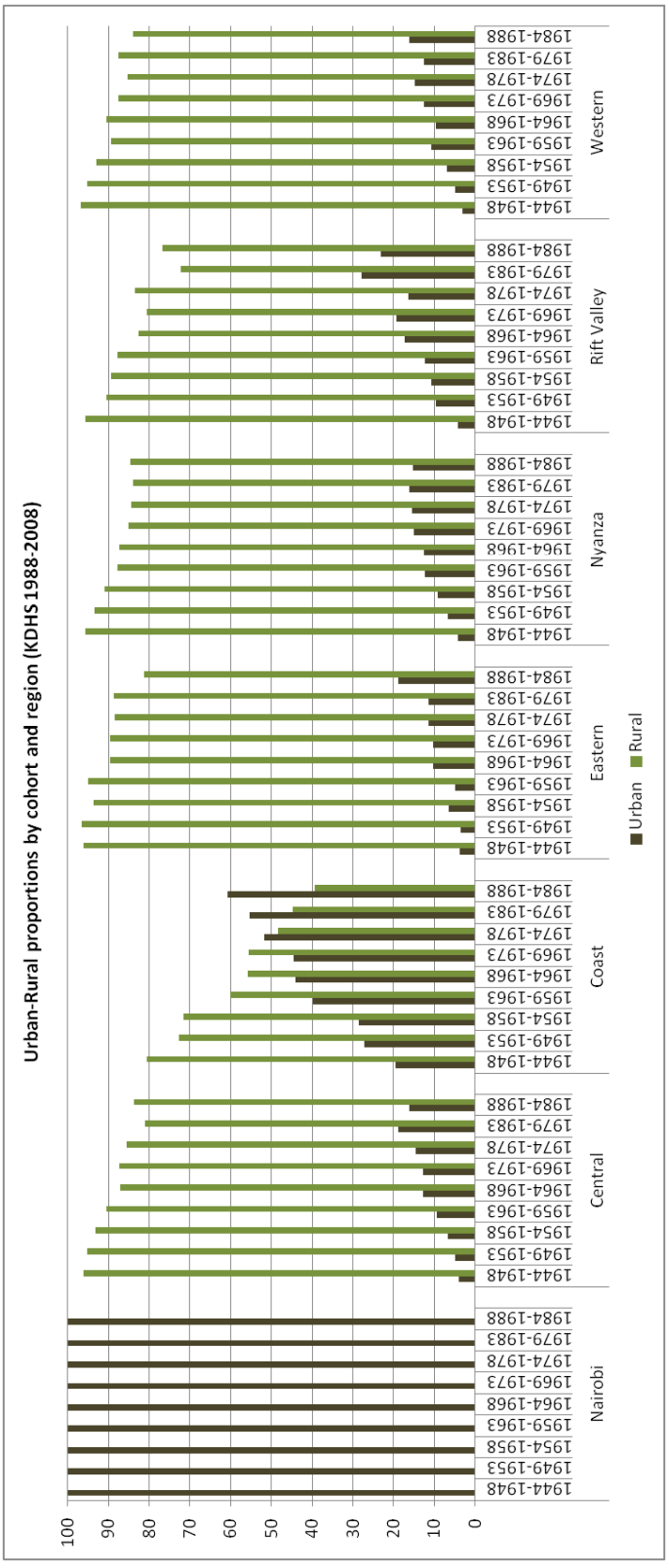
Though the current urbanisation process in Kenya is a cumulative result of some basic trends such as demographic explosion, rural over-population, increased mobility and rise in personal aspirations and expectations, the framework for the spatial pattern of urban development was provided during the colonial period and persisted even after independence (Obudho & Aduwo, 1990). Although many urban areas were founded in the colonial period, with a few dating to the pre-colonial era (mainly in the coastal belt as a result of trade between East Africa, India, and Arabia), much of their growth has occurred since independence (Otiso & Owusu, 2008). As Prazak (2007) points out, in only a decade, Kenya's urban population has more than doubled, from 4.2 million in 1989 to 9.1 million in 1999. Nonetheless, although it is progressively experiencing such a process of urbanization, DHS data suggests that Kenya is predominantly a rural country, reaching proportions of urban population of about 30% for the youngest cohort in our data (Figures 4.9 and 4.10). The country has a classical single-city structure that is anchored in Nairobi (Otiso & Owusu, 2008). So far, besides Nairobi, the other region that is mostly urban is the Coastal area with a gradual process of urbanization in which urban younger generations have replaced the previous rural majority (Figure 4.10).

**Figure 4. 9 : Total proportions of urban-rural population by cohort and by KDHS survey year.**




*(Source: own calculations based on KDHS data)*

Figure 4. 10 : Total proportions of urban-rural population by cohort and region.



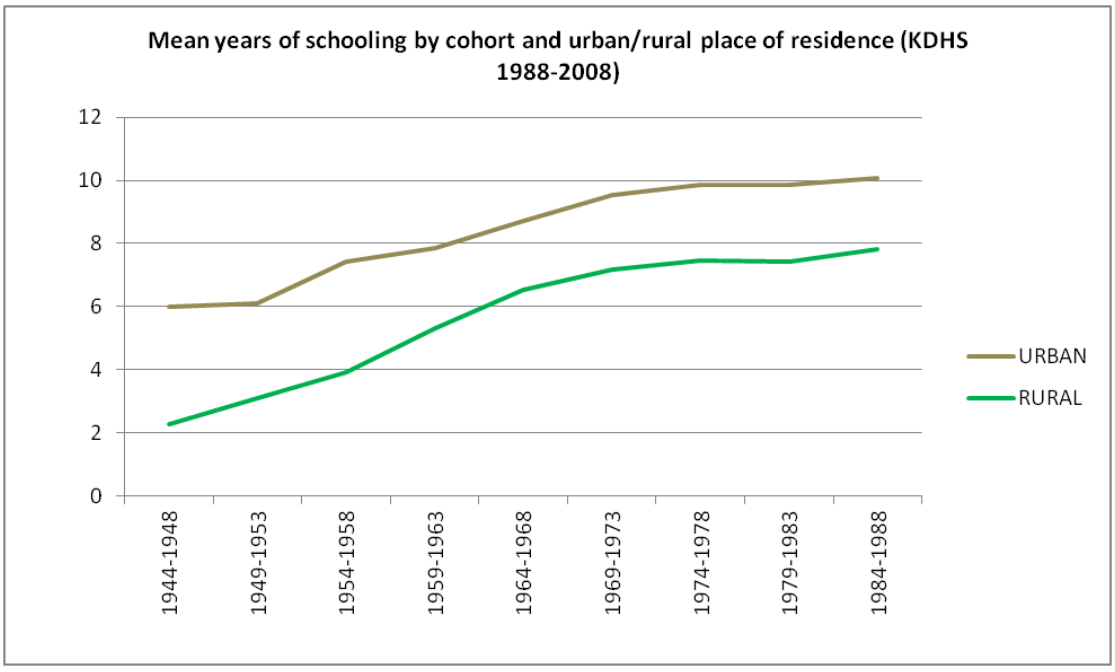

*(Source: own calculations based on KDHS data)*

Patterns of marriage may also differ between urban and rural areas. However, according to Singh and Samara (1996), in Sub-Saharan Africa urban-rural differences are smaller since urban women from urban environments are "about 70-90% as likely as rural women to marry before age 20". In the same direction, Magadi and Agwanda (2009) found no evidence of significant differences between rural and urban residents in the timing of first sex and marriage in South Nyanza (Kenya). Nonetheless, Garenne (2004) found that the trends in median age at first marriage in urban areas were strong and consistent, where the increase was significant for recent cohorts. The CBS, MOH, & ORC-Macro (2004) state that urban women tend to marry two years later than their rural counterparts (being this difference larger among the younger age cohorts). In this sense, differences between urban-rural areas might also uncover regional socio-economic development differences, which is something that one should take into account when studying the age at marriage. Ikamari (2005) confirmed empirically for Kenya that the more developed a province was, the more likely women would delay their first marriage, which is logical since these developed areas are considered to be better educated and have more job opportunities.

Henceforth, if we first take into account the degree of development in terms of education, are there differences between rural and urban settings with regards to the Kenyan female educational expansion? On one hand, although the gap between both types of place of residence has faintly reduced throughout the time period considered here, the mean years of schooling have been superior for those women living in urban areas than in rural ones (Figure 4.11). In fact, both urban and rural female populations have been spending more years in school over time, with an increase of 4 years for urban women and almost 6 for their rural counterparts. Then again, when taking into account the educational levels, having noticed the striking growth in primary education among the rural population, there has also been an impressive decline of uneducated rural females born between the 40s and 60s, although the younger cohorts are still facing a constant 10% of girls who do not have education; while their urban counterparts have also undergone a similar fall of uneducated women during the exact same period, the younger generations' regular share of unschooled girls is around 5% (Figure 4.12.1). Along the same lines, there has been a drop of women with less than primary schooling for both urban and rural women, although the latter still has more proportions of girls with unfinished basic education (Figure 4.12.1). Lastly, post-primary education has increased for both the rural and urban, yet the proportions of women with higher education are far greater for the urban areas. If the educational expansion is adjusted whether girls have undergone an early marriage or not, the picture reveals that in both urban and rural cases, those who have remained single until the age of 18 at least, have managed to reach greater levels of education (Figure 4.12.2). That is, the share of Kenyan women with secondary levels or higher is considerably superior among non-married urban and rural teenagers. In fact, among rural women, those who have married early fare relatively worse on the schooling scene.

Over recent years, private primary schools have proliferated, especially in urban areas and the more-developed rural districts (for instance, in Nairobi in 2006 they outnumbered the public ones), substantially out-performing the public ones in the Kenyan Certificate of Primary Education examinations (KCPE) (Somerset, 2009). Therefore, as opposed to the racially separating system that Kenya initially had, the author insists that now the risk is more towards economic criteria where privileged pupils attend private schools and, following the quote of a pupil (in reference to public schools) "*may allow those who are poor to make it*" (p.249). Mugisha (2006) already stated that this "urban advantage" has been associated with increased access to facilities, such as schools, in urban areas. Although, the author saw that the difference in enrolment between urban and rural areas diminishes if you consider urban slum and non-slum communities, where the urban advantage does not seem to work for slum children as they grow, even compared to rural children, mainly due to quality of primary school, access to secondary levels, living conditions, vulnerability to coercion into risky behaviours and early sexual activity especially for females, as well as child labour.

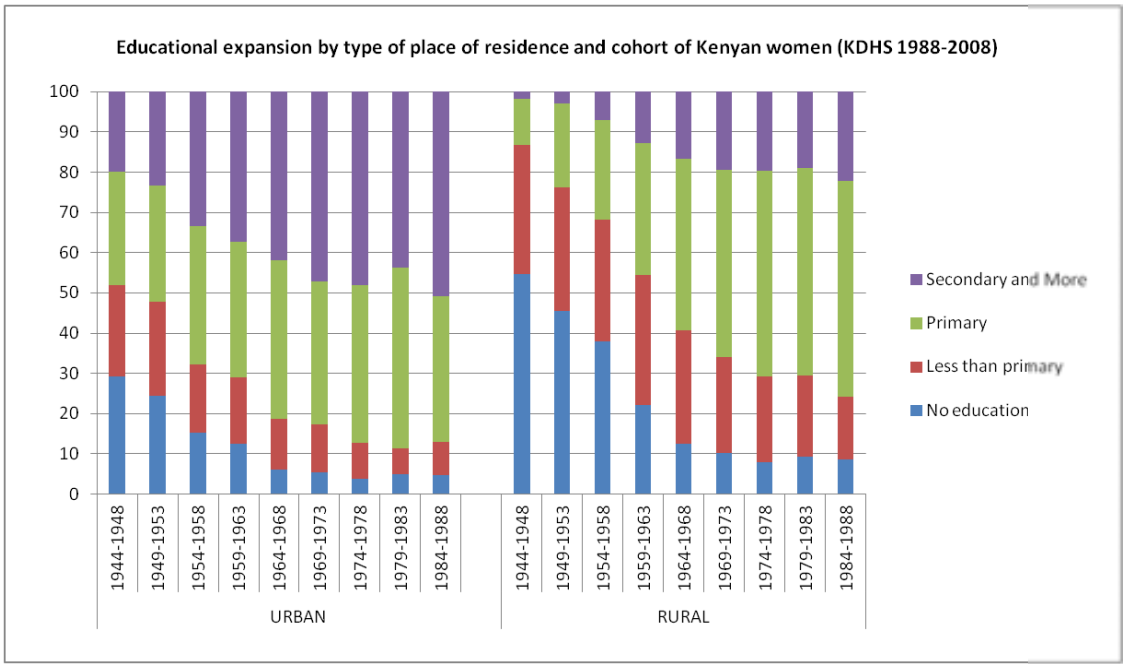
**Figure 4. 11 : Mean years of schooling by cohort and urban-rural type of place of residence.**




*(Source: own calculations based on KDHS data)*

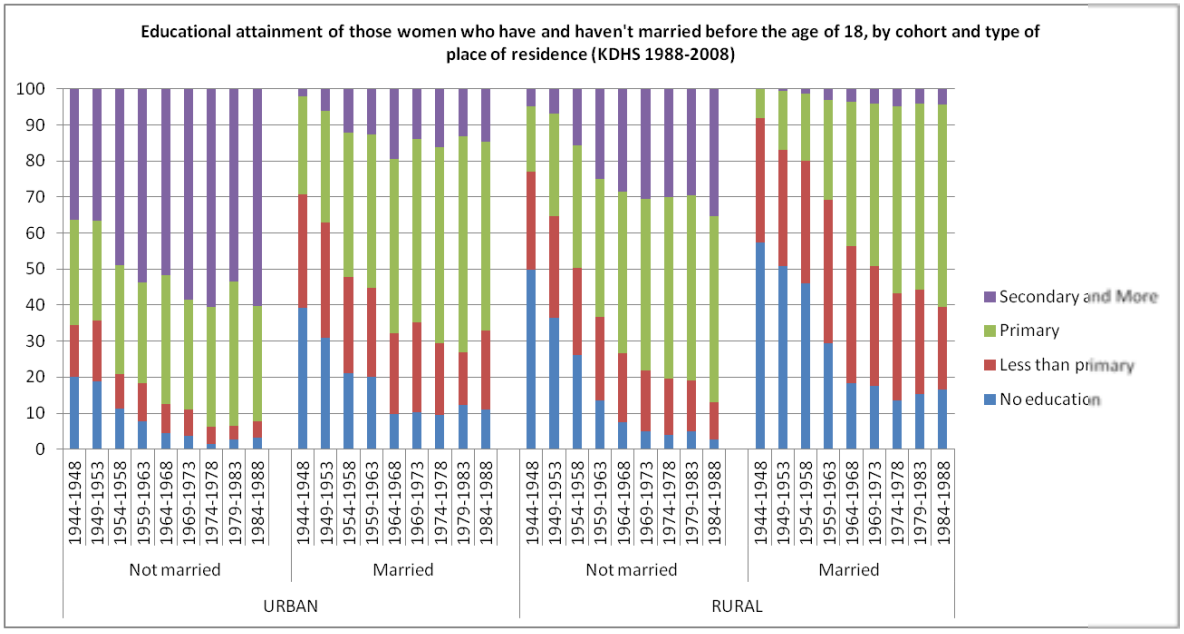
**Figure 4. 12 : Educational expansion by cohort and urban-rural type of place of residence.**

*Figure 4. 12. 1 : Educational expansion by cohort and urban-rural type of place of residence.*




*(Source: own calculations based on KDHS data)*

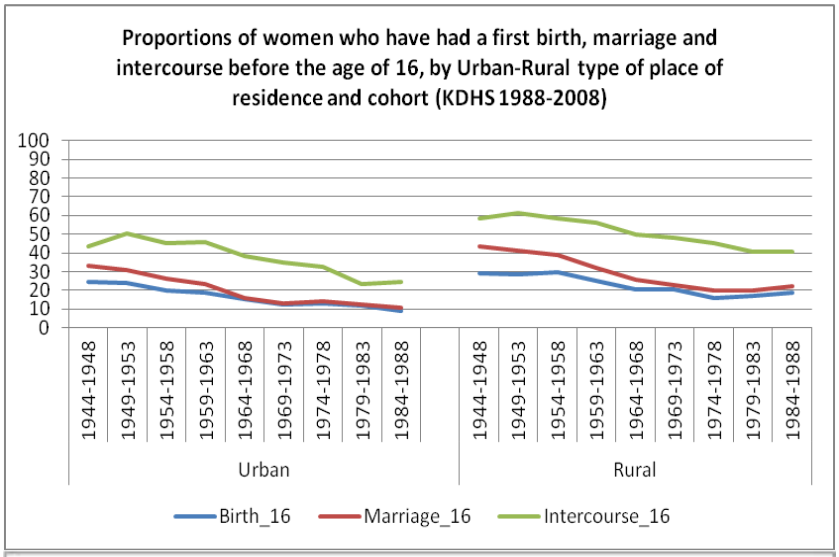
*Figure 4. 12. 2 : Educational attainment of Kenyan women who have experienced an early marriage and those who have not, by cohort and type of place of residence.*

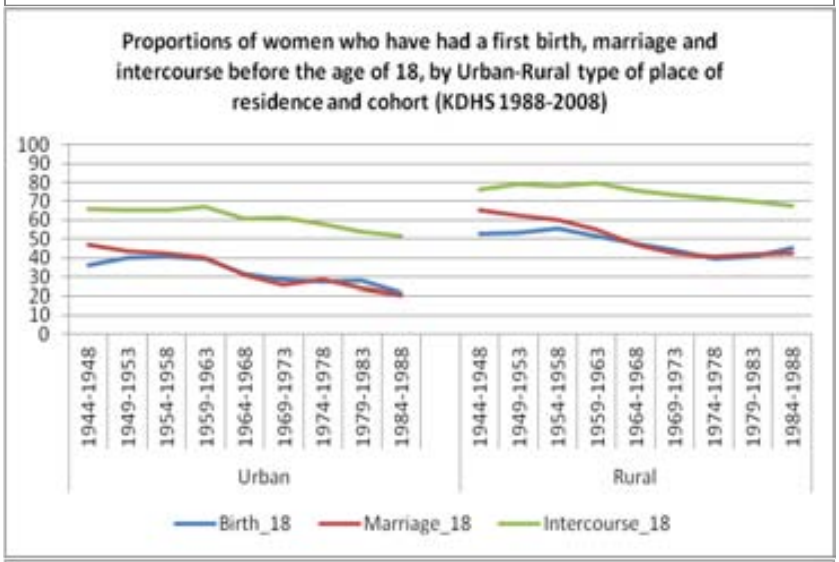


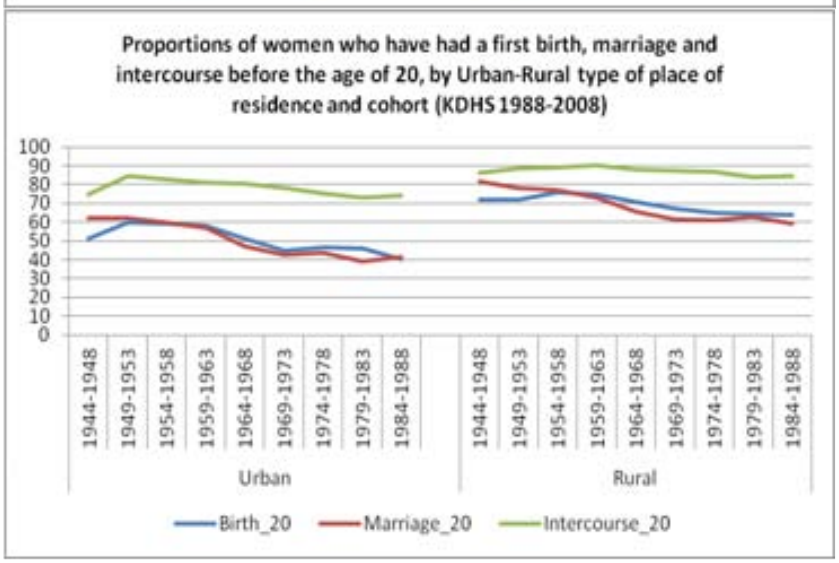

*(Source: own calculations based on KDHS data)*

Secondly, if we compare the transitions into first marriage, birth and sexual intercourse depending on if women live in rural or urban areas, the results generally show greater intensity of these events for the rural female population, at all ages considered; and again women seem to engage into sexual activity before wedlock (Figure 4.13). With regards to child and early marriage, the proportions of women who enter such unions are more elevated among the rural residents (of about 10% and 15-20% more respectively), even though a decline over time can be observed for both urban and rural people; and, on the other hand, the elder cohorts have lower proportions of first birth when compared to the nuptial transition, but the timing of both events appears to be almost the same for the cohorts born during the 60s and onwards, independent of the type of place of residence (Figure 4.13). Ultimately, the proportions remaining single and without offspring before the age of 22 are relatively greater and increasing over time for those urban residents, although we can detect a delay for their rural counterparts too (Figure 4.13).

**Figure 4. 13 : Proportions of women who have experienced the transitional events of first birth, marriage/union, and sexual intercourse before the ages of 16, 18, 20 and 22, by cohort and urban-rural type of place of residence.**

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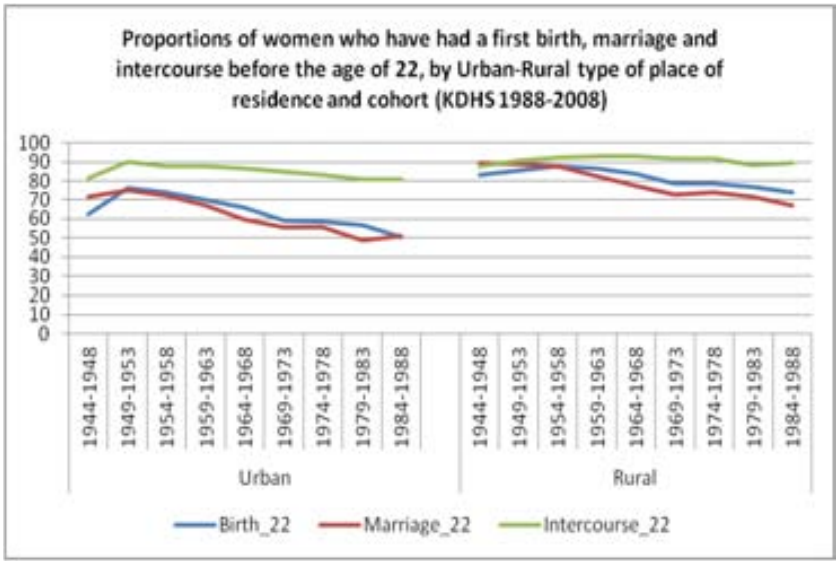



*(Source: own calculations based on KDHS data)*

### 4.3.3.2. REGION AND ETHNICITY

In Kenya there are significant socio-economic regional variations and the regions have been impacted differentially by modernisation. The country has experimented with different development strategies that still entrench regional inequality (Oucho, 2007). There are eight provinces in Kenya. According to the country's latest census, in 2009, the most populated region is the Rift Valley (with over 10 million people residents), followed by the Eastern and Nyanza provinces (with a bit more than 5 million), Central and Western (4 million), the Coast and Nairobi (3 million), and finally the North Eastern region (2 million). Generally due to historical and political reasons, Nairobi, Central and some parts of the Rift Valley province are more economically developed than the other provinces located at the periphery of the Capital City of Nairobi, which is the seat of government (Ikamari, 2008). So, in terms of development status Oucho (2007, p.89-90) gave the following classification in which, Nairobi and the neighbouring Central province were the ones with higher status (Nairobi being the metropolitan region with non-agricultural activities that act as a pulling factor in terms of in-migration flows, many of them settling in slums); followed by medium status regions consisting of the Coastal area, with its appeal to the rest of the country for in-migration because its development thanks to tourism and the city port of Mombasa; the Rift Valley which has "*highly developed pockets with marginal areas where commercial live-stock farming and nomadic lifestyle co-exist*"; and Eastern that has "*developed nodes within a sea of poverty*"; while on the lower status

we have Nyanza and the Western provinces[53], that have remained large-scale out-migration regions, and finally the North Eastern region that borders Somalia is on the lowest spectrum.

With regards to ethnicity, the country accounts for over 70 distinct ethnic groups whose size varies extensively and, although no specific group is established as the majority of the country's citizens, the Kikuyu are the largest unit[54] (20%) (See Figure 4.14.2). In Kenya ethnic groups are regionally located. Kenya's administrative units were created along ethnic boundaries by the British colonial administration, being further consolidated after the country's independence, and they illustrate Kenya's present ethno-geography (Alwy and Schech, 2004). Moreover, these groups can be classified into three linguistic groups (Bantu, Nilotic and Cushitic) which are also regionally concentrated[55] (Prazak, 2007). Except for the capital region, Nairobi, where there is a mixture of different ethnical groups (especially Kikuyu, Luo, Kamba, Luhya, Somali and others), as well as other nationalities (taking into account it is the regional headquarters of various international organizations and companies); the country is divided along the following ethnic lines: the most populous ethnic group, the Kikuyu, is located mainly in Central province (and secondly in the Rift Valley and Nairobi); the Luhya are mostly found in Western province (and also in the Rift Valley and Nairobi); the Luo reside predominantly in Nyanza province, sharing the land with the Kisii and the Kuria; the Eastern province is home to the Kamba, and also the Meru/Embu; while the Mijikenda/Swahili, Taita/Taveta and, to a lesser extent, the Somali reside in the Coastal region (and the North Eastern province, alongside the Boran); and finally, the heavily populated Rift Valley is dominated by the Kalenjin, although the Maasai, the Turkana and other ethnicities live in this vast region (see Figures 4.14 and 4.15). Among the main non-indigenous minorities, the Arabs and Asians stand out, where almost all Kenyan Arabs live in the coastal area[11], and the Asians are spread all over the country.

For the purpose of the present study, only the five main ethnical groups – Kikuyu, Luhya, Luo, Kamba, and Kalenjin (Figure 4.14) – will be considered here so as to not only obtain better statistical significance in the analysis, but also because like this it is possible to indirectly point out some of the country's complexities in terms of access to resources and educational opportunities given the ethnic and geographical proximity to the ruling elites (see Alwy and Schech, 2004). The authors argue that ethnicity should be placed at the forefront of analyses of educational

[53] Nyanza and Western, alongside Lake Victoria, are mainly specialised in sugar cane farming and fishing, respectively.

[54] Information extracted from the website "African Studies Center" from the University of Pennsylvania. Visit source for extra information on the characteristics of these ethnic groups: (http://www.africa.upenn.edu/NEH/kethnic.htm)

[55] Among the **Bantu speakers**: 1) Luhya, Kisii, Kuria: Western and Lake Victoria (Nyanza); 2) Kikuyu, Embu, Meru and Kamba: east Rift Valley and Eastern; 3) and the Mijikenda at the Coastal belt. Among the **Nilotic speakers**: we have the Luo, Kalenjin, Maasai and related groups (Nyanza, Rift Valley). And finally, the **Cushitic speakers**: include Somali people (Northeastern).

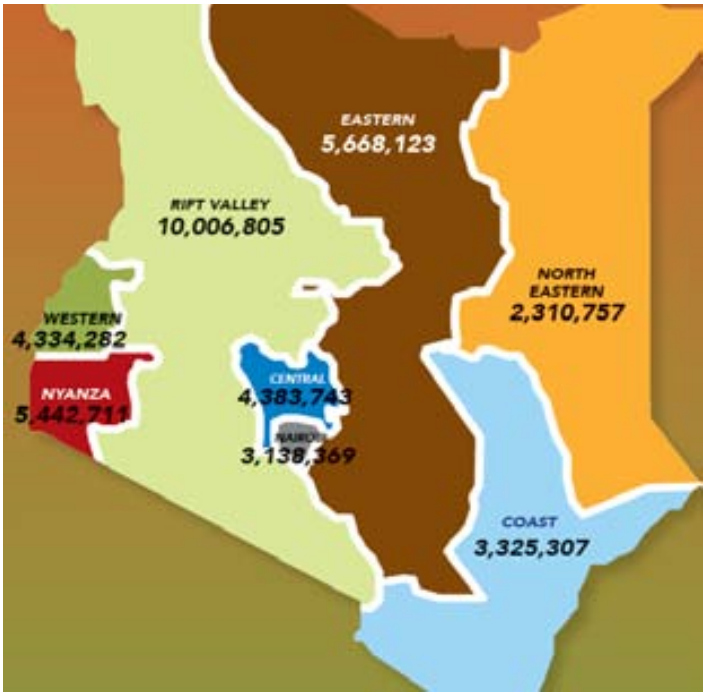
development in Kenya, as well as in policy efforts to reduce inequalities in education[56]. In addition, because land is a highly prized resource in Kenya, ethnic conflict can often be triggered by land-centred struggles (Oucho, 2007, p.88). In effect, among the five main ethnical groups, the Kikuyu are the ones who have been and are mostly represented in the government and public life, as well as in businesses, farming, and various professions; while the Luo, originally pastoralists, are primarily traders, artisans, and fishermen/farmers; the Luhya, are important in the farming economy; the Kalenjin are mainly pastoralists and farmers, although since Daniel Arap Moi's presidential era they became politically powerful; finally, the Kamba have been excellent traders, and are also well represented in defence and law enforcement[11]. Along these lines, in terms of urban/rural type of place of residence and main ethnicity, except for the Kalenjin, all other four ethnic groups have seen an increase over the generations in the proportions residing in an urban setting; and while the Kalenjin women are the ones that inhabit the most in rural environments, the Kikuyu are the most urbanite ones (Figure 4.16).

Indeed, women's mean years of schooling is higher for those coming from the two more developed areas, Nairobi and Central; while the Coastal region is the one with the lowest score (Figure 4.17). These regions centrally located are also the ones with fewer proportions of women with no education, where Nairobi has the highest share of females with secondary and more education, followed by Central province (Figure 4.19). Precisely, Kikuyu women are the ones who not only started earlier in time in their educational expansion, but also the ones who lead in prolonging or extending their education (Figures 4.18 and 4.20). However, even though the Kikuyu women have higher proportions of post-primary educated, over time the younger generations of Kalenjin, Kamba and Luo are the ones with greater proportions of primary completed educated girls (Figure 4.20).

[56] They do acknowledge a lack of in-depth research devoted to the ethnicity factor in Kenyan society. In sum, their results suggest a close correspondence of differentials between inequalities in education and ethnic affiliation to the ruling elite, that uses state resources for the special benefit of its own ethnic community and its allies, which would be reflected in the educational development pattern. Right after independence from the British colonization, started President Kenyatta's regime (1963-1978), where certain parts of the Kikuyu community gained considerably; while President Moi (1978-2002) granted similar advantages to his tribe – the Kalenjin. These practices resulted in seriously unbalanced modern development and inequalities in the country, and contributed to ethnicity becoming an important site of identification and conflict (Alwy and Schech, 2004). An example can be found in the ethnic violence after the 2007 Presidential elections, in which President Kibaki (during 2002-2007), who is from the Kikuyu tribe, was running for re-election against Luo candidate Raila Odinga from the Orange Democratic Movement, finally signing a coalition government in 2008. In 2013, Uhuru Kenyatta, who is the son of Jomo Kenyatta (Kenya's first president), won the presidential elections.

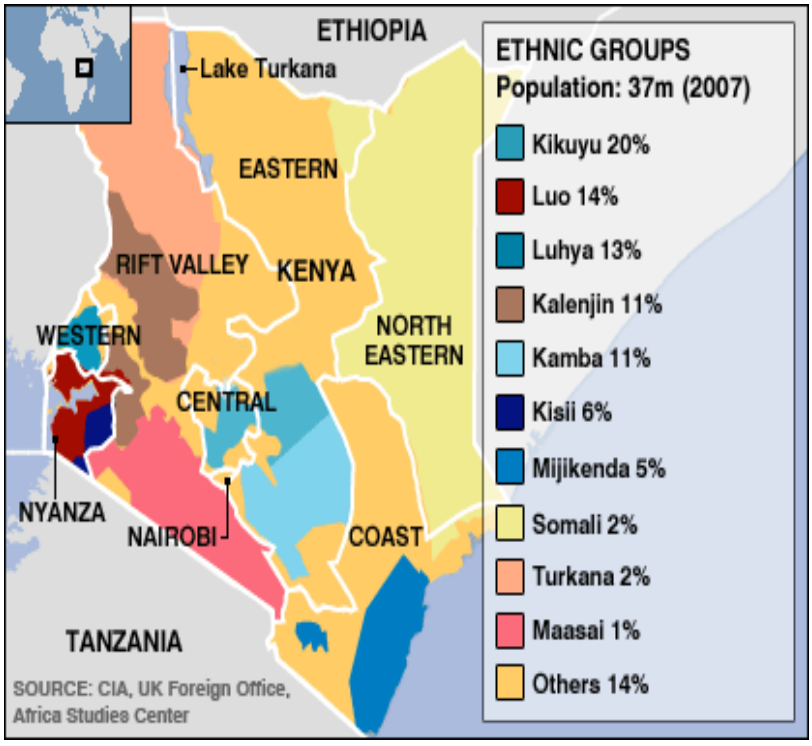
**Figure 4. 14 : Population data by region and Ethnic groups and their location in the country**

*Figure 14.1: Population data by region*



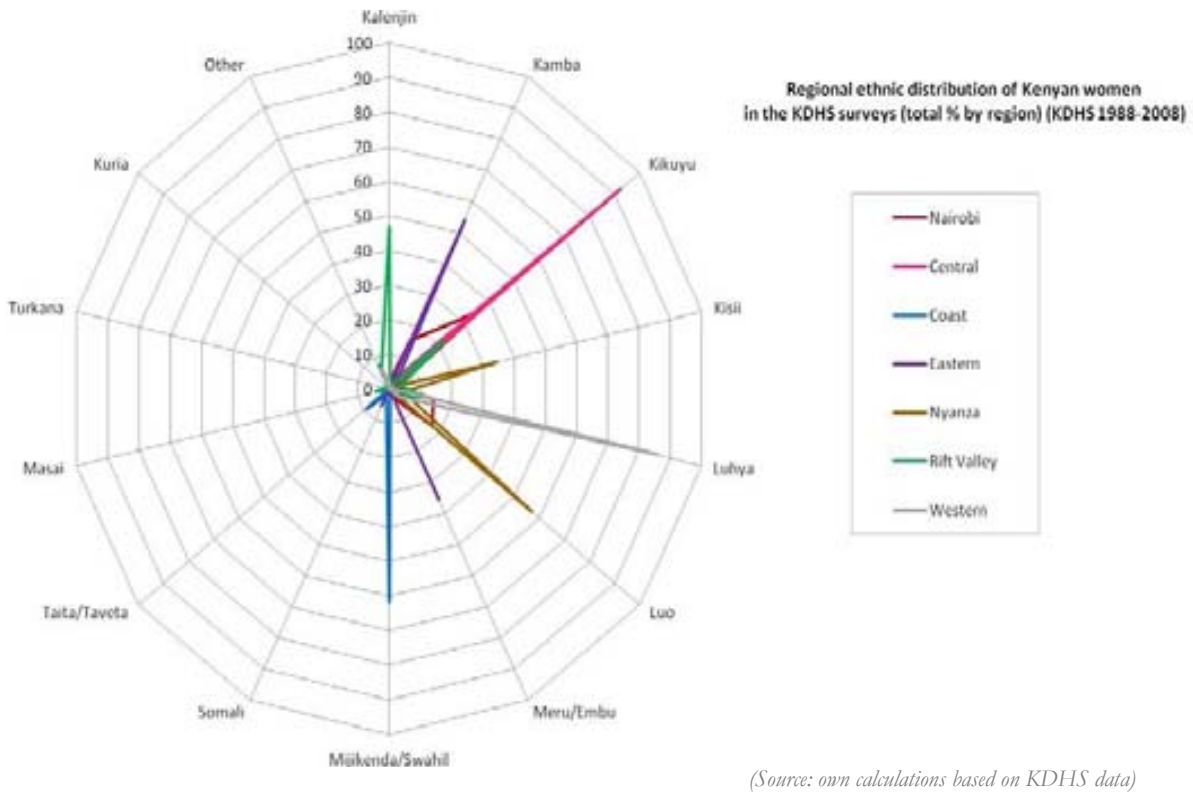

*(Source: Kenyan Census 2009)*

*Figure 14.2: Ethnic groups and their regional location in Kenya:*



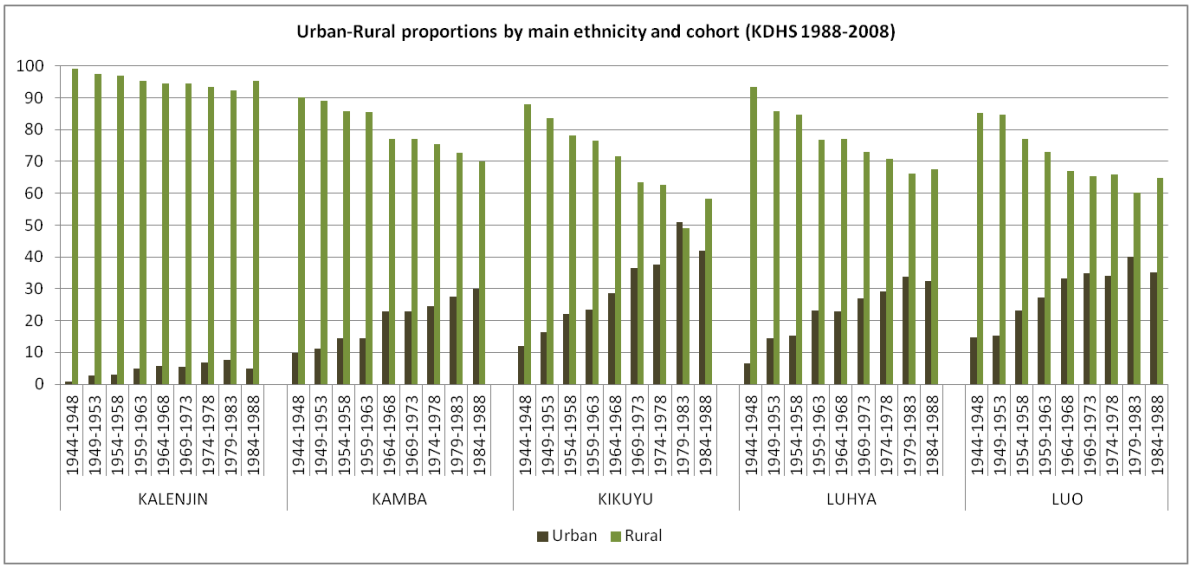

*(Source: CIA, UK Foreign Office; 2007)*

Figure 4. 15 : Ethnic distribution of Kenyan women by region.




*(Source: own calculations based on KDHS data)*

Figure 4. 16 : Proportions of urban/rural residents by main ethnicity and cohort.



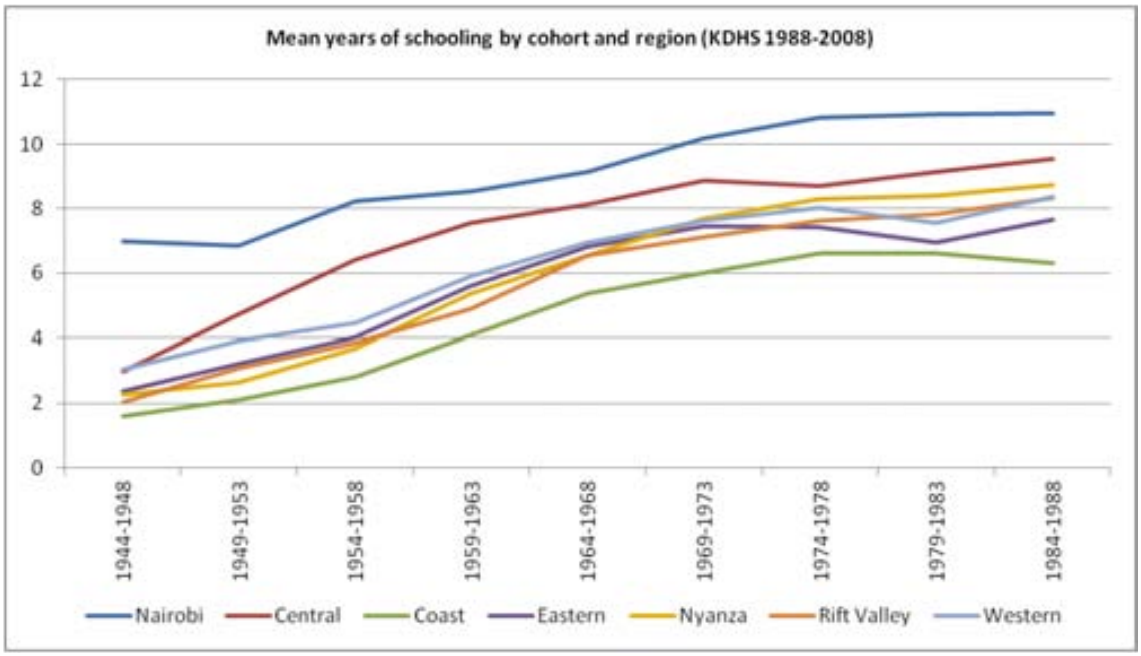

*(Source: own calculations based on KDHS data)*

Despite the fact that there is still a clear gap between the provinces with better and worst educational outcomes, in terms of mean years of schooling, all Kenyan provinces have witnessed some progress towards keeping girls at school for longer periods of time (Figure 4.17). The same can be said for the main five ethnic groups (Figure 4.18). Even though, the Kalenjin are the ones that are at the bottom in their mean years of schooling in all cohorts taken into account, they have still managed to catch up with the rest, as the gap has been reducing over time and has reached its minimum for the younger generations for four out of five of the main ethnic groups, when compared to the better educated Kikuyu girls (Figure 4.18). Additionally, one can note the impressive gain over the generations for Nyanza province, as it started from the third in the bottom for the cohort born in the early 40s reaching third from the top for the youngest generation (Figure 4.17). In fact, the trend in all regions has been of an extraordinary descent in the proportions of uneducated women; although there are still regions that still have young girls with no education in the Coast (over 20%), Eastern province[57] (over 10%), and Rift Valley (almost 10%) (Figure 4.19). The picture on the less than primary educational level somehow exposes the difficulties that Kenya has been facing on the educational participation front: despite the remarkable gains in completed primary education, there are regions where girls do not finish their schooling[58]: the Western and Coastal provinces have seen little change in the proportions of women with less than primary education, which has remained fairly constant (around 25-30% and 20% respectively) over the last generations; while the Rift Valley, Eastern and Nyanza's reduction has been more recent in time (Figure 4.19). For example, with regards to ethnicity, the Luhya (who reside mostly in the Western province) are among the ones who still have higher proportions of girls with less than primary education (Figure 4.20). In fact, the drop in the proportions of women who would not finish their basic education started upon the independence period (1963), as it can be seen in Figure 4.19, where it is quite visible in the change of trends for the Kalenjin born in those years, as well as the Kamba, and Kikuyu (although they had already started the descent earlier), while the Luo's steep decline started for those born in the late 60s (Figure 4.20).

[57] The declining trend in the mean years of schooling for the younger cohorts in the Eastern region is probably an artificial result, as it was stated previously, in this analysis this region combines both Eastern and North Eastern provinces, and given the poor results of the latter relative to educational outcomes (Oucho, 2007; KDHS report 2008-09), as a whole the heterogeneous Eastern province will probably underestimate the gains with regards to its educational expansion (Figures 4.17 and 4.19).

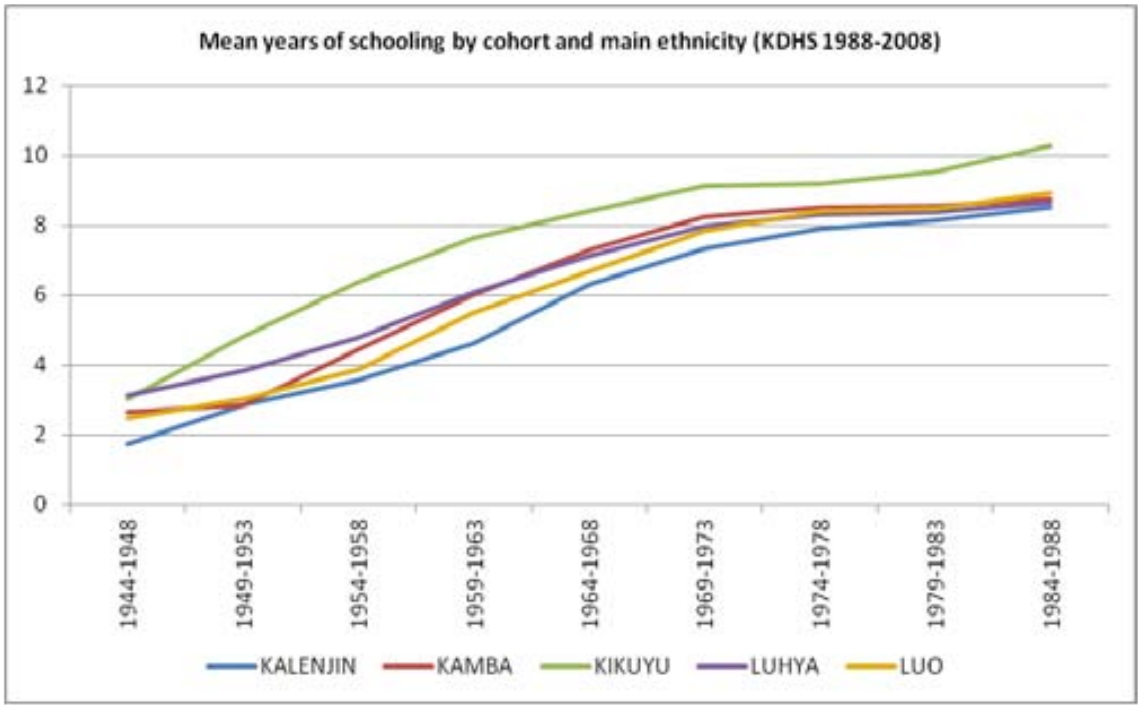
[58] It could be probable that some girls drop out of school and decide to, later on, resume their studies. However, since the women included in the sample have all reached the age of 20, the chances of this particular situation is severely reduced.

Figure 4. 17 : Mean years of schooling by cohort and region.



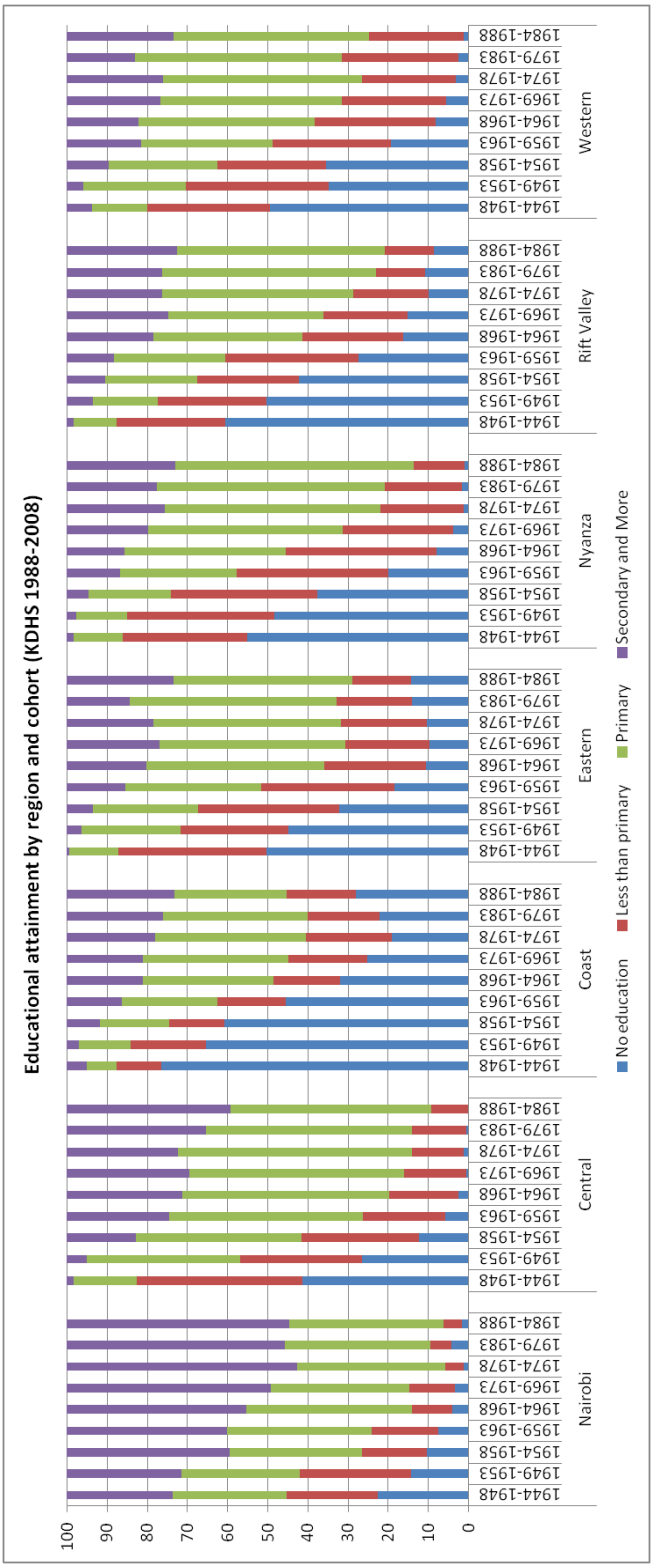

*(Source: own calculations based on KDHS data)*

Figure 4. 18 : Mean years of schooling by cohort and ethnicity.



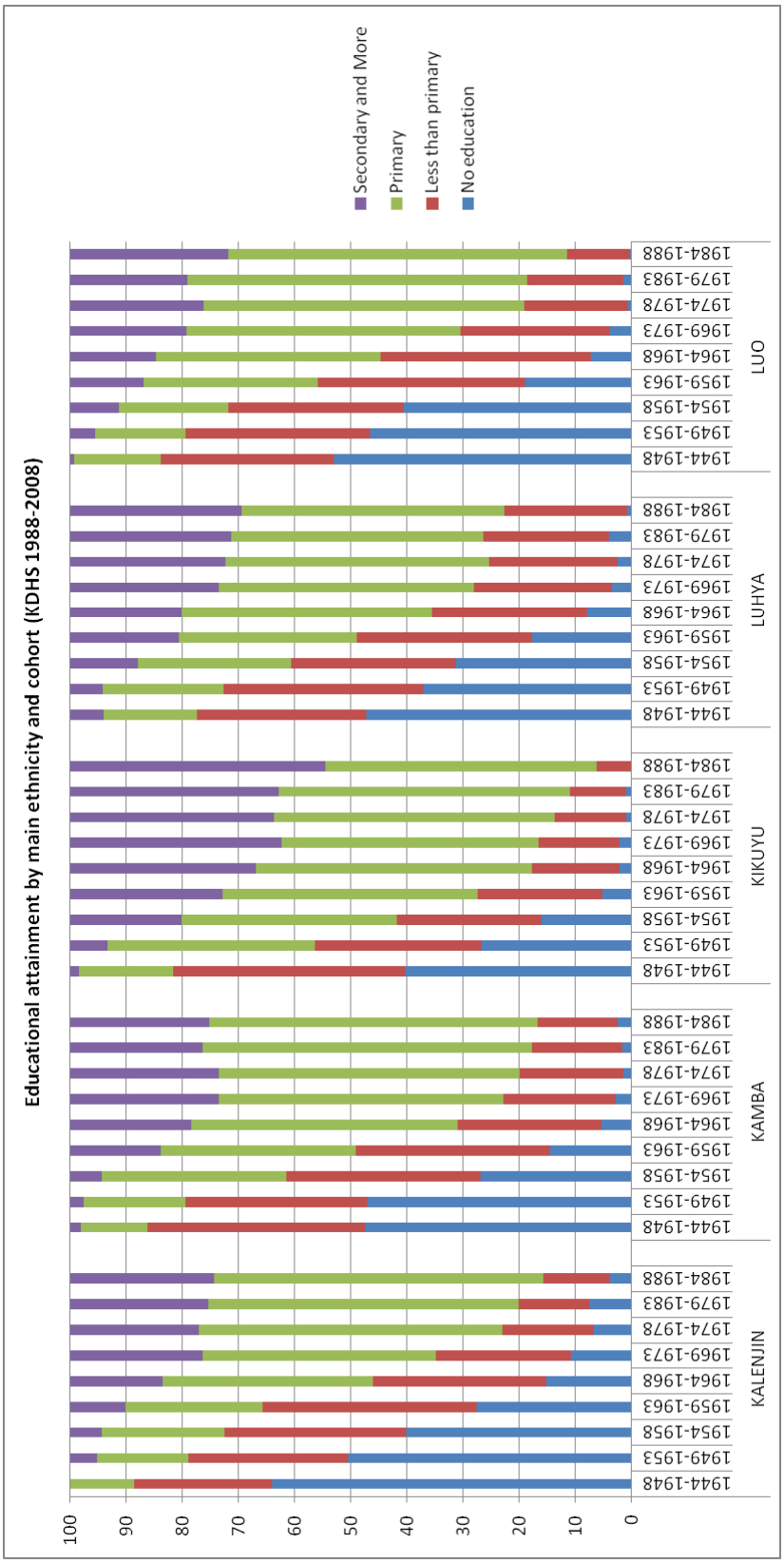

*(Source: own calculations based on KDHS data)*

Figure 4. 19 : Educational expansion of Kenyan women by cohort and region.




*(Source: own calculations based on KDHS data)*

Figure 4. 20 : Educational expansion by cohort and main ethnicity.




*(Source: own calculations based on KDHS data)*

With regards to the three transitions towards first sexual intercourse, marriage/union and birth, Nairobi and Central are the provinces with lower prevalence of such events before the age of 16, while the Coastal area, Western and Nyanza are the ones on the other side of the spectrum (Figure 4.21). Firstly, despite the fluctuations in the Rift Valley and some stability for the youngest cohorts from the coastal province, on all regions there has been a remarkable drop in the proportions of women who have had very early sex over the generations (Figure 4.21). By ethnicity, among the five main groups we also find a declining trend, which has been continuous over the cohorts for the Kamba, Kikuyu (who have the lowest prevalence) and Luo (who still have the highest proportions), while there have been some fluctuations among the Kalenjin and Luhya (Figure 4.22). On a more detailed note, if we take a look at the patterns of sexual activity before the age of 18, there has been a delay in its timing in all provinces, but with different speeds: those provinces in which we still find little change over the generations and greater proportions of early sex are Nyanza (around 80-90%) and Western (70-80%), followed closely by the Coast and the Rift Valley (fluctuating between 60-75%); while Nairobi and Central, as well as the Eastern province, have experienced sharp declines in its proportions. However, the picture is that before the age of 22, around 80-90% of women in all regions have already engaged in sexual activity, with the proportions being relatively constant over the cohorts. Precisely, in Nyanza province is where we find mostly Luo women, who happen to be the ethnical group that earlier engages in sexual activity and has a later timing in the event's delay: the onset of this change is not until the cohorts born in the 70s, right after constant proportions of 90% of women who have had their first sexual intercourse before the age of 18 for the cohorts born before those years (Figure 4.22 and 4.23).

Secondly, those regions in which very early marriage was practiced among women from elder generations was the Coast and Nyanza (around 55%, where in the first case it was also close to the proportions for very early sex, which cannot be said for Nyanza, as the proportions for first sex are even higher), Western (starting at 50% but with a sharp and fast drop to levels around 20% for the youngest), followed closely by Rift Valley and Eastern (however, in this province there has been an increase in very early marriage in the recent cohorts[59]). On the other hand, in Central province (where the majority of their population are from the Kikuyu ethnic community) child marriage declined from 30% to 10% for those born before the independence, and has maintained at that level since; while Nairobi capital has experienced an ongoing decline over the time period

[59] In Eastern, this pattern of increase of child marriage in the recent cohorts is most probably due to the changes in the KDHS data with regards to the classification of women by province of residence and the decision to unite Eastern and North Eastern provinces for this case study. In the Eastern region we have mostly the Kamba ethnical group where their pattern of early marriage has decreased to proportions of 10% for its youngest generations (Figure 4.23), but since the KDHS for 2003 and 2008 included a new category for region (North Eastern), mostly composed of Somali women, their pattern of child marriage has been an ascending one (see Figure 4.23). Additionally, as can be observed in Figure 4.14, the proportions of Somali women in the surveys have been increasing (especially among the younger cohorts). Altogether, with the heterogeneity in this Eastern region (as it has been constructed here), it could explain the trends observed in Figure 4.21.

considered here, with only 5% of girls from the youngest generation who marry before the age of 16 (Figure 4.21 and 4.22). Taking into account that in Kenya the legal age at marriage is 18, the regional pattern for those who marry before this age is relatively similar to the one presented for before the age of 16: indeed, there has been a decline of the prevalence of early marriage in all provinces, where again Nyanza, Western, the Coast and Eastern were leading in having the girls married off earlier (with approximately 70%); and have later declined to levels around 40-50% for the younger generations. However, in the Coast the recent trend seems to be one of increasing early marriage. Finally, in all provinces there is an increase over time of the proportions of women who have not married before the age of 20 and 22, however, it is in Nairobi and Central where we find more women who still remain single (Figure 4.21). In fact, it is the Kikuyu who have a larger share of unmarried 22 year old girls, especially among the youngest generations; although an increase over time of the proportion of single women before the age of 22 has also been observed among the other four main ethnic groups (Figure 4.22).

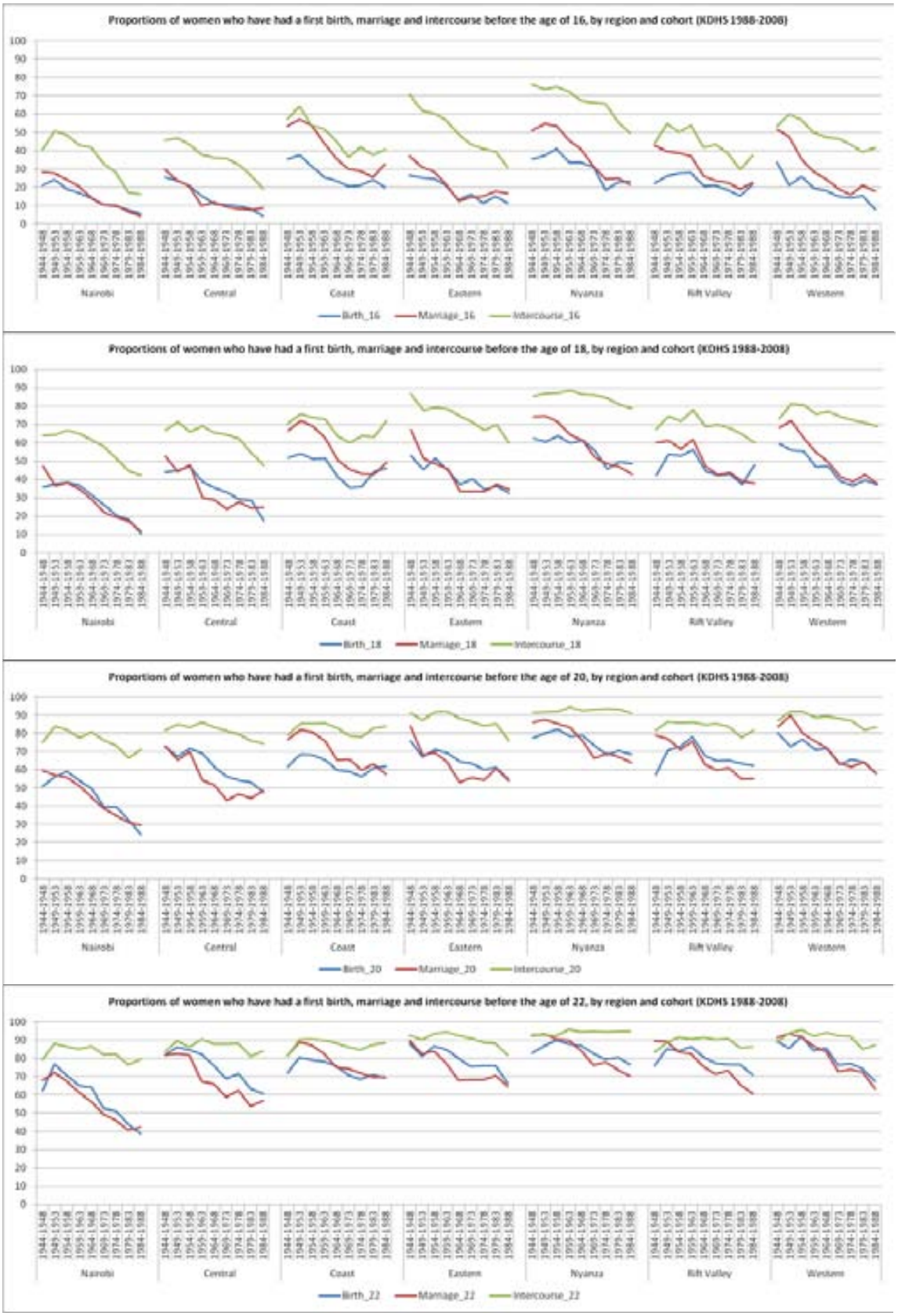
Thirdly, the regional patterns for first birth before the age of 16 by cohort are mainly declining ones: from proportions around 25% to 5% for Nairobi and Central, from approximately 30-40% to 20% for the Coast and Nyanza, and around 10% for Western and Eastern, while the Rift Valley's decline has been less sharp (Figure 4.21). With respect to the latter province, if one looks at its most populated ethnical group, the Kalenjin, their pattern is of an increasing proportion of girls who had their first birth before the ages of 16 and 18 for the generations born before the independence period (1963), and then shifted towards a declining trend[60] (Figure 4.22). On a similar note, before the age of 18, not only the delay started somewhat later in Nyanza and Nairobi, but it is also less apparent for the Coastal and Rift Valley provinces due to the fluctuations by cohort on the proportions for first motherhood, while in Western the decline has been more gradual right from the start (elder generations) (Figure 4.21). Precisely, the Luhya (present mainly in Western) show a sharp decline in its proportions of girls who have had their first birth during their teenage years over time (Figure 4.22). Actually, it is the Kikuyu, Luhya and Kamba who have attained a lower presence of adolescent mothers over the generations (Figure 4.22), but there are other not so populous ethnic communities that also share the same trait: the Meru/Embu (mainly located in the Eastern province), and the Taita/Taveta (who reside mostly in the Coastal side), who at the same time also have a low prevalence of child and early marriage (Figure 4.23). However, even though early teenage motherhood appears to be fairly declining in most regions and main ethnicities, the proportions of first motherhood before the age of 18 are still slightly higher when compared to those before the age of 16 (Figure 4.21 and 4.22). In spite of this, childlessness before the ages of

[60] One should note, however, that before the age of 18, there is a sudden increase in the proportions of Kalenjin girls from the youngest generation who have had a first birth, which is also found in a smaller degree before the age of 20. It is not clear if this is a shift in the trend, or it is more due to data issues. It is probable that it is the latter, because if we look at the trend by age group, instead of cohorts, the trend is of a declining one for those aged 20 to 24 (see Figure 4.23).

20 and principally 22 has been increasing in all regions, more so in Nairobi, but also in Central, Eastern and Western (Figure 4.21).

In fact, the timings of first marriage and first birth are also very similar in the central regions, especially the capital region, with respect to the other provinces, where there seems to have been a heavier fall in the proportions married from the elder generations, which has in turn reduced the gap with the first birth pattern (especially in the Rift Valley, Western, Nyanza, and also the Coast) (Figure 4.21). The latter is further confirmed with the transitions before the ages of 18, although before the age of 20 and 22, the patterns seems to be higher proportions of women who become mothers for the first time, with respect to being married (Central – the trend already starting for the transitions before the age of 18 –, Eastern, and younger generations in Nyanza, Rift Valley and Western). By main ethnicity, child marriage and very early motherhood seems to hand in hand for the Kikuyu in all the time period considered here, and to a lesser extent for the Kamba among the younger cohorts; while for the other main ethnic groups the pattern is of higher proportions of married girls before the age of 16 and 18 for the elder cohorts, even though we find a rather steep slope on the decline of child marriage for the Luhya and Luo (Figure 4.22). However, the picture for the trends before the age of 18 show that for the Kikuyu first birth seems to be slightly prior to marriage, which is not only also the case for the Kamba born between the 60s and 70s, but this trend continues as well for the other main ethnicities in the transitions before the age of 22 (Figure 4.22).

**Figure 4. 21 : Proportions of women who have experienced the transitional events of first birth, marriage, and sexual intercourse before the ages of 16, 18, 20 and 22, by cohort and region.**



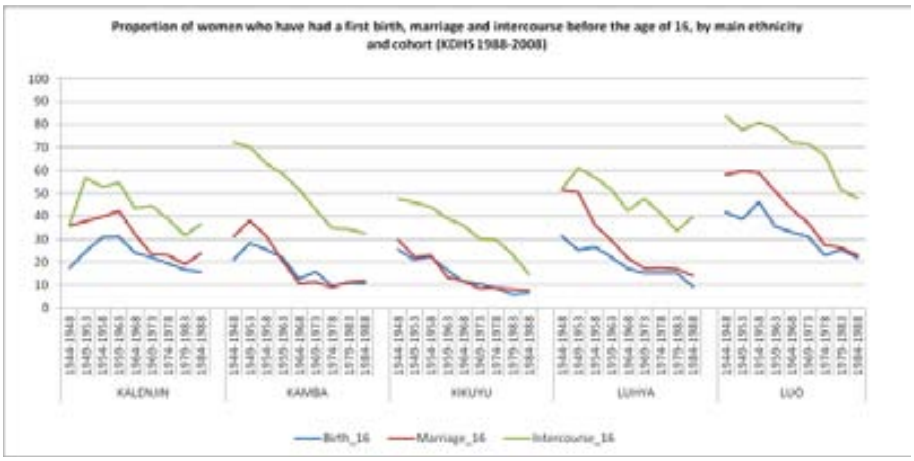

*(Source: own calculations based on KDHS data)*

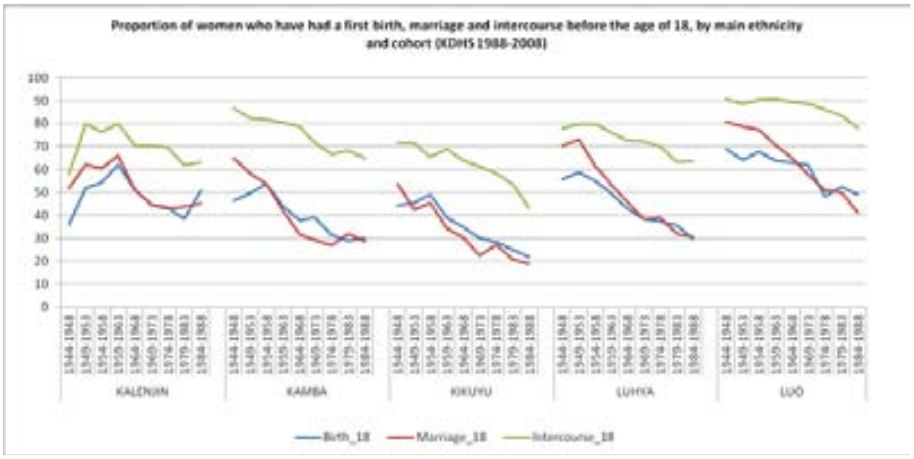
On the other hand, for some ethnic groups the similarity on the transition into adulthood timings, considered here, is not between first marriage/union and first birth, but rather between first marriage and first sexual intercourse. This is the case for the Somali, Mijikenda/Swahili mainly, whose proportions of women who have had a first union and intercourse before the ages of 16 and 18 are close to one another, with respect to first birth (Figure 4.23 [61]). Indeed, we also find that in the Coastal province the proportions married before the ages considered in Figure 4.21 are somewhat closer to the proportions of first sexual intercourse (especially among the elder generations). Precisely, taking into account the regional[62] location of these two ethnic groups, who are predominantly Muslim, it could probably make one assume certain influence of religion in the transitions timing by which first sexual intercourse is connected to first marriage. In fact, if we look at the proportions of women who have experienced their first birth, marriage and sexual intercourse before the ages of 16 and 18, taking religion into account, the patterns between catholic and protestants are relatively similar (sexual activity proportions are higher and there is an alignment of the first marriage ones with those of first birth over the generations), whereas among Muslim women the patterns are of high proportions of women who have had their first intercourse, closely followed by first marriage (especially among the elder cohorts), and then first birth (see Annex on religion).

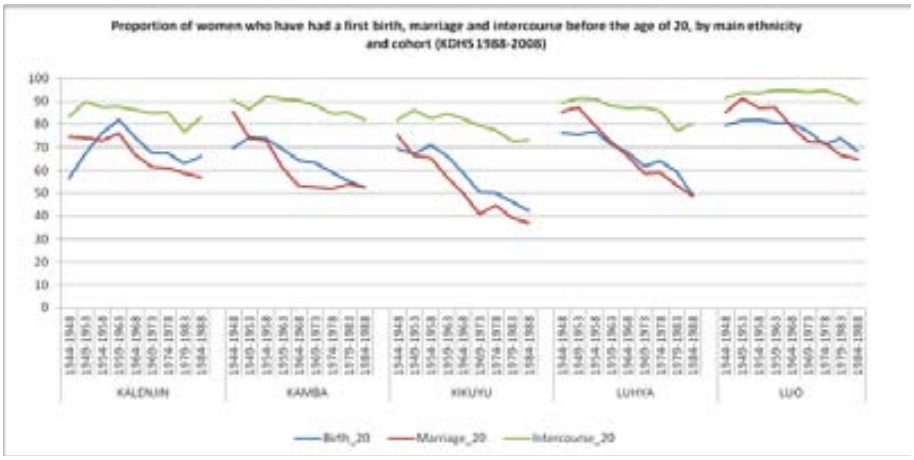
[61] In this graph only early transitions have been considered. The intentionality of this Figure is to give some insight into the country's ethnic diversity, by including not only the main ethnical groups in terms of population, but also those important ethnic minorities. For instance, the Rift Valley is quite diverse ethnically speaking (see map 4.2), which is why it was decided to include both Turkana and Masai ethnic groups. However, in order to avoid fluctuations in the results for those ethnic groups with low number of cases, as it was the case for the two latter mentioned (for instance, the Turkana women only appear on the 2003 KDHS), it was decided to use a reduced version of the variable cohort (a three period one that consists of those years prior, during and after the country's independence). Yet, it was not possible to include the Kuria (there were even less cases than the Turkana) or the category "others" given its heterogeneity.

[62] The Mijikenda/Swahili are mostly located in the Coastal area; while the Somali are mainly found in the Eastern province, but also in the Coastal area and the capital Nairobi (Figure 4.15). However, it is rather important to bear in mind the regional changes undertaken in this study with regards to the Eastern province. Thus, alongside the Coastal Area, the North Eastern region also has a high proportion of Muslim women, due to the fact that most Somali women reside there (see Annex on religion).

**Figure 4. 22 : Proportions of women who have experienced the transitional events of first birth, marriage, and sexual intercourse before the ages of 16, 18, 20 and 22, by cohort and main ethnicity.**

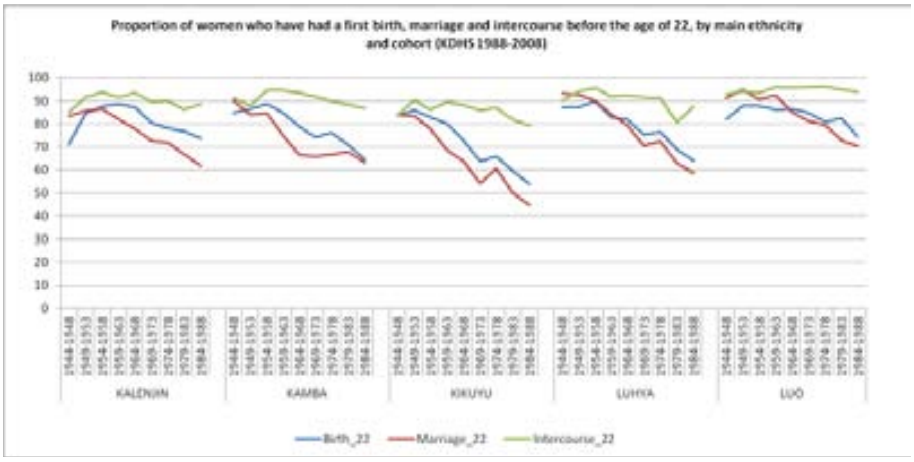


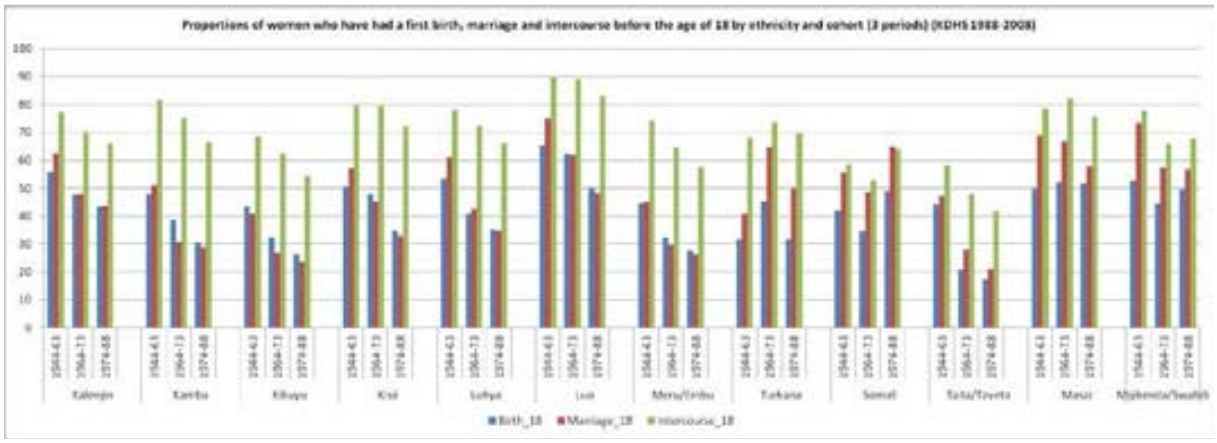

*(Continues...)*

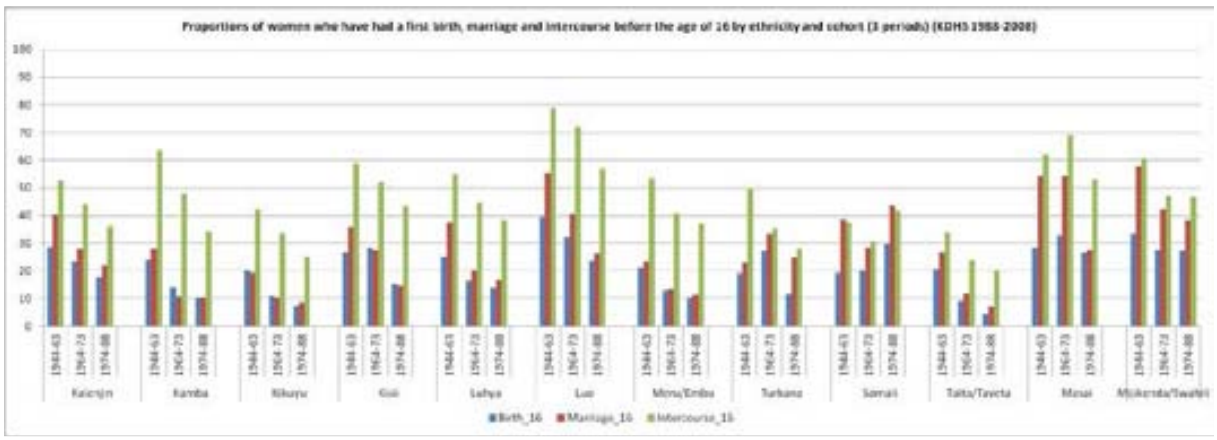
*(Cont.)*




*(Source: own calculations based on KDHS data)*

**Figure 4. 23 : Proportions of women who have experienced the transitional events of first birth, marriage/union, and sexual intercourse before the ages of 16 and 18 by cohort and ethnicity.**




*(Source: own calculations based on KDHS data)*

## 4.4. RESULTS LOGISTIC REGRESSION ANALYSIS

In the present section, the results for the logistic regression models are presented. The main reason for which it was decided to use this analytical framework is the fact that this particular technique allows to observe, beyond an individual exploration of the variables, a pooled analysis of the variables included in the model, as well as describe the probability of occurrence of an event, depending on a number of qualitative and/or quantitative factors. In this case, there are 12 dependant variables in the present study which are the transitions to the events of first marriage, birth and sexual intercourse among Kenyan female women, before the ages of 16, 18, 20 and 22, expressed as dichotomous variables (yes or no). The independent or explanatory variables chosen for the analysis have been cohort, age (5-year age groups), educational attainment, urban/rural place of residence, region, main ethnicity, survey year (KDHS year), and finally another cohort variable (3 periods: before independence, while independence and after).

Consequently, we chose the logistic regression model for its suitability to study the relationship that may exist between one or more independent variables and a dichotomous dependent variable, which takes two values: "1" and "0". The first one, means that, for example in the case of the transition to first marriage, the union/marriage takes place before the selected age (presence of the phenomenon), while the value "0" is the absence of the event (no union/marriage before that age). With respect to the independent or exogenous variables (usually referred to as covariates in this type of analysis), these can be qualitative or quantitative. Hence, it is possible to relate these variables taking into account the existence or not of a relationship between the independent variables chosen (Xi) and the dependent variable (Y), and get the magnitude of this relationship, along with the estimated probability that the phenomenon takes place based on the values of the explanatory variables.

To better interpret the results, the odds ratio (OR) has been used as it is a ratio that measures the change produced in the advantage of the occurrence of the event of interest for each category change of the independent variable, considering that there is always a fixed reference category. Thus, in the present case, the OR indicates the variability in the relationship between the probability of being married (or having a first child and first intercourse) before a given age (16, 18, 20, or 22) and the probability of not being so when the variable takes a certain value. So those values close to the unity imply a positive influence, while if they are below the unity it suggests the opposite effect. Subsequently, in a logistic regression analysis the estimated coefficient for each co-variable is presented with its exponential value, which helps to interpret the results. For example, in the Multivariate analysis, if the value of exp(B) is equal to 4,1 for the category "Luo" (of the main ethnicity variable), when compared to the reference category (Kikuyu), it means that, controlling for the rest of variables in the model (cohort, educational attainment, urban-rural and KDHS year),

those who belong to the Luo ethnical community are 4,1 times more likely to be married before the age of 16, than those who belong to the Kikuyu ethnical tribe. It is important to note that, in the multivariate analysis, the resulting probability is conditioned by the values adopted from the other independent variables included in the model (the control variables or co-variables).

Nevertheless, before presenting the results for the multivariate analysis, first bivariate logistic regression models were run for the dependant variables, as a means to have an overview of those independent variables that have a greater level of explanation of the dependant variable. A separate analysis of the relationship between the dependant and each explanatory variable is performed, as it is rather necessary to evaluate the model through a selection of the more important variables to be included before estimating the coefficients of the final model, and be able to make predictions. Hence, the use of the *-2 Log likelihood* statistic and the *Cox & Snell R Square* value allows to foresee what variables can be more significant or not for the regression model, as well as shed light on the goodness of fit of the models chosen for the analysis. In this sense, the results that one would seek for a better description of the dependant variable are: low values of the *-2 Log likelihood* statistic; and values closer to the unity for the *Cox & Snell R Square*.

### 4.4.1. BIVARIATE LOGISTIC REGRESSIONS: Kenyan women who have had a first marriage, first birth and first sexual intercourse before the age of 16, 18, 20 and 22.

In the present bivariate analysis the logistic regression models that have been run consist of the dependant variable (transition towards the adulthood event considered here) and an explanatory variable. So, for each dependant variable – first marriage, birth and sexual intercourse –, a model is ran for each explanatory variable: cohort, 5-year age group, educational attainment, urban-rural type of place of residence, region, main ethnicities, year of the KDHS survey, as well as a shortened cohort variable (that includes only three periods for before, during and after the country's independence). The results are shown in table 4.1.

Firstly, if we take a look at those independent variables that better explain the phenomenon of **early marriage**, according to the *Cox & Snell R Square* statistic, educational attainment is the most important factor among all the explanatory variables taken into account in this analysis (with values of 0.15 prior to age 16 and 0.18 by age 18), followed by the main ethnicity variable (0.05 for both child and early marriage), region (0.04 also for both cases), both cohort variables (0.03); urban/rural type of place of residence (0.01 and 0.03, respectively for before age 16 and 18), and finally the 5-year age group (0.01 and 0.02) and DHS survey year (0.01). On the other hand, if we compare the values of the *-2 Log likelihood* statistic we find that the order of the explanatory variables is slightly different, as the variable main ethnicities stands out as the one with the lowest *-2 Log likelihood*

statistic in both cases for before age 16 and 18 (22858 and 28808), followed by educational attainment (29074 and 35117), region (32545 and 39649), cohort and the 3-period cohort variables (32928 and 40004; 33052 and 40110), 5-year age group takes fifth place in explaining child marriage (33354) and sixth place explaining early marriage (40478), while urban/rural type of place of residence explains on the sixth place child marriage (33498) and on the fifth one early marriage (40199), and finally we have the year of the survey (33513 and 40605).

With regards to **first birth** before the ages of 16 and 18, if we compare the *-2 Log likelihood* statistics, main ethnicities is the most notable variable with lower values (21236 and 29267 for very early and early motherhood, and 28912 and 24775 for sex before the ages of 16 and 18, respectively), followed by educational attainment (27677 and 36606 for birth, and 37418 and 31996 for sexual intercourse). However, according to the *Cox & Snell R Square* statistics, educational attainment is the variable that better explains the chances of early motherhood (0.083 and 0.131), followed by main ethnicities and region (values around 0.02 and 0.03), cohort and 5 year age groups and KDHS year of the survey, while urban/rural type of place of residence seems to be of greater importance in the case of maternity before age 18 (0.02) more so than before age 16 (0.007). Finally, in the case of early **sexual intercourse**, yet again educational attainment is the most important variable (0.12 and 0.11), subsequently main ethnicities (0.06 and 0.04), region (0.04 and 0.03), cohort and DHS year of the survey, and urban/rural (0.02) for before age 16 and 18 respectively; while the 5 year age group variable explains very little in both very early and early sex (0.006 and 0.003). It is worth mentioning that, in the case of sexual intercourse, the values of this particular statistic are higher for before age 16 than 18-22, which does not seem to happen with the other dependant variables of marriage and birth. Hence, what was seen in the descriptive level is confirmed here that in the case of sexual intercourse in Kenya it is rather crucial to study the timing and intensity of "earlier sex", especially in a context of low contraceptive usage and school policies that discriminate against pregnant girls.

So if we consider each variable separately, starting with **educational attainment**, it can be said that having at least some education already reduces the odds of marrying before the ages of 16 and 18. That is, by establishing no education as the reference category, having less than primary education decreases the odds of becoming a child bride by 35% (before 16) and 24% (before 18), while having primary education reduces those odds to 77% and 67%, and secondary and more really reduces the chances of marrying at those ages by over 95%, with high significance levels. Similar results can be found for having a first birth before the age of 16. However, for first birth before age 18 and sexual intercourse before ages 16 and 18, the odds start decreasing for Kenyan women who complete primary education, and it is those who have secondary and higher education the ones who are less likely to undergo these three transitions at an early stage in their life. In fact, it is also noticed that only Kenyan women with secondary and more education have less probability of having had sexual intercourse before the ages of 20 and 22.

Secondly, in the descriptive analysis it was shown that from the five **main ethnical groups** in Kenya the Kikuyu were the ones to delay their transitions the most, which the bivariate analysis confirms with high significance levels. Having the Kikuyu women as the reference category, the Kamba are 1.4 times more likely to marry as child brides, followed by the Luhya and Kalenjin (2.3 and 2.0; 2.9 and 2.4, respectively), while the Luo women are 4.7 times more likely than the Kikuyu to marry before the age of 16 and 3.7 times before age 18. On the other hand, the transitions towards first birth and first sex follow similar patterns, where the Luo have 3 times more probability to become early mothers and over 4 times more likely than the Kikuyu to have early sex. In fact, if we take a look at the results by **region**, it is noticed that, with Nairobi as the reference, only in the Central region the odds of marrying before age 16 decreases by 6%. The regions with more probability of having child brides (before age 16) are Nyanza and the Coast (3.9 times more likely than Nairobi), followed by the Rift Valley (2.5), Western (2.3), and Eastern (1.5, although heterogeneity in this particular region is to be expected). Before age 18, Nyanza increases its odds of marrying early (4.2 times more likely than Nairobi), followed by the Coastal and Western areas (3.4 and 3.0), the Rift Valley (2.8), Eastern (1.9), and Central (1.3), all results being significative. Similar results are found for the other two transitions, where Nyanza keeps standing out as the region with earlier transitions. The same goes for the **rural areas**, when compared to the urban places of residence, as the odds of entering the events of marriage, birth and sex are higher and significative in all transitions and before all the ages taken into consideration. With regards to the early transitions in particular, before age 18, living in a rural environment makes it more likely to experience them by 2.2 for marriage and 1.9 for both childbirth and sex.

Finally, by going through the variables of **cohort, age and the year of the survey** it is possible to grasp the changes over time. Being born after the country's independence reduces the likelihood of experiencing very early transitions when we look at the variable cohort (for three periods) by almost 50% for marriage and 35% for birth and sex. However, by contrasting 5 year cohort groups the decline seems more gradual. In the case of very early (before 16) and early (before 18) marriage the changes in the odds by cohort are pretty similar. So, having those born during the years 1944-48 as the reference category, all subsequent cohorts are less likely to marry before age 18, going from a reduction of 15% for those born in the early 50's, to 57% for those born in the late 60's, and reaching a decrease in almost 70% for the youngest generation, with significative levels. So, the first impression is that most of the reduction in the probabilities of entering an early union happened for those elder generations born between during the 40's and 60's, that is in the periods before and right after Kenya's independence. However, for the transition into first motherhood (before age 18), results show that the main decrease in the likelihood of entering such an event happens later in time, that is for women born in the 70's. While for sexual intercourse, before age 16, the reduction starts to be significative for those women born in the late 60's where the odds decrease by 32% and 59% for the youngest generation. Thirdly, the survey year variable also reveals this postponement

of first marriage and motherhood, and to a lesser extent sexual intercourse. Finally, it was intended to observe the probabilities of postponing the transitions by age, irrespective of the survey year. Even though it is acknowledged that it is not the same to be aged 20-24 in 1988 than in 2008, since in the bivariate model age is not controlled by survey year, we wanted to see if belonging to the younger age group meant higher probabilities of postponement, which holds true for all early transitional events, with high significance levels for those aged 20-34 for the marital event, and 20-24 for first birth and sex, having the age group 45-49 as the reference. However, as much information as the bivariate analysis can give us, it is important to include all these variables in a multivariate setting in order to obtain better results with the appropriate controls, which is found in the next section.

### 4.4.1. MULTIVARIATE LOGISTIC REGRESSIONS: Kenyan women who have had a first marriage, first birth and first sexual intercourse before the age of 16, 18, 20 and 22.

By taking into account the importance of each variable from the bivariate regressions, the final models adopted have been the following: the final model, model A, includes the transitions to first marriage, birth and intercourse before the established ages by cohort (instead of age), educational attainment, main ethnicities, urban/rural type of place of residence and year of the survey. Because ethnicities are regionally located, both variables were not included in a same model and, instead, two separate models were run and the reduced cohort variable was used (model B with main ethnicities, and model C with region). The main reason why ethnicity was used as a control in the final model, more so than the variable region, lies in the values of the *Cox & Snell R Square* and *-2 Log likelihood* statistics that favour ethnicity over region (compare models B and C). The results for the final model (A) reveal the following:

- Firstly, in terms of early marriage, once we control for educational attainment, ethnicity, urban/rural and year of the survey, the decline in the probabilities of entering a very early and early union in the variable **cohort** is slower than in the bivariate analysis and only significant from the cohorts born in the late 60's onwards. Also the odds for the youngest cohort born in the late 80's only decrease by 49% (before age 16) and 47% (before age 18). In fact, for the transitions towards early motherhood and sexual intercourse that gradual decline in the odds ratio from the bivariate analysis is no longer found when controlling for the rest of variables and the significance levels diminish. In fact, for early childbirth (before age 18) no single cohort, not even the youngest ones, shows any decrease in its odds ratio, but a certain stability around 1.3 – 1.7 times more likely to become early mothers than the eldest cohort. A similar pattern is found for early sexual activity, where the significative fall in the probability is not

found until the two youngest cohorts for sex before age 22. In this sense, also the **year of the survey** in the final model implies little change over time in the odds of early marriage and birth (with odds ratio around 0.9 and 0.8, respectively for before age 18), except for sexual activity before age 16 where the odds drop at about 20% for the 2003-2008 surveys. However, in the case of the transition to first marriage it is noticed how the latest survey year, 2008, is 1.2 times more likely to have brides aged lower than 16 ($p<0.001$).

- Secondly, with regards to **educational attainment** it is the ones with secondary and higher who have lower chances of experiencing these events during childhood. Having at least some primary education already reduces the odds of marriage and childbirth before age 16 by 24% and 27%, respectively; while completing primary education helps decrease those chances by 71% and 61%; and staying in class through secondary and higher instruction diminishes the odds by 97% and 93% (all with $p<0.001$). For sexual activity the significative fall in the odds starts with completed primary and post-primary education, which also holds true for birth and sex before age 18 (with decreases from 44% and 89% for childbirth, and 37% and 86% for sexual intercourse). In the case of marriage before age 18 specifically, the likelihood of entering such unions diminish by 16% when having some education, while primary only decreases the odds by 60% and secondary and more by 94% ($p<0.001$). Nonetheless, it is interesting to mention that for sexual activity before age 20 and 22, those women with some primary education are 1.5 times more likely to engage in these relations and it is not until completion of secondary schooling that the odds decrease.

- Thirdly, even if we control for education as well as the rest of variables, with regards to the **major ethnic groups** in Kenya it is still the women who belong to the Luo community that undergo all these transitions earlier on in their life course. They are 4 times more likely than the Kikuyu to marry and have sexual activity before age 16, and 2.5 times more in the case of being mothers while being children themselves. And even before the age of 18, their probabilities still remain high and significative. The Kalenjin and the Luhya are the next ones to follow in terms of marrying as children, however, once we apply the controls the Kamba women lose their significative levels (except for sexual activity). On the other hand, when we consider **region**[63] instead of main ethnicity (model C), Nyanza and the Coastal areas are the ones that have higher odds of having child brides (1.9 and 1.5 times more than Nairobi, respectively), followed closely by Western and Rift Valley (1.3), although these last two regions are not significative for

[63] In fact, it is worth mentioning that the significance levels for the variable region in this pooled model vary when you take into account the other two transitional events, where for first birth before age 16 only Nairobi, Nyanza and Central have relatively high significance levels, but for before age 18 the only significative regions are Nairobi, Nyanza, the Rift Valley and Western. For sexual activity some regions lose and gain significance depending on the dependant variable considered (before 16 or 18), where Central and the Rift Valley significatively decrease their odds before age 16 but not 18, and Western and Eastern gain significance for age 18.

marriage before age 16; while the odds for Central region decrease by 48% for marriage before age 16 and only 27% for before the legal age, and finally the Eastern region also manifests a decrease in its likelihood of having their girls married early ($p<0.01$).

- Finally, **rural** women are more likely to experience these events than their **urban** counterparts, as in almost 1.2 times more so with regards to sexual activity before age 16 (as marriage and childbearing are not significant), and childbirth and sex before age 18 ($p<0.001$). Marriage before age 18 is almost 1.3 times more probable for rural women, with high significance levels. Notice that in model C, once we control for region the significance drops drastically for the early transitions by urban/rural type of place of residence, except for marriage before the legal age.

At last, one of the main objectives in the present thesis is to examine to what extent education has been a crucial element in the postponement of first marriage, especially in terms of marriage during childhood. Since causality and the direction of it is out of the question because of data reasons, mainly because we have the educational attainment at the time of the survey and not at the time of the event at interest, an indirect way to measure the importance of the increasing schooling outcomes in marriage timing has been adopted. Basically, in Figure 4.24, the intention is to differentiate between structural and behavioural changes over time (through the variable cohort) from the odds ratio from the previous logistic regression. In other words, the estimates (odds ratio) of three models are compared: first, the bivariate model (with the dependant variable and cohort); second, another model in which we control for educational attainment (model D); and third, the final model with all the additional contextual variables (model A). Thus, by doing so we are able to scope those periods in which the delay in the early transitions has been due to changes in the structure (educational structure of the female population) and those in which the behaviour has been mostly involved.

So if we take a look at the results in Figure 4.24 for marriage before age 18, we can see that for the eldest cohorts born between 1944-58, while the odds in the bivariate model were steadily decreasing, the odds weren't doing so once you controlled for education (both models A and D), which means that for those cohorts the postponement seem to be due mostly to changes in the structure of the female population as more women were achieving higher levels of education; while for those born between 1959-73, the changes in the odds have been going down almost in parallel for all three models which indicates changes on the behavioural domain; and finally, for those youngest generations born between 1974-1988 there has been relative stability and absence of change for both the bivariate and model D, although there has been a decline in the odds for model A, which introduces us the idea that other factors, beyond education, take more presence. In fact, a

similar situation happens for marriage before age 16, were for those born from the late 50's onwards the odds for the bivariate and model D (controlling only for education), the slope is fairly the same, while the decrease of the odds for model A (controlling for more factors, including urban/rural and especially main ethnicity) behaves slightly differently.

On the other hand, for the changes in the odds of first birth we find more fluctuations in models A and D, more so for before age 16 than 18, indicating changes in both structure and behaviour: where the eldest cohorts saw almost no change in the bivariate estimates yet once we controlled for education and other factors the odds increased notably, followed by a clear structural changes for those born between 1954-63 and 1964-73 (for before age 18), and then a certain similarity in the slopes in the models in the cohorts in between (changes in behaviour for those from the early 60's and late 70's), and finally, reaching a situation in which for the youngest cohorts there is barely any change in the bivariate although model A behaves differently for before age 16 (decrease) and 18 (stability), and when we control for education there is a slight increase in the odds of entering motherhood at an early age. Finally, for sexual intercourse the pattern is relatively similar as to that for birth, although the eldest cohorts have increasing odds of initiating early sexual activity in all models until those born in the late 50's where the bivariate model starts decreasing, while the other two models fluctuate by increasing (until 1963), and then descend indicating changes in structure (1968-78 for before age 16, 1979-88 for before age 18) and behaviour (1963-68 and 1978-83 for before age 16, and 1963-78 for before 18).

All in all, in Kenya it seems that for the eldest cohorts, which were the ones that initiated the educational expansion with impressive results, the reduction in the proportions of women entering early unions was mainly due to a change in the structure of the population, followed by changes in the behaviour that favoured such postponement, and finally, for the last period there has not been much change, other than those related to additional factors that have nothing to do with education. Hence, it could be possible that introducing an element such as ethnicity in the study of marriage patterns in Kenya is necessary if one wants to obtain a full picture of the changes in its timing and intensity.

Table 1: Bivariate analysis of Kenyan women who have experienced the transition events (first marriage, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22.

| BIVARIATE ANALYSIS: Kenyan women who have experienced the transition events (first marriage, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Dependant Variable (before age 16):** | | | **Dependant Variable (before age 18):** | | | **Dependant Variable (before age20):** | | | **Dependant Variable (before age 22):** | | |
| | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** |
| **Cohort** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| 1944-1948 *** | | | | | | | | | | | | |
| 1949-1953 | 0,912 | 0,974 | 1,130 | 0,854 * | 1,019 | 1,143 | 0,814 * | 1,015 | 1,265 * | 0,950 | 1,223 * | 1,422 ** |
| 1954-1958 | 0,798 ** | 0,981 | 0,979 | 0,762 *** | 1,087 | 1,055 | 0,731 *** | 1,161 | 1,283 * | 0,806 * | 1,343 ** | 1,575 *** |
| 1959-1963 | 0,589 *** | 0,793 ** | 0,891 | 0,616 *** | 0,942 | 1,123 | 0,594 *** | 1,083 | 1,317 ** | 0,557 *** | 1,156 | 1,695 *** |
| 1964-1968 | 0,420 *** | 0,600 *** | 0,671 *** | 0,432 *** | 0,742 *** | 0,850 * | 0,400 *** | 0,835 * | 1,096 | 0,392 *** | 0,894 | 1,525 *** |
| 1969-1973 | 0,341 *** | 0,572 *** | 0,611 *** | 0,347 *** | 0,646 *** | 0,789 ** | 0,329 *** | 0,676 *** | 0,982 | 0,302 *** | 0,636 *** | 1,290 * |
| 1974-1978 | 0,304 *** | 0,443 *** | 0,548 *** | 0,340 *** | 0,552 *** | 0,703 *** | 0,327 *** | 0,637 *** | 0,882 | 0,314 *** | 0,620 *** | 1,227 * |
| 1979-1983 | 0,289 *** | 0,454 *** | 0,407 *** | 0,317 *** | 0,546 *** | 0,605 *** | 0,305 *** | 0,599 *** | 0,715 *** | 0,252 *** | 0,545 *** | 0,884 |
| 1984-1988 | 0,312 *** | 0,468 *** | 0,417 *** | 0,312 *** | 0,584 *** | 0,550 *** | 0,294 *** | 0,553 *** | 0,745 ** | 0,232 *** | 0,458 *** | 0,948 |
| Constant | 0,733 *** | 0,397 *** | 1,320 *** | 1,763 *** | 1,038 | 3,014 *** | 3,952 *** | 2,351 *** | 5,800 *** | 7,036 *** | 4,351 *** | 6,874 *** |
| *-2 Log likelihood* | *32928,847* | *29836,072* | *40486,089* | *40004,267* | *40341,025* | *35161,981* | *38229,603* | *37990,132* | *24451,211* | *33075,492* | *31040,417* | *19243,771* |
| *Cox & Snell R Square* | *0,032* | *0,014* | *0,023* | *0,033* | *0,015* | *0,011* | *0,030* | *0,014* | *0,005* | *0,034* | *0,019* | *0,004* |
| **5-Year Age Group** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| 20-24 | 0,417 *** | 0,579 *** | 0,637 *** | 0,464 *** | 0,688 *** | 0,734 *** | 0,482 *** | 0,764 *** | 0,634 *** | 0,375 *** | 0,570 *** | 0,438 *** |
| 25-29 | 0,580 *** | 0,804 *** | 0,727 *** | 0,596 *** | 0,885 * | 0,845 ** | 0,609 *** | 1,004 | 0,740 *** | 0,606 *** | 1,038 | 0,655 *** |
| 30-34 | 0,762 *** | 0,945 | 0,851 ** | 0,743 *** | 1,010 | 0,909 | 0,755 *** | 1,167 ** | 0,797 ** | 0,746 *** | 1,143 * | 0,682 *** |
| 35-39 | 0,840 ** | 1,000 | 0,924 | 0,860 ** | 0,962 | 1,001 | 0,890 * | 1,123 * | 0,897 | 0,883 | 1,208 ** | 0,763 ** |
| 40-44 | 0,986 | 1,021 | 0,934 | 0,918 | 1,020 | 1,027 | 0,972 | 1,080 | 0,927 | 1,018 | 1,147 * | 0,853 |
| 45-49*** | | | | | | | | | | | | |
| Constant | 0,511 *** | 0,309 *** | 1,140 ** | 1,221 | 0,876 ** | 2,886 *** | 2,506 *** | 1,912 *** | 7,631 *** | 4,493 *** | 3,775 *** | 14,165 *** |
| *-2 Log likelihood* | *33354,344* | *30032,355* | *40999,373* | *40478,327* | *40622,077* | *35387,443* | *38652,944* | *38236,660* | *24525,796* | *33343,342* | *31141,030* | *19188,641* |
| *Cox & Snell R Square* | *0,018* | *0,007* | *0,006* | *0,017* | *0,006* | *0,003* | *0,016* | *0,006* | *0,003* | *0,025* | *0,016* | *0,006* |
| **Educational Attainment** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| No education *** | | | | | | | | | | | | |
| Less than primary | 0,645 *** | 0,769 *** | 1,097 * | 0,753 *** | 1,100 * | 1,418 *** | 0,851 *** | 1,331 *** | 1,755 *** | 0,873 * | 1,492 *** | 1,816 *** |
| Primary | 0,225 *** | 0,343 *** | 0,472 *** | 0,323 *** | 0,557 *** | 0,734 *** | 0,383 *** | 0,784 *** | 1,096 | 0,404 *** | 0,901 * | 1,314 *** |
| Secondary and More | 0,030 *** | 0,079 *** | 0,131 *** | 0,049 *** | 0,099 *** | 0,171 *** | 0,086 *** | 0,135 *** | 0,252 *** | 0,102 *** | 0,166 *** | 0,335 *** |
| Constant | 1,014 | 0,571 *** | 1,739 *** | 2,297 *** | 1,408 *** | 4,192 *** | 4,620 *** | 3,118 *** | 7,916 *** | 7,745 *** | 5,603 *** | 10,365 *** |
| *-2 Log likelihood* | *29074,57* | *27677,742* | *37418,715* | *35117,093* | *36606,543* | *31996,402* | *34228,238* | *33912,126* | *22577,809* | *30230,503* | *27995,926* | *18177,331* |
| *Cox & Snell R Square* | *0,149* | *0,083* | *0,119* | *0,179* | *0,131* | *0,110* | *0,152* | *0,140* | *0,066* | *0,122* | *0,115* | *0,039* |
| **Urban-Rural** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| Urban | | | | | | | | | | | | |
| Rural | 1,962 *** | 1,678 *** | 1,883 *** | 2,239 *** | 1,999 *** | 1,999 *** | 2,379 *** | 2,377 *** | 2,012 *** | 2,599 *** | 2,777 *** | 1,956 *** |
| Constant | 0,201 *** | 0,171 *** | 0,553 *** | 0,440 *** | 0,452 *** | 1,509 *** | 0,895 *** | 0,984 | 3,561 *** | 1,414 *** | 1,662 *** | 5,544 *** |
| *-2 Log likelihood* | *33498,326* | *30044,770* | *40676,233* | *40199,194* | *40203,591* | *34924,806* | *38179,302* | *37466,008* | *24239,704* | *33075,236* | *30525,941* | *19117,855* |
| *Cox & Snell R Square* | *0,013* | *0,007* | *0,017* | *0,026* | *0,019* | *0,018* | *0,032* | *0,031* | *0,012* | *0,034* | *0,036* | *0,008* |

*(Continues...)*

*(Continuation)*

**BIVARIATE ANALYSIS: Kenyan women who have experienced the transition events (first marriage, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22.**

| | Dependant Variable (before age 16): | | | Dependant Variable (before age 18): | | | Dependant Variable (before age20): | | | Dependant Variable (before age 22): | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** |
| **Region** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| Nairobi *** | | | | | | | | | | | | |
| Central | 0,936 | 1,106 | 1,132 * | 1,368 *** | 1,530 *** | 1,404 *** | 1,613 *** | 2,105 *** | 1,488 *** | 1,820 *** | 2,407 *** | 1,441 *** |
| Coast | 3,948 *** | 2,354 *** | 1,689 *** | 3,465 *** | 2,160 *** | 1,593 *** | 3,141 *** | 2,125 *** | 1,505 *** | 3,112 *** | 2,219 *** | 1,509 *** |
| Eastern | 1,553 *** | 1,490 *** | 1,949 *** | 1,998 *** | 1,914 *** | 2,173 *** | 2,164 *** | 2,435 *** | 2,275 *** | 2,507 *** | 3,029 *** | 2,166 *** |
| Nyanza | 3,964 *** | 3,113 *** | 4,041 *** | 4,214 *** | 3,572 *** | 4,605 *** | 4,405 *** | 4,046 *** | 4,226 *** | 4,467 *** | 4,187 *** | 3,541 *** |
| Rift Valley | 2,565 *** | 1,992 *** | 1,528 *** | 2,838 *** | 2,401 *** | 1,805 *** | 2,636 *** | 2,778 *** | 1,711 *** | 2,829 *** | 3,068 *** | 1,819 *** |
| Western | 2,374 *** | 1,606 *** | 1,874 *** | 3,058 *** | 2,316 *** | 2,400 *** | 3,572 *** | 2,948 *** | 2,438 *** | 4,006 *** | 3,553 *** | 2,442 *** |
| Constant | 0,156 *** | 0,143 *** | 0,506 *** | 0,340 *** | 0,365 *** | 1,291 *** | 0,705 *** | 0,768 *** | 3,108 *** | 1,102 * | 1,293 *** | 4,821 *** |
| *-2 Log likelihood* | *32545,358* | *29634,498* | *39942,974* | *39649,714* | *39977,895* | *34486,459* | *37915,823* | *37536,548* | *24059,035* | *33049,714* | *30771,914* | *19040,563* |
| *Cox & Snell R Square* | *0,044* | *0,020* | *0,041* | *0,044* | *0,027* | *0,033* | *0,040* | *0,029* | *0,018* | *0,035* | *0,028* | *0,011* |
| **Main Ethnicities** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| Kalenjin | 2,909 *** | 2,005 *** | 1,534 *** | 2,381 *** | 1,828 *** | 1,492 *** | 1,906 *** | 1,802 *** | 1,414 *** | 1,812 *** | 1,854 *** | 1,498 *** |
| Kamba | 1,403 *** | 1,343 *** | 1,931 *** | 1,368 *** | 1,256 *** | 1,861 *** | 1,409 *** | 1,365 *** | 1,878 *** | 1,463 *** | 1,520 *** | 1,733 *** |
| Kikuyu *** | | | | | | | | | | | | |
| Luhya | 2,303 *** | 1,535 *** | 1,674 *** | 2,010 *** | 1,482 *** | 1,613 *** | 1,930 *** | 1,489 *** | 1,575 *** | 1,996 *** | 1,540 *** | 1,556 *** |
| Luo | 4,744 *** | 3,134 *** | 4,451 *** | 3,720 *** | 2,786 *** | 4,317 *** | 3,466 *** | 2,515 *** | 3,672 *** | 3,019 *** | 2,135 *** | 3,100 *** |
| Constant | 0,150 *** | 0,153 *** | 0,525 *** | 0,449 *** | 0,532 *** | 1,663 *** | 1,036 | 1,362 *** | 4,126 *** | 1,760 *** | 2,526 *** | 6,495 *** |
| *-2 Log likelihood* | *22858,258* | *21236,419* | *28912,181* | *28808,770* | *29267,15* | *24774,997* | *27935,170* | *27389,924* | *17102,895* | *24601,492* | *22440,052* | *13418,996* |
| *Cox & Snell R Square* | *0,055* | *0,026* | *0,056* | *0,051* | *0,030* | *0,038* | *0,039* | *0,021* | *0,018* | *0,027* | *0,013* | *0,010* |
| **KDHS Year** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| 1988 *** | | | | | | | | | | | | |
| 1993 | 0,716 *** | 0,752 *** | 0,954 | 0,738 *** | 0,734 *** | 1,104 * | 0,730 *** | 0,699 *** | 1,635 *** | 0,752 *** | 0,645 *** | 2,289 *** |
| 1998 | 0,655 *** | 0,709 *** | 1,018 | 0,653 *** | 0,629 *** | 1,244 *** | 0,631 *** | 0,605 *** | 1,900 *** | 0,659 *** | 0,580 *** | 2,682 *** |
| 2003 | 0,481 *** | 0,531 *** | 0,596 *** | 0,540 *** | 0,543 *** | 0,782 *** | 0,560 *** | 0,531 *** | 1,102 | 0,583 *** | 0,510 *** | 1,579 *** |
| 2008 | 0,514 *** | 0,588 *** | 0,502 *** | 0,523 *** | 0,563 *** | 0,654 *** | 0,523 *** | 0,512 *** | 0,921 | 0,517 *** | 0,493 *** | 1,460 *** |
| Constant | 0,534 *** | 0,372 *** | 1,178 *** | 1,254 *** | 1,168 *** | 2,786 *** | 2,641 *** | 2,993 *** | 4,853 *** | 4,297 *** | 5,788 *** | 5,490 *** |
| *-2 Log likelihood* | *33513,016* | *30019,442* | *40522,348* | *40605,181* | *40450,361* | *35131,821* | *38805,871* | *38059,732* | *24328,573* | *33837,655* | *31344,767* | *19065,037* |
| *Cox & Snell R Square* | *0,013* | *0,008* | *0,022* | *0,013* | *0,011* | *0,012* | *0,011* | *0,012* | *0,009* | *0,009* | *0,009* | *0,010* |
| **Cohort (3 periods)** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| 1944-1963 *** | | | | | | | | | | | | |
| 1964-1973 | 0,519 *** | 0,656 *** | 0,665 *** | 0,537 *** | 0,696 *** | 0,750 *** | 0,523 *** | 0,698 *** | 0,825 *** | 0,489 *** | 0,631 *** | 0,930 |
| 1974-1988 | 0,408 *** | 0,504 *** | 0,488 *** | 0,449 *** | 0,557 *** | 0,581 *** | 0,450 *** | 0,561 *** | 0,629 *** | 0,388 *** | 0,467 *** | 0,685 *** |
| Constant | 0,539 *** | 0,356 *** | 1,274 *** | 1,280 *** | 1,037 | 3,298 *** | 2,752 *** | 2,542 *** | 7,306 *** | 4,970 *** | 5,204 *** | 10,384 *** |
| *-2 Log likelihood* | *33052,479* | *29861,636* | *40554,365* | *40110,700* | *40363,622* | *35187,455* | *38318,505* | *38027,762* | *24475,136* | *33229,576* | *31127,697* | *19296,078* |
| *Cox & Snell R Square* | *0,028* | *0,013* | *0,021* | *0,029* | *0,014* | *0,010* | *0,027* | *0,013* | *0,004* | *0,029* | *0,016* | *0,002* |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

*(Source: own calculations based on KDHS data)*

Table 4. 2 : Multivariate analysis of Kenyan women who have experienced the transitions to first marriage, sexual intercourse and birth (Models A, B, and C)

*Model A* : Transitions to first marriage, birth and intercourse before the age of 16, 18, 20 and 22 controlling for cohort, educational attainment, main ethnicity, urban/rural place of residence and survey year.

| MULTIVARIATE ANALYSIS: Kenyan women who have experienced the transition events (first marriage, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Dependant Variable (before age 16):** | | | **Dependant Variable (before age 18):** | | | **Dependant Variable (before age20):** | | | **Dependant Variable (before age 22):** | | |
| | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** | **First Marriage** | **First Birth** | **First Intercourse** |
| **Cohort** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| 1944-1948 *** | | | | | | | | | | | | |
| 1949-1953 | 1,104 | 1,081 | 1,235 * | 1,025 | 1,300 ** | 1,197 | 0,935 | 1,305 ** | 1,148 | 1,073 | 1,505 *** | 1,231 |
| 1954-1958 | 1,135 | 1,496 *** | 1,364 *** | 1,140 | 1,772 *** | 1,273 * | 0,960 | 1,950 *** | 1,171 | 0,987 | 1,944 *** | 1,274 |
| 1959-1963 | 0,940 | 1,358 ** | 1,472 *** | 0,997 | 1,666 *** | 1,694 *** | 0,851 | 2,031 *** | 1,394 ** | 0,716 ** | 1,672 *** | 1,385 * |
| 1964-1968 | 0,783 ** | 1,144 | 1,289 ** | 0,827 * | 1,522 *** | 1,506 *** | 0,670 *** | 1,790 *** | 1,348 * | 0,564 *** | 1,425 *** | 1,346 * |
| 1969-1973 | 0,695 *** | 1,304 ** | 1,300 ** | 0,704 *** | 1,575 *** | 1,372 ** | 0,565 *** | 1,650 *** | 0,983 | 0,433 *** | 1,125 | 0,703 * |
| 1974-1978 | 0,618 *** | 1,031 | 1,176 | 0,704 *** | 1,313 ** | 1,277 * | 0,590 *** | 1,602 *** | 0,934 | 0,457 *** | 1,075 | 0,676 * |
| 1979-1983 | 0,565 *** | 0,988 | 0,997 | 0,608 *** | 1,194 | 1,220 | 0,481 *** | 1,392 ** | 0,774 | 0,309 *** | 0,812 | 0,445 *** |
| 1984-1988 | 0,504 *** | 0,831 | 1,076 | 0,527 *** | 1,205 | 1,168 | 0,437 *** | 1,213 | 0,956 | 0,243 *** | 0,580 *** | 0,495 *** |
| **Educational Attainment** | | | | | | | | | | | | |
| No education *** | | | | | | | | | | | | |
| Less than primary | 0,765 *** | 0,735 *** | 0,969 | 0,841 *** | 1,040 | 1,139 | 0,990 | 1,163 * | 1,479 *** | 1,141 | 1,520 *** | 1,647 *** |
| Primary | 0,289 *** | 0,340 *** | 0,441 *** | 0,406 *** | 0,553 *** | 0,621 *** | 0,542 *** | 0,759 *** | 1,014 | 0,708 *** | 1,118 | 1,332 ** |
| Secondary and More | 0,037 *** | 0,076 *** | 0,120 *** | 0,062 *** | 0,101 *** | 0,138 *** | 0,130 *** | 0,138 *** | 0,224 *** | 0,195 *** | 0,226 *** | 0,324 *** |
| **Main Ethnicities** | | | | | | | | | | | | |
| Kalenjin | 2,196 *** | 1,486 *** | 1,102 * | 1,807 *** | 1,378 *** | 1,060 | 1,395 *** | 1,321 *** | 1,036 | 1,319 *** | 1,358 *** | 1,133 |
| Kamba | 1,057 | 1,058 | 1,575 *** | 1,042 | 0,980 | 1,495 *** | 1,096 * | 1,053 | 1,519 *** | 1,155 ** | 1,192 *** | 1,450 *** |
| Kikuyu *** | | | | | | | | | | | | |
| Luhya | 1,857 *** | 1,214 *** | 1,386 *** | 1,697 *** | 1,208 *** | 1,355 *** | 1,664 *** | 1,233 *** | 1,357 *** | 1,759 *** | 1,295 *** | 1,393 *** |
| Luo | 4,107 *** | 2,504 *** | 4,059 *** | 3,378 *** | 2,353 *** | 3,830 *** | 3,182 *** | 2,149 *** | 3,154 *** | 2,806 *** | 1,829 *** | 2,795 *** |
| **Urban-Rural** | | | | | | | | | | | | |
| Urban | | | | | | | | | | | | |
| Rural | 1,007 | 0,950 | 1,161 *** | 1,260 *** | 1,197 *** | 1,183 *** | 1,486 *** | 1,456 *** | 1,148 ** | 1,679 *** | 1,659 *** | 1,193 ** |
| **KDHS Year** | | | | | | | | | | | | |
| 1988 *** | | | | | | | | | | | | |
| 1993 | 0,821 *** | 0,796 *** | 1,135 ** | 0,872 ** | 0,782 *** | 1,472 *** | 0,918 | 0,762 *** | 2,448 *** | 1,039 | 0,774 *** | 3,725 *** |
| 1998 | 1,001 | 0,903 | 1,416 *** | 0,993 | 0,795 *** | 1,925 *** | 1,018 | 0,740 *** | 3,446 *** | 1,194 ** | 0,855 * | 5,655 *** |
| 2003 | 0,843 ** | 0,773 *** | 0,862 ** | 0,936 | 0,763 *** | 1,236 *** | 1,055 | 0,741 *** | 2,127 *** | 1,344 *** | 0,911 | 4,192 *** |
| 2008 | 1,274 *** | 0,988 | 0,801 *** | 1,132 * | 0,900 | 1,078 | 1,161 * | 0,776 *** | 1,795 *** | 1,503 *** | 1,121 | 4,551 *** |
| **Constant** | 0,592 *** | 0,431 *** | 0,917 | 1,326 ** | 0,846 | 1,974 *** | 2,690 *** | 1,649 *** | 3,051 *** | 3,724 *** | 2,491 *** | 2,717 *** |
| *-2 Log likelihood* | *19614,454* | *19359,150* | *25806,927* | *24618,374* | *26061,032* | *21922,683* | *24369,254* | *23814,845* | *15325,823* | *21508,419* | *19450,693* | *12098,477* |
| *Cox & Snell R Square* | *0,185* | *0,106* | *0,181* | *0,217* | *0,163* | *0,156* | *0,184* | *0,169* | *0,095* | *0,156* | *0,140* | *0,069* |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

*(Source: own calculations based on KDHS data)*

*Model B* : transitions to first marriage, birth and intercourse before the age of 16, 18, 20 and 22 controlling for cohort (3 periods), educational attainment, main ethnicity, urban/rural place of residence and survey year.

| MULTIVARIATE ANALYSIS: Kenyan women who have experienced the transition events (first marriage, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Dependant Variable (before age 16):** | | | **Dependant Variable (before age 18):** | | | **Dependant Variable (before age20):** | | | **Dependant Variable (before age 22):** | | |
| | First Marriage | First Birth | First Intercourse | First Marriage | First Birth | First Intercourse | First Marriage | First Birth | First Intercourse | First Marriage | First Birth | First Intercourse |
| **Cohort (3 periods)** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| 1944-1963 *** | | | | | | | | | | | | |
| 1964-1973 | 0,735 *** | 0,918 | 0,946 | 0,750 *** | 0,981 | 1,004 | 0,697 *** | 0,967 | 0,936 | 0,609 *** | 0,783 *** | 0,821 ** |
| 1974-1988 | 0,584 *** | 0,727 *** | 0,791 *** | 0,633 *** | 0,776 *** | 0,842 *** | 0,605 *** | 0,797 *** | 0,707 *** | 0,465 *** | 0,549 *** | 0,477 *** |
| **Educational Attainment** | | | | | | | | | | | | |
| No education *** | | | | | | | | | | | | |
| Less than primary | 0,750 *** | 0,759 *** | 1,010 | 0,837 *** | 1,095 | 1,222 ** | 0,971 | 1,269 *** | 1,550 *** | 1,075 | 1,594 *** | 1,721 *** |
| Primary | 0,282 *** | 0,355 *** | 0,465 *** | 0,402 *** | 0,591 *** | 0,680 *** | 0,527 *** | 0,848 ** | 1,078 | 0,655 *** | 1,181 * | 1,409 *** |
| Secondary and More | 0,036 *** | 0,079 *** | 0,127 *** | 0,062 *** | 0,108 *** | 0,152 *** | 0,126 *** | 0,157 *** | 0,240 *** | 0,180 *** | 0,242 *** | 0,345 *** |
| **Main Ethnicities** | | | | | | | | | | | | |
| Kalenjin | 2,169 *** | 1,509 *** | 1,118 * | 1,796 *** | 1,402 *** | 1,076 | 1,382 *** | 1,346 *** | 1,043 | 1,291 *** | 1,359 *** | 1,136 |
| Kamba | 1,053 | 1,063 | 1,584 *** | 1,039 | 0,987 | 1,504 *** | 1,092 | 1,061 | 1,523 *** | 1,145 ** | 1,192 *** | 1,453 *** |
| Kikuyu *** | | | | | | | | | | | | |
| Luhya | 1,850 *** | 1,223 *** | 1,394 *** | 1,693 *** | 1,220 *** | 1,363 *** | 1,655 *** | 1,244 *** | 1,364 *** | 1,733 *** | 1,292 *** | 1,396 *** |
| Luo | 4,069 *** | 2,510 *** | 4,076 *** | 3,346 *** | 2,368 *** | 3,849 *** | 3,142 *** | 2,158 *** | 3,169 *** | 2,726 *** | 1,807 *** | 2,790 *** |
| **Urban-Rural** | | | | | | | | | | | | |
| Urban | | | | | | | | | | | | |
| Rural | 1,014 | 0,944 | 1,162 *** | 1,268 *** | 1,193 *** | 1,182 *** | 1,498 *** | 1,453 *** | 1,158 ** | 1,697 *** | 1,663 *** | 1,209 *** |
| **KDHS Year** | | | | | | | | | | | | |
| 1988 *** | | | | | | | | | | | | |
| 1993 | 0,807 *** | 0,823 *** | 1,149 ** | 0,851 *** | 0,802 *** | 1,469 *** | 0,886 * | 0,771 *** | 2,320 *** | 0,969 | 0,749 *** | 3,219 *** |
| 1998 | 0,994 | 0,969 | 1,494 *** | 0,990 | 0,858 ** | 1,986 *** | 0,999 | 0,804 *** | 3,343 *** | 1,161 * | 0,896 | 5,148 *** |
| 2003 | 0,822 ** | 0,847 ** | 0,897 * | 0,952 | 0,827 *** | 1,292 *** | 1,005 | 0,813 *** | 2,008 *** | 1,220 ** | 0,928 | 3,519 *** |
| 2008 | 1,187 ** | 1,027 | 0,827 *** | 1,046 | 0,953 | 1,116 | 1,043 | 0,800 *** | 1,742 *** | 1,197 ** | 0,988 | 3,676 *** |
| **Constant** | 0,625 *** | 0,523 *** | 1,153 * | 1,401 *** | 1,190 ** | 2,532 *** | 2,549 *** | 2,510 *** | 3,668 *** | 3,551 *** | 3,876 *** | 3,478 *** |
| *-2 Log likelihood* | *19630,978* | *19393,678* | *25835,398* | *24644,183* | *26118,191* | *21965,603* | *24400,289* | *23907,812* | *15360,170* | *21620,377* | *19545,412* | *12176,395* |
| *Cox & Snell R Square* | *0,185* | *0,105* | *0,180* | *0,216* | *0,161* | *0,154* | *0,183* | *0,166* | *0,094* | *0,151* | *0,136* | *0,065* |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

*(Source: own calculations based on KDHS data)*

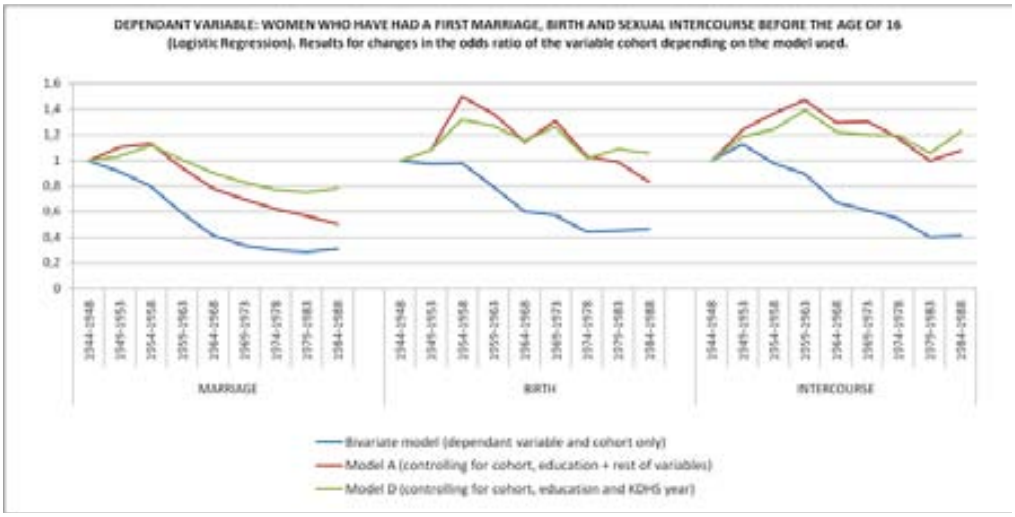
*Model C* : transitions to first marriage, birth and intercourse before the age of 16, 18, 20 and 22 controlling for cohort (3 periods), educational attainment, region, urban/rural place of residence and survey year.

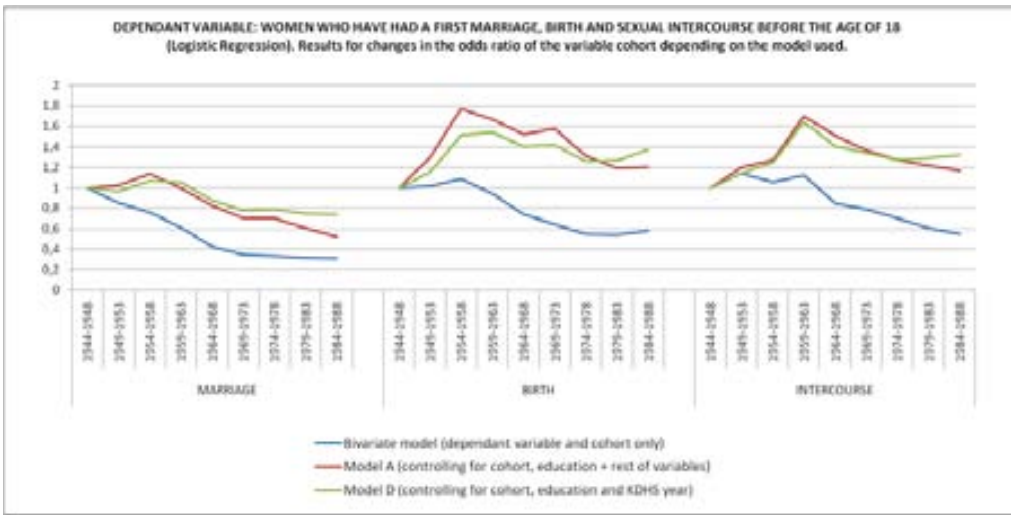
| MULTIVARIATE ANALYSIS: Kenyan women who have experienced the transition events (first marriage, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Dependant Variable (before age 16):** | | | **Dependant Variable (before age 18):** | | | **Dependant Variable (before age20):** | | | **Dependant Variable (before age 22):** | | |
| | First Marriage | First Birth | First Intercourse | First Marriage | First Birth | First Intercourse | First Marriage | First Birth | First Intercourse | First Marriage | First Birth | First Intercourse |
| **Cohort (3 periods)** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| 1944-1963 *** | | | | | | | | | | | | |
| 1964-1973 | 0,804 *** | 0,969 | 0,953 | 0,788 *** | 0,993 | 1,003 | 0,739 *** | 0,992 | 0,948 | 0,658 *** | 0,842 *** | 0,868 * |
| 1974-1988 | 0,699 *** | 0,817 *** | 0,884 ** | 0,718 *** | 0,872 *** | 0,904 * | 0,675 *** | 0,889 ** | 0,782 *** | 0,520 *** | 0,623 *** | 0,558 *** |
| **Educational Attainment** | | | | | | | | | | | | |
| No education *** | | | | | | | | | | | | |
| Less than primary | 0,711 *** | 0,784 *** | 1,051 | 0,820 *** | 1,114 ** | 1,307 *** | 0,923 | 1,328 *** | 1,606 *** | 0,973 | 1,562 *** | 1,700 *** |
| Primary | 0,272 *** | 0,371 *** | 0,493 *** | 0,394 *** | 0,608 *** | 0,727 *** | 0,475 *** | 0,862 *** | 1,065 | 0,538 *** | 1,102 | 1,284 *** |
| Secondary and More | 0,037 *** | 0,086 *** | 0,138 *** | 0,062 *** | 0,113 *** | 0,172 *** | 0,114 *** | 0,161 *** | 0,249 *** | 0,151 *** | 0,227 *** | 0,327 *** |
| **Region** | | | | | | | | | | | | |
| Nairobi *** | | | | | | | | | | | | |
| Central | 0,527 *** | 0,777 ** | 0,723 *** | 0,726 *** | 0,953 | 0,916 | 0,843 ** | 1,228 ** | 0,951 | 0,910 | 1,232 ** | 0,904 |
| Coast | 1,622 *** | 1,157 | 0,845 * | 1,511 *** | 1,108 | 0,851 * | 1,451 *** | 1,097 | 0,863 | 1,466 *** | 1,125 | 0,920 |
| Eastern | 0,642 *** | 0,812 * | 1,042 | 0,821 ** | 0,973 | 1,190 ** | 0,895 | 1,168 * | 1,234 ** | 1,019 | 1,310 *** | 1,170 |
| Nyanza | 1,865 *** | 1,772 *** | 2,309 *** | 1,968 *** | 1,927 *** | 2,666 *** | 2,046 *** | 2,052 *** | 2,338 *** | 1,984 *** | 1,870 *** | 1,952 *** |
| Rift Valley | 1,157 | 1,117 | 0,832 ** | 1,312 *** | 1,319 *** | 1,038 | 1,224 *** | 1,482 *** | 0,992 | 1,303 *** | 1,499 *** | 1,065 |
| Western | 1,073 | 0,898 | 1,003 | 1,398 *** | 1,218 ** | 1,353 *** | 1,657 *** | 1,472 *** | 1,364 *** | 1,789 *** | 1,591 *** | 1,391 *** |
| **Urban-Rural** | | | | | | | | | | | | |
| Urban | | | | | | | | | | | | |
| Rural | 1,085 | 0,975 | 1,083 * | 1,216 *** | 1,097 * | 1,057 | 1,336 *** | 1,234 *** | 1,110 * | 1,454 *** | 1,442 *** | 1,190 ** |
| **KDHS Year** | | | | | | | | | | | | |
| 1988 *** | | | | | | | | | | | | |
| 1993 | 0,829 *** | 0,844 *** | 1,104 * | 0,864 *** | 0,806 *** | 1,294 *** | 0,868 ** | 0,762 *** | 1,959 *** | 0,924 | 0,718 *** | 2,746 *** |
| 1998 | 0,958 | 0,934 | 1,386 *** | 0,953 | 0,793 *** | 1,738 *** | 0,938 | 0,767 *** | 2,750 *** | 1,076 | 0,828 *** | 4,171 *** |
| 2003 | 0,792 *** | 0,775 *** | 0,838 *** | 0,876 ** | 0,743 *** | 1,129 * | 0,944 | 0,719 *** | 1,720 *** | 1,129 * | 0,832 *** | 2,886 *** |
| 2008 | 1,045 | 0,997 | 0,761 *** | 0,986 | 0,864 ** | 0,998 | 0,998 | 0,760 *** | 1,556 *** | 1,147 * | 0,923 | 3,041 *** |
| **Constant** | 1,008 | 0,608 *** | 1,641 *** | 1,829 *** | 1,267 *** | 2,960 *** | 3,392 *** | 2,386 *** | 4,260 *** | 4,906 *** | 3,796 *** | 4,217 *** |
| *-2 Log likelihood* | *28139,146* | *27250,454* | *36184,872* | *34303,679* | *36128,271* | *31158,892* | *33459,396* | *33444,435* | *21957,399* | *29460,602* | *27431,737* | *17521,384* |
| *Cox & Snell R Square* | *0,176* | *0,096* | *0,155* | *0,201* | *0,145* | *0,135* | *0,174* | *0,154* | *0,085* | *0,144* | *0,131* | *0,060* |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

*(Source: own calculations based on KDHS data)*

**Figure 4. 24 : Results for the changes in the odds ratio of the variable cohort by model used (bivariate, controlling for education, controlling for the other variables) for the early transitions towards first marriage, birth and sexual intercourse.**




*(Source: own calculations based on KDHS data)*

## 4.4. CONCLUSIONS AND DISCUSSION

So far both descriptive and logistic analyses have shown a positive increase in the postponement of first marriage among Kenyan women over time. On the descriptive side, transitions to first marriage and childbearing have been delayed, especially for those cohorts born in the 60's; while first sex before age 16, and to a lesser extent before age 18 have also seen declines in their respective proportions. The non-positive outcome is the relative stability in the proportions of very early and early marriage and childbirth across the younger generations (born late 60's and onwards) around 20% (age 16) and 35% (age 18). Moreover, because the country's ethnicities are regionally located, it is possible to observe very similar patters between the main ethnical groups and the region in which they reside. With regards to education, there has been an impressive decline of women with no education, yet the goal of universal primary schooling is still facing some challenges as a constant portion (20-30%) of girls do not complete that basic level. It has been noted that the encouragement from the Kenyan government to give priority on secondary and higher education has certainly been paid off to some extent, but still 70% of its female citizens have yet to reach post-primary levels. And, although rural and urban women have increased the mean years spent in class, there are still large regional imbalances in schooling accomplishments, where Nairobi and its neighbouring Central region fare much better than the rest, and the Coastal belt scores the lowest. Conversely, when linking educational attainment with the timing of the transitional events of first marriage, birth and intercourse, what was expected is confirmed in the analysis. Those with post-primary education are the ones that delay the most, not only before age 18, but especially before age 22; and, while there is almost no change in the timing for those with no education, those who did attend primary school (even if they did not complete it) are slowly delaying their entry into first marriage. Nonetheless, by age 22, the universality of marriage is pretty evident for those with no and little education, where the ones who are really changing the pattern are those with primary and higher.

Therefore, it is stated that the results of the multivariate logistic regression confirm the descriptive results, with high significance levels, where not only the youngest cohorts are indeed delaying these three early transitions, but the ones that have greater odds of delaying such events, are the most educated, urban, residing in Nairobi and Central, and not belonging to the Luo ethnical group. Hence, concerning early marriage in particular, in Kenya it has been shown that, among the eldest cohorts, the change towards the reduction of such unions has been mainly due to a structural change in its population (the educational structure), followed by a change more driven on the behavioural domain and a certain stability for the younger cohorts, although other factors beyond education also take some presence. With these findings, in terms of future research it will be rather necessary to have an acute understanding on the distinctive patterns of union formation among

Kenyan young adults, not only on the educational front, but also the socioeconomic, political and especially ethnical/regional imbalances, which will be helpful for better interpreting the country's complexity. As Weinreb (2001, p.437) states, "*it is important to ascertain to what extent access to political power and, through power, access to a state's resources, is a key factor underlying ethnic differences*".

In this sense, other studies focused on the Luo women and the Nyanza province specifically, also suggest similar findings to the ones exposed in the present chapter. Magadi and Agwanda (2009), found evidence in South Nyanza that suggests that in that area almost half of the adolescents had married or had their first pregnancy by the time they reached legal adulthood age (18 years), and about half of the adolescents had had sex by age 16, the legal age for sexual consent. They also pointed out that it is possible that the ages for sexual debut are actually lower (under-reporting) as it can be presumed that respondents would have less motivation to under-report their best friend's sexual activity, which they find some evidence in that direction. Tenkorang & Maticka-Tyndale (2008) found that females from non-dominant ethnic groups in Nyanza delayed their sexual debut by 12% (1.4 years), compared to the Luo girls. The authors also noted that sexual pressure (social pressure) was the factor with the strongest effect on early sexual initiation. In fact, in the 70's Blount (1973) asserted that in Luo society it was expected that a woman would become pregnant within a year after marriage and her social status would improve with the more children she had. Therefore, given these findings and the early timing of their transitions to first marriage, and first birth and even earlier sexual intercourse, one wonders what factors afar from educational ones might be behind this pattern for Luo women. Although things might have changed with time, it is interesting to mention a study published in 1950 from E.E. Evans-Pritchard in which the marriage customs of the Luo are described in splendid detail, starting from the courtship between bride and groom and following all the different traditions and ceremonies until the matrimony is finally established[64]. Yet, more recent analysis on how current Luo people experience sexuality,

[64] Just to draw upon some attention-grabbing information on the article from Evans-Pritchard (1950), it is said that courtship and marriage among Luo people have been connected with the custom of making love to girls in the bachelor's dormitory (called *simba*), where they spend the night and play with each other and the boy has intercourse between her thighs (no penetration, as that would be shameful). It is revealed a girl may have several lovers during that period (until the final ceremony of marriage), and neither the men nor her father or brothers can interfere in her "love affairs". Also, it is regarded that marriage by elopement is also shameful, but the union can be regularized through acceptance of cattle from the groom. Moreover, when a young man asks a girl to marry him and she is disinclined, the marriage won't take place, even if her parents agreed with the union; and if she accepts then the different steps towards marriage begin: first with the "abduction of the bride" (it is rare that she does not want to go to her husband, but she noisily resists leaving so as to show that it is not elopement but proper marriage); later that night the marriage is consummated (although without orgasm) in presence of her sister and one of the groom's brothers, who examine the virginity of the bride by looking for her hymen in the groom's member (nonetheless if she is not found virgin the validity of the rite still stands and singing stops because of the shame); afterwards acceptance of bridewealth begins as well as a series of other ceremonies, in which the bride can return to her home-place on a frequent basis, and it is not until the *riso* ceremony (binding act of marriage) that the wife remains with her husband. It is worth mentioning that during the ceremony, the visiting girls (sisters and relatives from the brides' side) spend the night at the husband's home, where some of them stay with local youths in their bachelor-huts. Finally, a few months later there is the final ceremony of marriage (*sepo*) in which the *simba* becomes their dwelling (usually after the birth of their first child a new dwelling is built). With the first childbirth the marriage is completed, and the union should not be broken. However, if the wife dies she is replaced by her sister, or if the man dies

motherhood and especially marriage will be vital in order to understand their patterns, not only in intensity of these events but also the timing. Probably qualitative research could help fill in the gaps of information so as to fully understand marriage timing in Kenya, with special attention to the different regions and ethnicities involved, as well as crucial questions on how education is connected within the marriage process. So far, we have data on the "when" and "how much", thus information on the "why" would be much required and the main focus in future research on this particular issue on early marriage.

Finally, there is another issue worth taking into account when studying marriage timing in Kenya. As Garenne (2004, p.77) mentioned in his article, "*Difficult situations created by civil strife, unrest, international wars or major economic crises, might have put many persons in situations where they simply had to delay marriage*". If we recall the outcomes of the Kenyan presidential election in the year 2007 (30th December), where riots and civil unrest that involved violence between different ethnic groups caused 1.500 deaths approximately and over 600.000 displacements (BBC, 2008), it would be rather important to at least keep in mind this crisis when studying demographic outcomes such as the age at first marriage. In this sense, Onsongo (2008) found that the education sector has been greatly affected by the postelection crisis. Nonetheless, given that the most recent DHS data available is for 2008-2009 it might be difficult to assess the impact of this aftermath on marriage timing. As Weinreb (2001) states, when analysing demographic trends one should not ignore governmental decisions on the distribution of developmental goods that are an outcome of internal political (and ethnic) rivalries within the state.

one of his brothers takes the widow. It is not considered as re-marriage as no bridewealth is paid and the subsequent children born are called after the dead husband and not the brother. Hence, a form of polygamy among the Luo exists.

# CHAPTER 5 :

# ARE COLOMBIAN WOMEN DELAYING THEIR ENTRY INTO FIRST UNION, SEXUAL ACTIVITY AND CHILDBIRTH IN A CONTEXT OF EDUCATIONAL EXPANSION?

## 5.1. INTRODUCTION AND CONTEXTUAL BACKGROUND

The second half of the 20th century in Latin America saw far-reaching economic, social, and political transformations, yet demographic indicators of family formation have shown, until recently, little change (Heaton et al. 2002; Fussell & Palloni, 2004). In fact, the past three decades have also shown relative independence between socioeconomic factors and demographic behaviour (CEPAL, 2011), where some of the explanatory variables pointed out by the theory do not show the expected effect - such as a decrease in adolescent fertility levels - and can be ambiguous, as is the case with education (Pachón, 2007). Precisely, a distinctive feature of the process of fertility decline in the region has been this absence of major changes characterised by practically stable rates and ages at first union and first birth (Mensch et al. 2005, Rosero-Bixby et al. 2009). The weak relationship between marriage and production systems in Latin America stands in stark contrast to the Western European pattern, where the evolution of marriage is clearly linked to economic change (Fussell & Palloni, 2004, p.1205). All in all, it can be said that over the last few decades, it has been found that the age at union formation has remained relatively constant, even within a context of intense educational expansion, escalation of non-marital cohabitation, and postponement and marriage retreat (Singh & Samara, 1996; Castro, 2002; Heaton et al. 2002; Westoff, 2003; Fussell & Palloni, 2004; Mensch et al. 2005; Esteve et al. 2013). Furthermore, one of the main explanations for such invariability and traditional patterns lies on strong cultural family ties and the value of family networks that work as safety nets against instability from the economic and social domain (Fussell & Palloni, 2004).

Examining what family means and how it works in a country marked by extreme geographical, cultural and social diversity can be difficult. The complex and profound processes experienced by the Colombian society throughout the twentieth century transformed and created an impact on the family structures and dynamics that had been slowly weaving since the pre-Hispanic, colonial and republican periods (Pachón, 2007). In the last decade, due to the acute violence encountered and the ongoing economic recession (high unemployment, migration abroad and falling wages) different family arrangements have emerged, where extended and composite families have become multiple ways to alleviate the crisis (Rodríguez, 2004). It is acknowledged that the patriarchal and extended family lost force in large areas of the country, and at the ideological level, the loss of power from the Catholic Church and the weakening of religion as a support of ethical values, together with the higher levels of schooling attained by the population, distanced broad social sectors of religious tutelage which was the basis of male autocracy and its control over the family (Gutiérrez de Pineda, 2003). Nevertheless, with regards to women[65], even if they gained during the 60s and 80s a clear place at the university, professional and business sectors, and the labour environment, still the cultural resistance they faced was very strong, where society highly criticized the "abandonment of the home "and" the "irresponsibility" of those who preferred the "street pleasures and the easy life outside of the household" (Pachón, 2007, p.151).

Nonetheless, in the last decades in Latin America adolescent fertility has not lessened (Castro Martín et al. 2011). Hence, one of the reasons **why Colombia** was chosen as the final case study, besides the small changing pattern in its nuptiality timing, is the fact that in this country, in particular, the Demographic and Health surveys indicate that the incidence of adolescent fertility has been increasing, with a rising rate of premarital pregnancies and births and a significant increase in an early onset of sexual activity (Flórez & Núñez, 2000; Flórez, 2005). These recent trends signalling a reduction in the mean age at first sexual intercourse and an increase in the mean age at union (CEPAL, 2011), widens the exposure gap not only to teenage pregnancy but also to be a single teenage mother, with the negative implications and adverse connotations of this condition (Di Cesare & Vignoli, 2006). For example, a study on Valle del Cauca by Osorio and Hernández (2011) found that 24.6% of pregnant teenagers attending school dropped out during the academic period (8 times higher than the expected dropout rate in females); and although the larger number of pregnancies were at age 16, the risk of dropping out as result of it were higher between the ages

[65] Households headed by women is one of the most characteristic features at the turn of the century and its strengthening has undoubtedly been associated with increasing unemployment of the spouses and the rotation of casual partners. And, while single motherhood in Colombia is not a recent phenomenon, nor a phenomenon associated with modernization, the women that have been particularly affected are those belonging to most disadvantaged socio-economic sectors and subaltern occupations, mainly indigenous women, black women, rural women and immigrants from the countryside to the city. In the middle and high strata this phenomenon has also appeared but with a different characteristic, related to autonomous decision making, often resorting to adoptions and the aid from new technologies for gestation (Pachón, 2007).

12 to15. Henceforth, the structure of this case study is the following: the first sections consists of the theoretical and contextual background on the educational expansion and early transitions in Colombia, giving special attention to the mechanisms by which education can have an impact on union formation. Secondly, there will be another section regarding the data and the methodology, which is again a simple continuation of what was stated earlier with a particular focus on the Colombian context, followed by an extensive section with the descriptive analysis as well as some analytical results, and finally the conclusions and discussion are presented.

## ❖ *Educational expansion in Latin America: some considerations for Colombia*

Within the developing world, Latin America has relatively high levels of schooling as the efforts to eradicate illiteracy have been quite fruitful where primary education, although not universal, has undergone a remarkable expansion (Castro Martín & Juárez, 1995). Moreover, it is pointed out that, from a global perspective, the educational gap between men and women is relatively small. In the last decades, gender inequalities have reduced significantly in terms of access and educational attainment, contributing to the empowerment of women and greater access to resources and, therefore, improvement of the possibility to make individual decisions or negotiate about their sexual and reproductive lives (CEPAL, 2011).

In Colombia, the educational expansion, both for primary and secondary education, had been relatively slow for the first half of the 20th Century, coming from an inability and rivalry of political parties to organize and regulate education throughout the nineteenth century, as well as civil wars and the limited resources available to the country (Ramírez and Téllez, 2006). As the authors highlight, the educational transformations in Colombia only began to occur in the fifties, when the country showed a rapid and sustained economic growth with significant changes in the economic structure as well as a period of population explosion, and the dynamics or urbanization. Hence, the number of students enrolled in both primary and secondary schools considerably expanded, including the number of teachers and educational establishments.

Thus, because of rapid rates of population growth in the 1950's and early 1960's, "the school systems had a dual challenge: they had to increase overall levels of education, and they had to create room for almost double the number of students than were in attendance 25 years earlier" (Wulf & Singh, 1991, p.139). Along these lines Castro Martín & Juárez (1995, p.10) has stated that "until now, few studies have focused on the quality of school programs, even though the educational goals in most developing countries are hampered by lack of facilities, teachers and teaching

materials, as well as for a teaching style that favors the passive absorption of information instead of creative thinking". Overall, in Latin America there is still a significant deficit of medium level education provision over the region, as a result of a tradition in which this level of schooling was oriented towards a minority, large regions (especially in rural areas) lacked the facilities to incorporate these youth (Tedesco & López, 2002).

Although public spending on education as a percentage of GDP was greatly increased since the mid-50s, from levels around 1% to 3% in the sixties and seventies and continued to rise until the mid-eighties, yet, in the rural areas, there were still problems in terms of education quality, coverage and availability of resources (Ramírez and Téllez, 2006). Nevertheless, in the eighties the external debt crisis broke and, under these conditions, most national development programs were oriented to face the crisis through the restoration of balance of payments stability where, immediately, public investment restrictions were imposed (Rodríguez-Gómez, 1999). However, the author maintained that in some cases it was possible to preserve or even increase the rate growth of the seventies in terms of education in Colombia, Chile, Peru, and to a lesser extent Venezuela, where the expansion could be almost exclusively explained by the liberalization of upper education in the private sector. In fact, in Colombia since 1986 a process of decentralization of the education sector started and was strengthened by the new Constitution of 1991, establishing education as an individual right and a public service with social function: by constitutional mandate education is compulsory between the ages of 5 and 15 years of age, must comprise at least one year of preschool education and nine years of basic schooling and it is the responsibility of the state, society and family (Article 67 of the Political Constitution of Colombia 1991) (Ramírez and Téllez, 2006, p.63). For primary education in Latin America as a whole, and in most countries in particular, the horizon of universal coverage has been reached; yet the situation, however, is much more complex when analyzing schooling at the secondary level: although during the past 30 years school enrollment rates grew significantly, especially during the 90's, still more than one third of young people in age to attend this level are not enrolled (Tedesco & López, 2002).

All in all, it is a context of major and longer permanence in the education system, increased schooling and greater labor force participation (especially of women), increased availability and access to family planning methods, increasing urbanization and favorable changes in concepts and values about motherhood and family (Flórez, 2000). In this regard, it is not trivial to bring up the enactment in 1994 in Colombia of the Sexual Education Act (Act 115 of 1994), making it mandatory to comply with sex education through pedagogical projects developed according to a curriculum; where in 1998 the Colombian government defined the guidelines for policy on sexual and reproductive health, incorporating the right to sexual and reproductive health education from childhood, as well as integrated services of sexual and reproductive health (Colombia, Ministerio de Educación Nacional (1999) y Ministerio de Salud (1998), cited in Flórez, 2005). Hence, its correct

implementation is essential in a region with high incidence of poverty and inequality, that in turn is closely linked to low education levels and, with all combined, notable population nubs still face important barriers on access to information and sexual and reproductive health, and maintain a high rate of unwanted fertility (CEPAL, 2011). It is well known that "education helps change reproductive behavior and is a protective factor against teenage motherhood"(CEPAL, 2011, p.82).

Finally, one cannot forget that Latin America is a continent characterized by its cultural diversity with indigenous peoples, blacks, mestizos, whites and a variety of populations arrived from elsewhere. National legislations recognize the right to education as a right to equality, but also at the same time the right for indigenous communities to be involved in the educational proposals of their communities acknowledged as a right to difference (Terreros, 2009). However, as the author mentions, the school must remain the same, as well as the levels and basic materials; thus, the right to equality is to continue the modern educational approach, while adding some aspects of indigenous cultures, and the right to difference is to integrate into the process of education that has been set by states under the "mestizaje" parameter. In Colombia, the indigenous people represent 2.74% of the population[66], where some live in extremely remote areas and have less than 100 members like the Taiwano, native of the south of the Vaupés Department; they live on the Paca, Tiquié and Cananarí rivers. (UNHCR, 2012). Before enacting the 1991 Constitution, the Colombian State, through various sectors (health, education and land allocation, among others), was already striding towards the recognition of indigenous people as different and not inferior to the rest of the Colombian population (Bodnar, 2006). Nevertheless, the educational situation of indigenous communities, has been disadvantageous when compared to the hegemonic society: according to the 1993 census, 35.8% of the indigenous population had no education; the enrollment rate of indigenous people (between ages 5 and 24) was equivalent to 31.2%, while the national reached 56.9%; and, although the school attendance rate for the indigenous population aged 5 to 14 was similar for men and women, from age 15 onwards, it decreased in the case of women (7.4% for men and 5.4% for women) (Bodnar, 2006). Actually, it is worth noting that in the case of indigenous groups, systematically they present higher fertility rates, yet this information should be relativized since other factors coexist, such as inequity along with cultural aspects associated to higher reproductive ideals[67] (CEPAL, 2011, p.86). Moreover, the general violent conditions

[66] Forty-three (53% of the total) of the 81 indigenous peoples of the country are located in the Amazonia; there are 12 groups in the region of the Orinoquia (6.2%); while the Western region (mountain and coastal areas) is the one with highest records of indigenous population (51.8%), divided into 13 ethnic groups; and on the Atlantic coast there is the remaining 29.36% of the total indigenous population, distributed among nine indigenous communities (Bodnar, 2006).

[67] Union is linked to procreation and the start of it is practically immediate in more than half of Indigenous women; where it was found that for the Colombian indigenous population, with the little data available, first union and childbearing begin relatively early: age average of 16.4, with the mode being age 14 for first union; and average ages of 15-16 for first child birth (Arias-Valencia, 2013). All in all, the high fertility levels among indigenous women can be explained by the great importance and significance of the reproductive role, the high frequency successive free unions

resulting from the internal armed conflict in Colombia and its repercussion into neighboring countries, especially at the borders, has had a direct and overwhelming impact on the lives of the indigenous people and communities - resulting in displacement, extreme marginalization and environmental degrading in the indigenous territory (UNHCR, 2012).

### ❖ *Union timing in Latin America: the Colombian case*

Considering all the economic, social, and political transformations that Latin America has experienced in the second half of the 20th century, it is "surprising that demographic measures of family formation and household characteristics show so little change" (Fussell & Palloni, 2004, p.1201). Wulf & Singh (1991) already claimed that the patterns of change in union formation in their analysis could rarely be directly related to a country's social and economic levels. Despite significant changes – major structural transformations affecting the organization of society such as the expansion of mass education, rapid urbanization, with internal rural to urban migration, increase in women's employment levels, as well as the transition to democratic governments in the political domain (Rosero-Bixby et al. 2009) – throughout this period, the age at entry into marital unions, whether formal marriages or consensual unions, has been relatively early and changed remarkably little (Fussell & Palloni, 2004). In fact, initiation of sexual intimacy and union formation are, on average, adolescent experiences in many Latin American countries (Heaton et al. 2002). Nevertheless, when analysing teenage childbearing, survey data confirms it to being higher in least developed regions and among rural women and the least educated, masking wide regional and class differences (Wulf & Singh, 1991). For Colombia, in particular, the incidence of adolescent fertility has been increasing, with rising premarital births and a rejuvenating trend in the onset of sexual activity (Flórez & Núñez, 2000; Flórez, 2005).

Additionally, a distinctiveness element for Latin America is the coexistence between the unusually rapid fertility decline and a traditional nuptiality regime that is quite resistant to changes, posing multiple questions for researchers on the subject (Fussell & Palloni, 2004). Taking into account that for the whole region fertility declined from 5.9 births per woman in 1950-55 to 2.5 in 2000-05 (Rosero-Bixby et al. 2009), it is argued that the "elite and majority Latin Americans alike adjusted to changing social conditions by lowering fertility within marriage rather than delaying or forgoing marriage" (Fussell & Palloni, 2004, p.1211). In fact, the region did not draw upon the control of nuptiality as did the traditional European populations to limit the size of families, but a reverse trend emerged: a rise in nuptiality and greater precocity of the unions (decade of the 50s and 60) (Zavala de Cosío, 1995). Nevertheless, Rosero-Bixby et al. (2009) suggest that recent evidence

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and, possibly, the absence of contraceptive use and loss of mechanisms of population control (Piñeros-Petersen & Ruiz-Ralguero, 1998).

shows that young cohorts are departing from the traditional pattern and waiting longer to become mothers. Colombia is recognized in the international context as one of the countries that made its demographic transition in a sharp and fast manner, dramatically decreasing its birth rates and mortality, which began in the early 30's and developed between 1960-1980 (Zavala de Cosío, 1995). Mendoza (2009) tested that contraception is the determining causing more effect on the fertility decline, nationally and in the regions, explaining 49% of the reduction of the fertility potential in the country. Although, it was also observed that Bogotá and the Central and Pacific regions have the lowest levels of fertility in the country while being, at the same time, the places with greatest concentration of socioeconomic development, and higher levels of contraceptive prevalence.

Although the reproductive patterns of women in informal unions do not significantly differ from women in formal unions (Rosero-Bixby, 1996), previous studies have documented that, in general, the consensual ones start at a younger age than legal marriages (Camisa, 1978; see also Annex Figure V.I). In effect, if one takes a look at the geographical location of the prevalence of consensual unions and compares it to the distribution of countries by their nuptiality calendar, the similarity is quite striking. On the one hand, in the Latin American context, the center-American region, alongside the Caribbean, is where there is an elevated presence of consensual unions (Rosero-Bixby, 1996). In particular, high proportions of 25-29 year old women are in consensual unions in Central American and Caribbean countries (Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama); while the Andean countries and some upper South-American nations converge on middle-range levels of consensual unions (Bolivia, Colombia, Ecuador, Paraguay, Peru and Venezuela); and the more economically advanced countries register lower proportions (Argentina, Brazil, Chile, Costa Rica, Mexico and Uruguay) (Fussell & Palloni, 2004). While on the other hand, with regards to union timing, thanks to the classification from Zavala de Cosío (1995) it is possible to distinguish between three patterns of nuptiality: a) countries with earlier unions (with average years at first union between 18 and 19) in Central America and the Caribbean, such as Salvador, Guatemala, Honduras, Cuba, the Dominican Republic, and also the coastal region Gulf of Mexico; b) countries of relatively early unions (between ages 20 and 21) in Colombia, Costa Rica, Ecuador, Mexico, Panama, Paraguay, Peru and Venezuela; and c) the countries of late unions (between ages 22 and 23) in Argentina, Brazil, Chile and Uruguay. Taking into account that countries with low proportions of consensual unions generally show later mean ages at first union, whereas unions begin earlier in countries with high proportions of consensual unions, "it is likely that where a formal marriage system dominates, prerequisites for marriage associated with educational attainment and labour force participation constrain individuals' choice of timing and of partners" (Fussell & Palloni, 2004, p.1204).

As it is emphasized in Heaton et al. (2002), "popular images of Latin American women suggest that they remain virgins until a union is formed and that childbirth should occur within marital unions"; however, their results "indicate substantial deviation from this pattern is several countries" (p.7), where prolonged declines in premarital sex are noted in Guatemala and Trinidad-Tobago, while Brazil and Colombia show a steady increase. Moreover, they do not find a clear pattern of urban-rural differences in premarital sex; yet, premarital childbearing is uncommon. In Colombia, specifically, qualitative data revealed that adolescents perceive sex within adolescence as something natural and expected and, in fact, they feel pressured to initiate it (Vargas et al. 2004). An important aspect to consider is that "family in Colombia has been guided more by beliefs, traditions and values of the community, more so than by numerous and strict legal codes" (Rodríguez, 2004, p.277). Even though, there were some laws deserving of attention, such as the Cecilia Act of 1968, created by the Colombian Institute of Family Welfare, which defended helpless mothers and children by giving recognition to extramarital children and forcing the fathers to watch over them; or also, the 1991 Constitution that validated not only cohabiting unions, but also recognized as legitimate[68] those children born in or out of wedlock (Rodríguez, 2004).

Until 1974, when the civil marriage was approved in Colombia, the only valid form of marriage was the Catholic one even though the country also had a strong tradition of consensual unions (Rodríguez, 2004). Historically, marriage was not only uncommon between the "mestizos" and slaves but also in the more remote areas where the weak administrative structures hindered its implementation, favoring cohabitation (Saavedra et al. 2013). Actually, consensual unions have been an essential component of the Latin American family system for centuries (United Nations, 1990). Even from mid-century onwards, Catholic marriage ostensibly lost ground against cohabitation, yet "it is striking that civil marriage has little acceptance among the Colombian popular sectors, always leery of the affairs with justice" (Rodríguez, 2004, p.282). Unlike many other developed countries where informal unions surfaced between the urban social strata and the more educated, in Latin America, on the contrary, this mode of union is more common among the more disadvantaged social strata, for various reasons including the fact that it does not require any formalities or procedures and because it involves lower costs, both in the short term (absence of celebration) and long term (financial responsibilities are usually not legally stipulated, in case of separation); hence, in the dominant value system consensual unions enjoy full social recognition, even though they are rarely given them the same social prestige as would be the case for formal marriages. (Castro Martín, 2000, p.41-42). In the Colombian case, the share of cohabitation among all unions has shown an impressive increase over time, from 28.3% in 1970 to 72.7% in 2000 (Esteve et al. 2013).

[68] The problem of illegitimacy of children born outside of religious and legally constituted marriages, which was a concern since the beginning of the twentieth century and possibly much earlier, at the time acquired an unusual force: although records were pretty poor, it was estimated that by 1934, illegitimacy in Bogota was 50%; a percentage almost as high as that of the departments of the Atlantic coast, where it reached 60% (Pachón, 2007).

In the area of the Caribbean and the Pacific coast, for example, family patterns are similar to those of other Caribbean countries: early age at first union, spread of free unions and low levels of celibacy; while on the inland areas such as Santander and Antioquia, they are characterized by a persistence of more traditional forms of nuptiality (Saavedra et al. 2013).

Concerning the onset of sexual activity, results from Heaton et al. (2002) indicate that it begins in late adolescence and that this pattern has not changed much over the last few decades, although a delay is noticed among those with higher educational attainment and in most cases in urban areas. The authors found that, on average, the age at first motherhood is one year greater than age at first union, while the latter begins about one year later than initiation of first intercourse; where Guatemala and Nicaragua report the youngest ages at union formation, while Mexico and Colombia report the oldest. Although most women in Latin America traditionally enter the marriage market after their "quinceañera", the debut that occurs on their 15th birthday, educational attainment beyond this age delays marriage (Fussell & Palloni, 2004). In general, higher levels of education are associated with later ages at first marriage in Latin America[69] (Heaton & Forste, 1998; Jejeebhoy, 1995). Research from Esteve et al. (2013) reveals that the proportion of women ever in union remains constant only among those with no education and those with at least 13 years of education, and in these cases the decrease in marriage is completely offset by a similar increase in the proportion of cohabiting couples. In the intermediate categories, which comprise the bulk of the population and where most of the educational expansion occurred, the share of women in union at young ages increased over time. This trend indicates that women with similar levels of schooling are entering into union at younger ages compared with previous cohorts, primarily through cohabitation, in a context in which the rise in the proportion of cohabiting women is larger than the decrease in the ever married" (Esteve et al. 2013, p.69). They argue that the "compositional changes in the education structure were offset by early in union formation in all educational strata to keep the age-specific proportions of ever in union constant over time" (p.71).

Finally, past research has found a strong relationship between education and the transition to marriage and childbearing in Latin America (Castro Martin & Juarez, 1995; Singh & Samara, 1996). For instance, Rosero-Bixby et al. (2009) found that it is college education that seems to make a difference in the timing and level of transition to motherhood. They stated that a great deal of the overall increase in childlessness among young adults has been due to the upgraded educational composition of the population, although the major educational improvements in the past did not

[69] An interesting phenomenon emerged in the last two decades in Colombia are the marriages/unions of people, mainly for educational and professional reasons, who have postponed their decision to enter this transition at relatively older ages (e.g., women from upper middle class and professionals who have their first birth at age 38 or 40 years) (Rodríguez, 2004).

have a comparable impact on the timing of motherhood since they were focused on the universalization of primary education. In fact, the authors asserted that there is more to delayed fertility than a shift in the educational distribution of the population, as in Nicaragua, Mexico, Costa Rica, Colombia and Panama, for instance, they documented significant changes in the proportion of mothers within the educational strata.

## 5.2. DATA AND METHODOLOGY

Taking into account the various results from the literature on marriage timing in Latin America and its little association to socioeconomic advancement, the aim is to examine to what extent educational expansion explains the delay in the age of the transitions to first union, birth and sexual intercourse in Colombia, by performing not only a descriptive analysis of these event's patterns, but also a logistic regression in order to predict their probability of occurrence and measure the level of its connection to education. Whereas in the case of Kenya it was interesting to compare the timings for first marriage and birth, since the order of those two events was not so clear, in the case of Colombia, various studies have drawn attention to the pattern of first sexual activity, implying an increasingly earlier onset. Thus, instead of only focusing on the timing of first unions, again the addition of the other transitional events can be very helpful to portray a clear and expanded contextualization.

Moreover, since the main purpose in this section is to analyse the trends on these early transitions into adulthood, taking into account its contemporary educational expansion, data from the Demographic and Health Surveys (DHS) for the country has been employed. It could have been an option to study union timing and its association with education through census data, made available by the IPUMS Database, however, their most recent data was for 2005, while the latest DHS accessible was for the year 2010. Thus, because one of the main goals was to present the most updated data on Colombia, the decision was to use the DHS surveys, specifically the waves for the years 1990, 1995, 2000, 2005 and 2010, concentrating on women aged 20-49 so as to avoid unfinished/ongoing schooling from the youngest cohorts. Furthermore, DHS data permits to reconstruct retrospectively the cohorts of it respondents and, by using five consecutive surveys it is possible to lengthen the period of study. Hence, the changing patterns over time will be presented on a cohort basis, ranging from those born in 1941 to the youngest generations born in 1990.

Therefore, the object of analysis has been computed as 3 dichotomous dependant variables over 4 age groups consisting of those Colombian women who have had a first union, first sexual intercourse, and first birth before the ages of 16, 18, 20 and 22. Instead of using the mean age or the median age as the measure for these transitional events, in this study the focus is on the proportions of women who have undergone these transitions before the mentioned ages.

Additionally, educational expansion has been included in the form of achieved educational level as well as mean years of schooling.

Nevertheless, it is acknowledged that having the most recent data has been slightly at the cost of not being able to include the element of consensual versus formal marital unions. The demographic and Health surveys are excellent household-based surveys that allow for multiple analyses on family and demographic matters, especially in terms of fertility, reproductive health, family planning, transitions towards first union, birth and intercourse, as well as many other items related to child health, violence within the household or HIV/AIDS. However, even though for the Latin American context the issue on consensual unions would be very much needed, for this particular study, the surveys provide the marital status at the time of the survey and not at the time of the first union. Consequently, it is not possible to draw any causality or better analyse the implications of non-formal unions when they begin for the first time. The same applies for the other transitions towards first motherhood and first sexual intercourse. Therefore, besides the dependant variables and the educational attainment one, the other contextual or explanatory variables that have been brought into the final analysis are those with a more geographical value, that is region and type of place of residence (urban – rural).

However, concerning the variable region, the Demographic and Health Surveys for Colombia, in particular, had some limitations. Instead of using the "Departamentos" or sub-regions[70], which would have permitted to increase the geographic detail, another classification with six major regions has been employed, since it was comparable throughout the different surveys: in the consecutive DHS surveys, from 1990 to 2000, the variable for region had its own classification with only 5 categories (Atlántica, Oriental, Bogotá, Central, and Pacífica), and it was not until the surveys from the years 2005-2010 that another category was included (Territorios Nacionales). In fact, it is in the two latest surveys that an additional variable for region is included, which is the "departamentos" one with the different sub-regions. Because the main interest is to expand as much as possible the time period for the analysis, translated into cohorts, instead of using the newest more geographically detailed data, it was decided to use the 6 regions option. However, the results in the descriptive analysis will be complemented with some extra figures for the 2010 DHS survey so as to provide a bit more in-depth territorial analysis.

[70] See APPENDIX (Map V.I) for the Political Map of Colombia, with all its different sub-regions.

## 5.3. RESULTS DESCRIPTIVE ANALYSIS

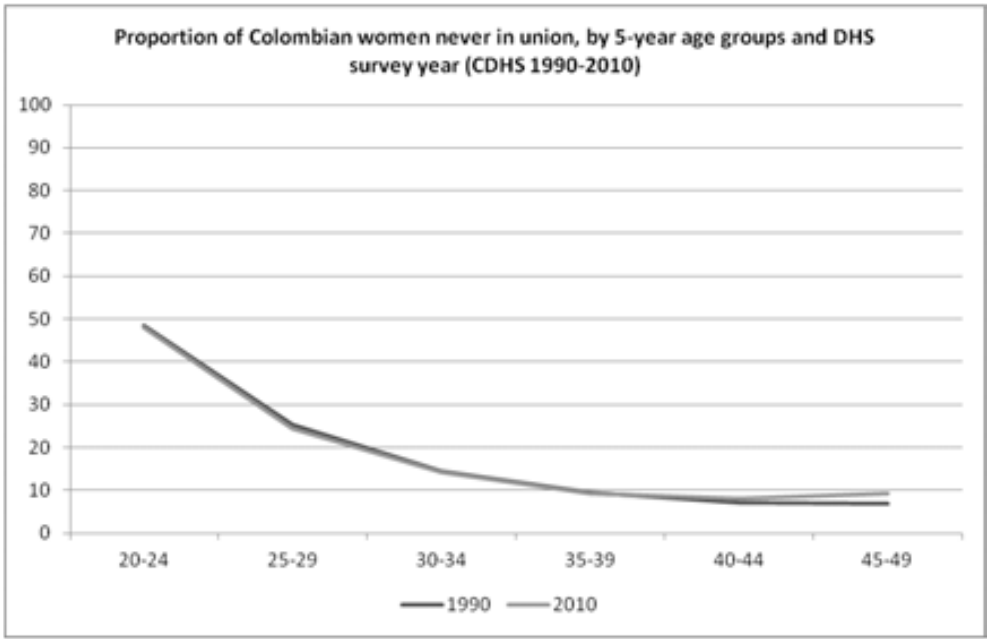
### 5.3.1. EARLY UNIONS

Cross sectional data for Colombia indicates that over the last decade it appears that not much change is found in terms of marriage timing. Just to give an idea, the median age at first union has practically been the same - around the age of 21 - in the different DHS surveys from 1990 to 2010[71]. If we look at the proportion of single women at age 20-24 at the time of the 1990 DHS survey, ten years later the proportion is exactly the same (Figure 5.1). The latter holds true for the rest of the age groups, except for a minor difference for those aged 45-49 who have a less than 4% increase in the percentage of single women, which suggests a very small delay in marriage timing over the period taken into consideration. Concerning the age pattern, 50% of women aged 20-24 in 1990 and in 2010 were single at the time of those surveys; while the proportion remaining as such would decrease in 25% for those aged 25-29 and another 10% fall for the age group 30-34. Nevertheless, in Colombia the universality of marriage, as it can be found in other countries around the globe is not so straightforward. First of all, informal unions have been on the rise. Secondly, over the last decades still a bit less than 10% of women aged 35-49 have never been in a union/marriage. Finally, with regards to childbearing, the age pattern is quite analogous to that of singlehood and has also remained pretty similar over the years (Figure 5.2), hinting towards little change too.

In fact, if we take a look at the overall proportions of women who have entered a first union before the given ages of 16, 18, 20 and 22, it is possible to observe a relative small change over time (Figure 5.3). For all four ages, the trend for first union is towards a delay: the smallest being that for before age 16, where the proportion over the subsequent cohorts has changed in only around 5% from the eldest to the youngest; while for the other ages, the drops in the proportions have been of 10%-15% approximately. Secondly, with regards to first motherhood timing, it appears that there is a certain convergence in the younger cohorts towards a similar timing to first union. Nevertheless, there is an impressive rise in the proportions of women who begin sexual intercourse at a younger age. In other words, sexual activity is not being delayed but the exact opposite, starting from those born in the 70's.

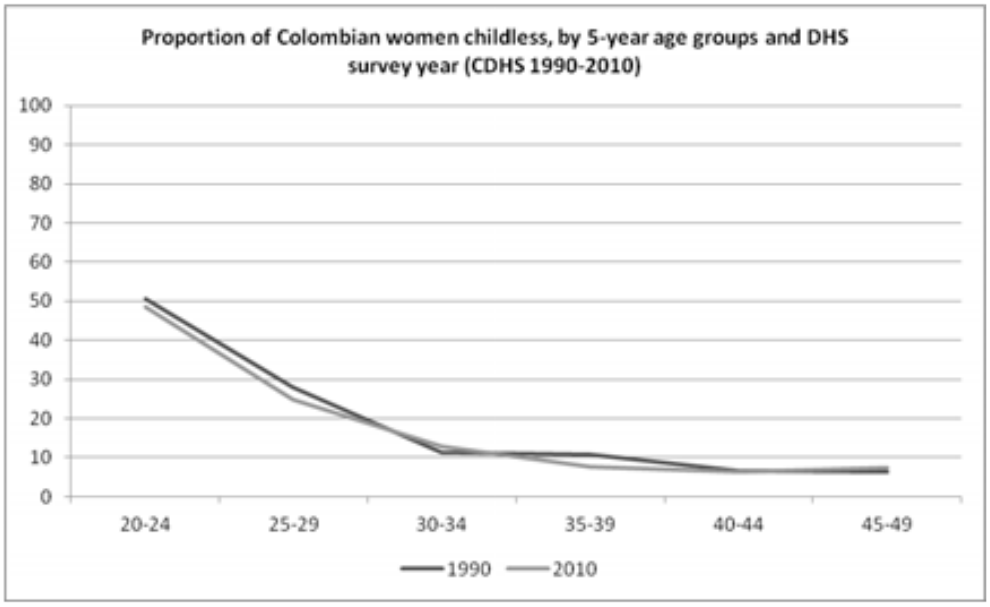
[71] See Figure V.II in the Appendix.

**Figure 5. 1 : Proportion of Colombian women never in union, by age and survey year (in %):**




*(Source: own calculations based on CDHS data)*

**Figure 5. 2 : Proportion of Colombian women who haven't had a child, by age and survey year (in %):**

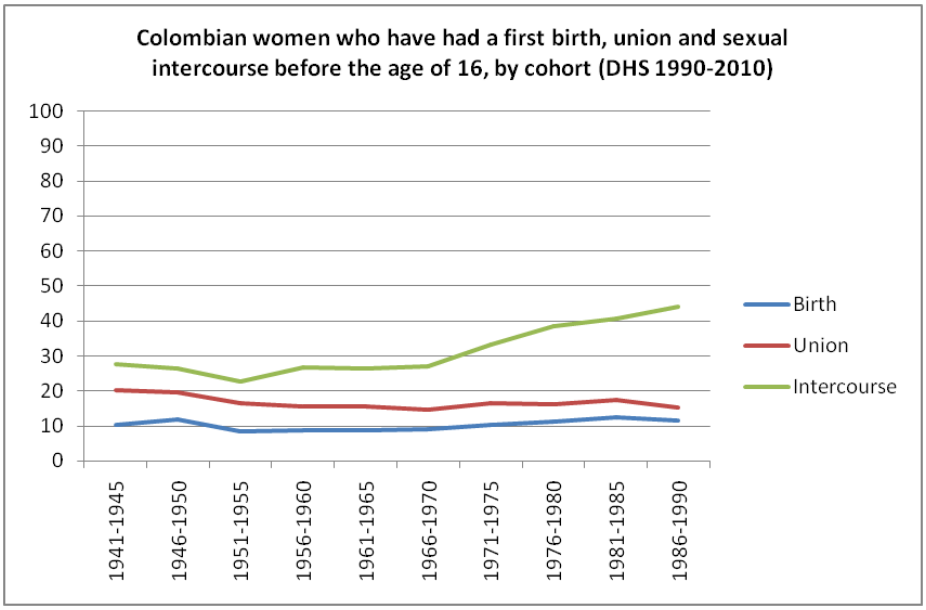


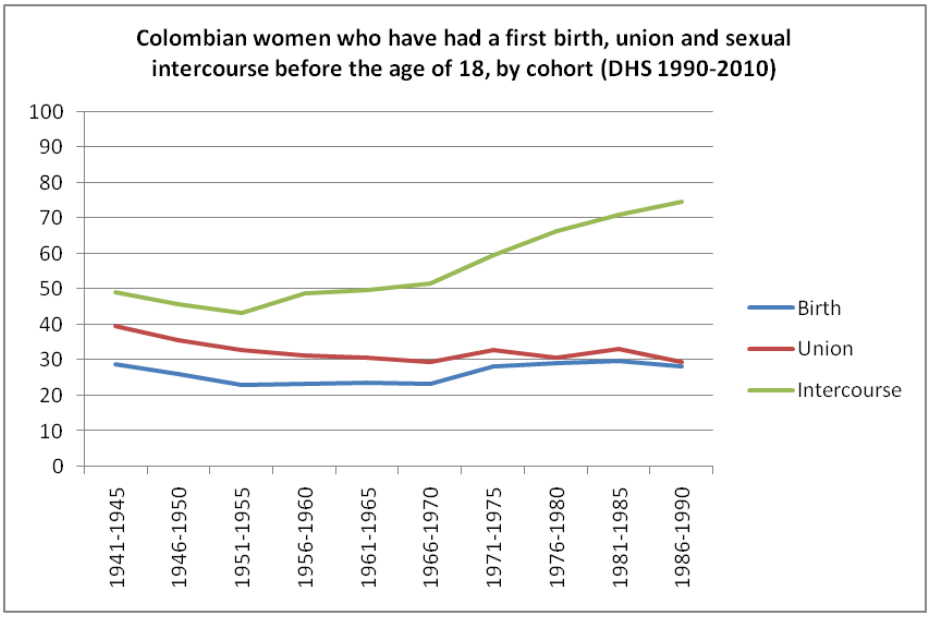

*(Source: own calculations based on CDHS data)*

Concerning the matter that is of most interest in the thesis, although the general idea is that in Latin America early marriage is not the norm, especially when compared to other geographical regions in which child brides are a common theme, we do find however some proportions of girls who have entered a union before the age of 18 in Colombia. Figure 5.3 shows how, over time, between 20-

15% of Colombian women have began a union, whether formal or informal, before the age of 16. Not only that, the proportion becomes higher when we consider those unions before age 18, where although they started around 40% for the eldest generations, the decrease has only been of 10% for the youngest ones. Actually, this decline happened among those elder cohorts born between the early 40's and 50's, and has since remained constant over time around 30%. In effect, the relative lack of change (or very little change) can be noticed also for the other ages, especially for before age 16, but also before age 20. However, the timing of first union does appear to be altering for later ages, that is before age 22, which implies a certain level of delay beginning during the adult stages.

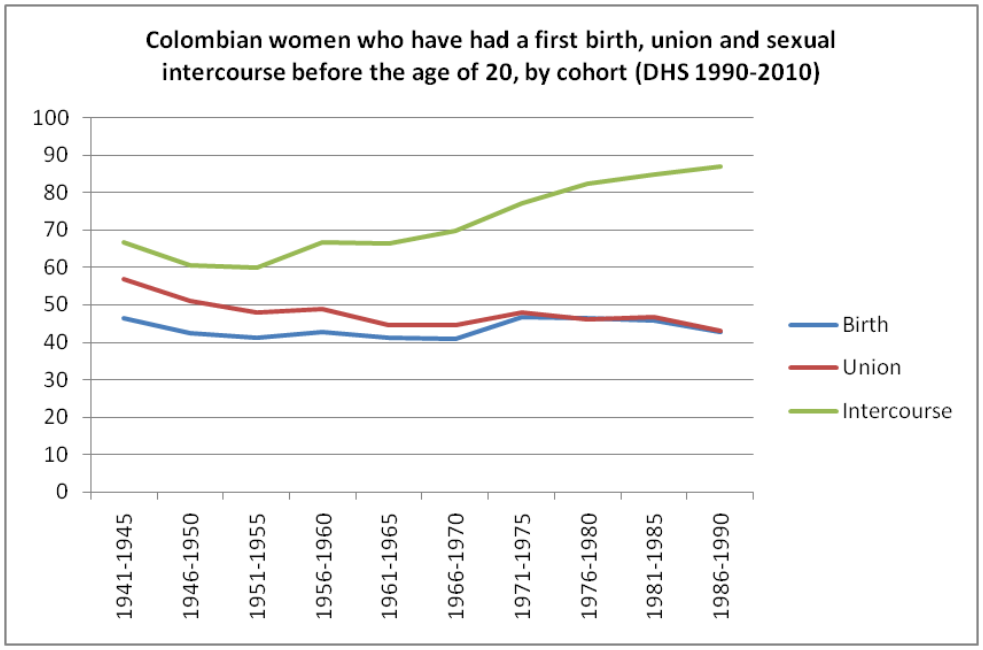
**Figure 5. 3 : Proportions of women who have had a first birth, union and intercourse before the ages of 16, 18, 20 and 22, by cohort.**

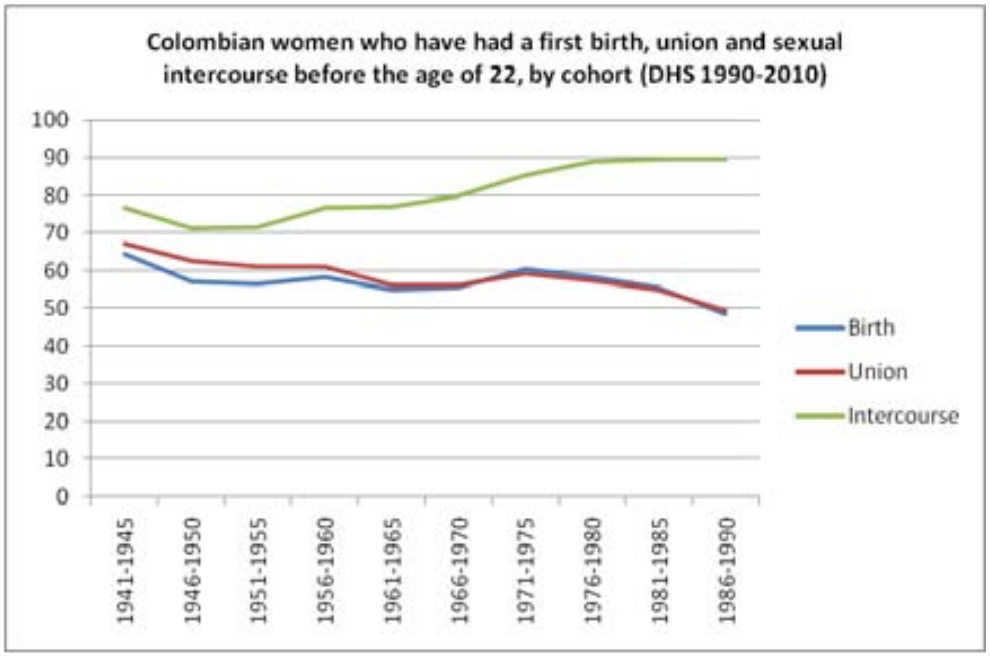



*(Continues...)*

*(Cont.)*



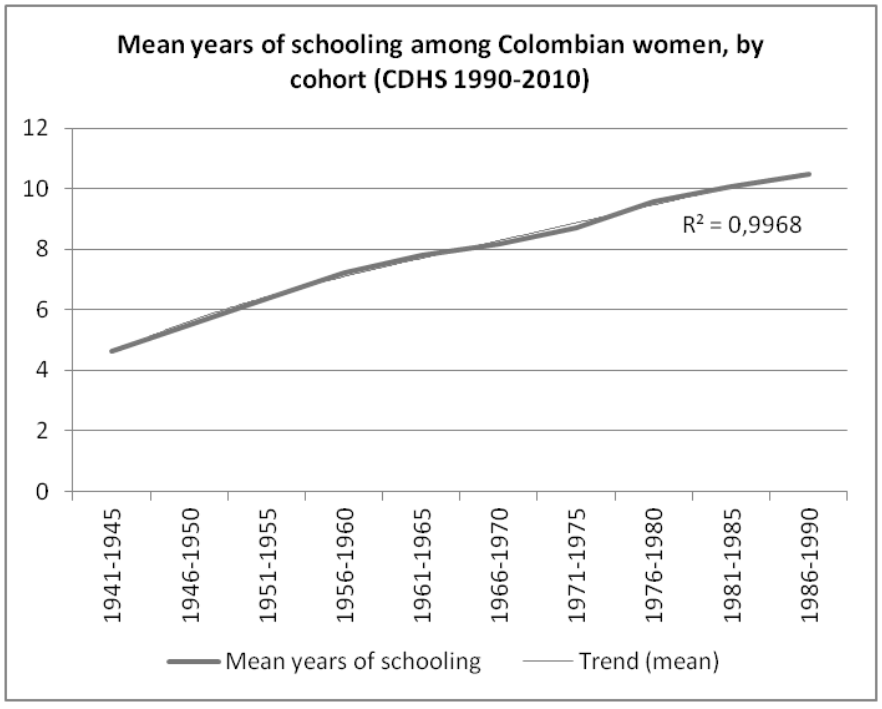




*(Source: own calculations based on CDHS data)*

## 5.3.2. EDUCATIONAL EXPANSION AND EARLY UNIONS

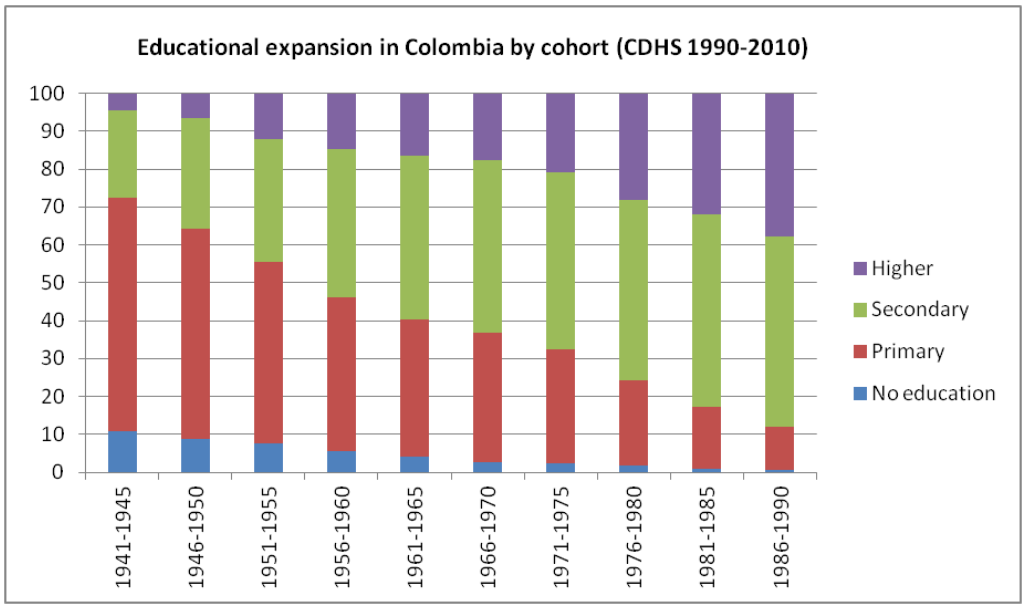
In Colombia the mean years of schooling have almost doubled among the younger generations when compared to the eldest, with a steady increase from around 5 to over 10 years (Figure 5.4). This growth has translated into an impressive decrease of those women with no education or primary education in favour of an increase in the proportions of females who have attained secondary and higher education (Figure 5.5). Precisely, among those younger generations who have reached 20 years of age at least, less than 1% have no education and only a bit over 10% have primary level as the highest achieved one. As it can be seen, cohorts born in the early 60's are the ones in which the proportions for secondary education start towering that of primary education, with a gradual increase over time on the share of women with not only secondary but also higher education - reaching levels of over 50% for secondary and almost 40% for higher education among the youngest generation.

**Figure 5. 4 : Mean years of schooling of Colombian women by cohort.**




*(Source: own calculations based on CDHS data)*

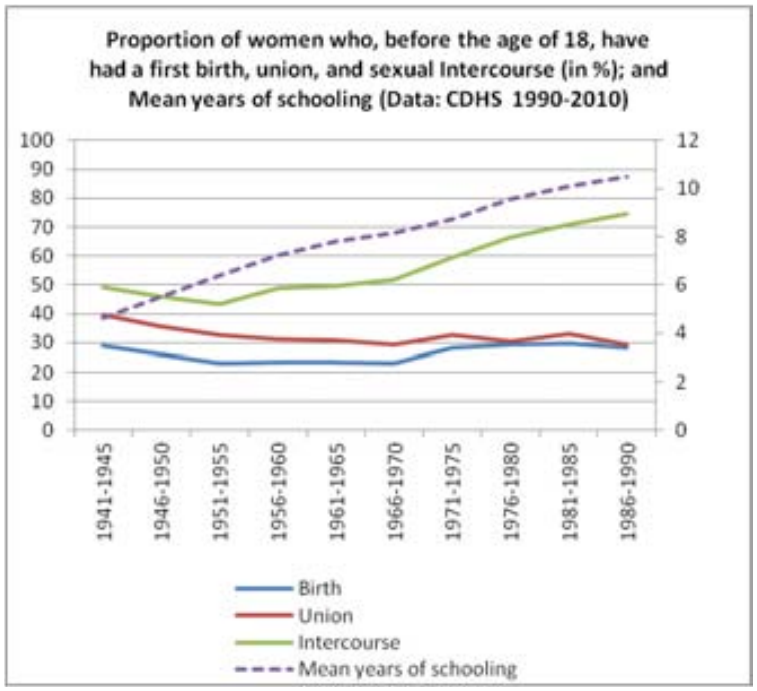
Figure 5. 5 : Educational expansion of Colombian women by educational level and cohort.




*(Source: own calculations based on CDHS data)*

So far, we have witnessed the remarkable educational expansion of Colombian women as well as a relative stability in their marriage timing, with little hints towards a delay. The next step is to combine both trends. Hence, what can be said about marriage timing within the context of raising educational levels? First of all, if we take a look at the change over time in the proportions of women who have entered an early union - that is before age 18 -, and simply compare it to the mean years of schooling over each successive cohort group, it is possible to observe a relatively slight inverse relationship. Indeed, as the mean years of schooling have more than doubled over the different generations, the trend in the prevalence of early marriage has slightly diminished, although not as much as one would have expected with such an increase in the educational domain. Indeed, for the eldest cohorts born between the 40's and 50's, it is where the reduction in early unions took place, yet although the mean years of schooling have continued to grow over time, the proportions entering an early union have remained virtually constant (except for some fluctuations where there has been a slight increase of child Colombian brides). In fact, early motherhood shows a similar pattern, but has seen an increase for those born in the beginning of the 70's, remaining in a plateau ever since alongside early unions (around 30%). On the other hand, early sexual intercourse shows a very different pattern, where the proportions have been increasing over time, especially for the younger generations.

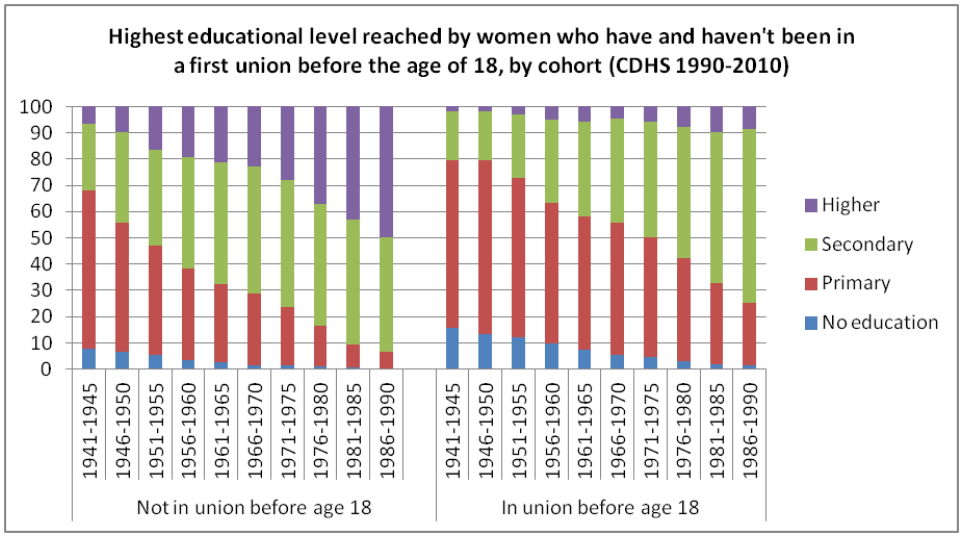
**Figure 5. 6 : Mean years of schooling and Proportions of Colombian women who have experienced the transitions into first birth, union and sexual intercourse before the age of 18 by cohort.**

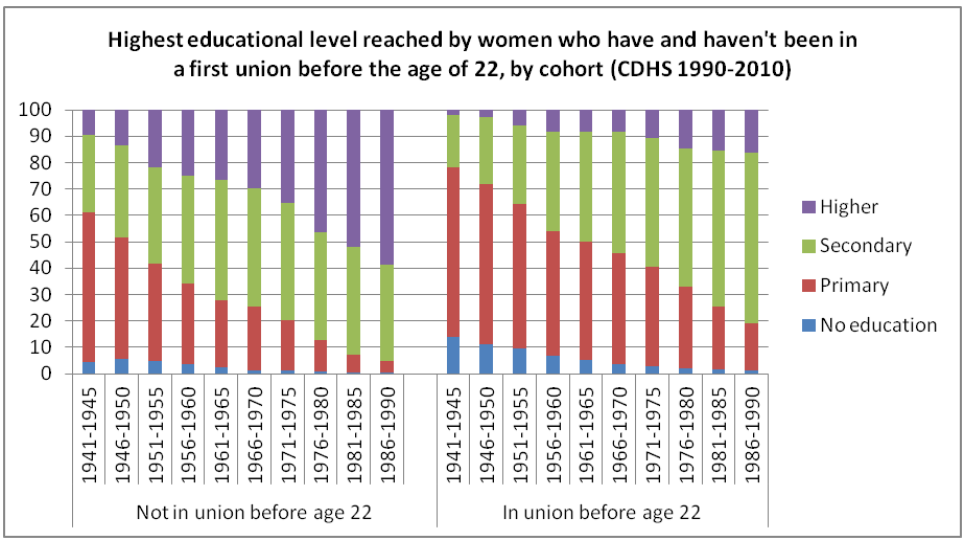



*(Source: own calculations based on CDHS data)*

Taking the latter into account, one might think that the educational expansion in itself might not really be behind the change or lack of change in the prevalence of early marriage in this country. So, at a simple descriptive level, what can be said about it? First, it would be rather interesting to identify the changes over time in the educational level of Colombian women depending on if they entered an early union or not. Figure 5.7 answers this question, where it is feasible to see that the educational expansion has been fairly different with regards to having been or not in an early union. Indeed, those who have remained single, at least up to the age of 18, have seen an impressive gain in their schooling levels, by not only increasing at the secondary stage, but especially at higher education; while, on the other hand, those who did enter an early union have seen a good decline in primary as the highest level attained in favour of secondary, but higher education has not been really present (only less than 10%). Moreover, in terms of no education, it is almost nonexistent for those remaining single (especially among younger generations), while in the other case it has gradually decreased at a slower pace for those who did start living with their partners. Finally, similar findings can be obtained for the educational expansion of women being or not in a union before age 22.

Figure 5. 7 : Educational attainment of Colombian women who have and have not experienced a first union before the ages of 18 and 22, by cohort.




*(Source: own calculations based on CDHS data)*

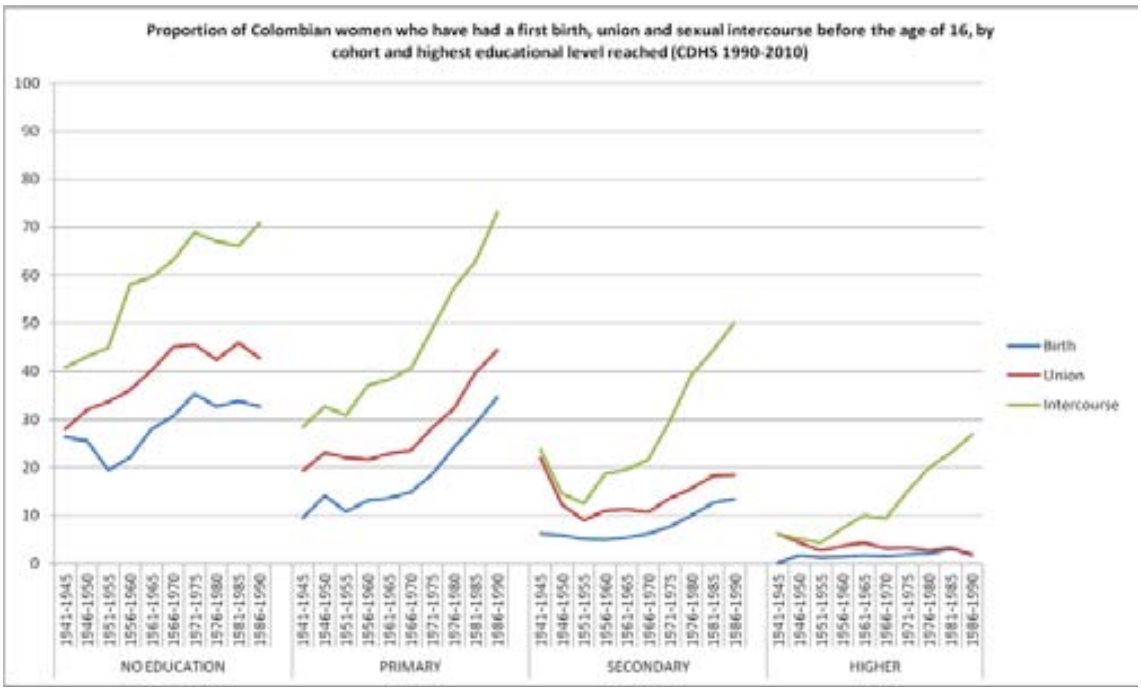
Secondly, another way to entangle the possible association between education and marriage timing is by observing the marriage prevalence pattern for each educational level. In this sense, if there is little change going on between cohorts within the same educational level, reflected in relative constant proportions throughout time, it would mean that the changes towards postponement at a national level could be due to changes in the population structure (in this case, the educational structure). In other words, the reasoning behind such an assumption is that this scenario would entail women adopting the patterns of their educational counterparts, within a context of more women reaching higher educational levels. However, according to Figure 5.8, in Colombia such logic only seems to hold true for higher education, to a certain extent. It is important to mention, before anything else, that most of the fluctuations found for the "no education" level are mostly

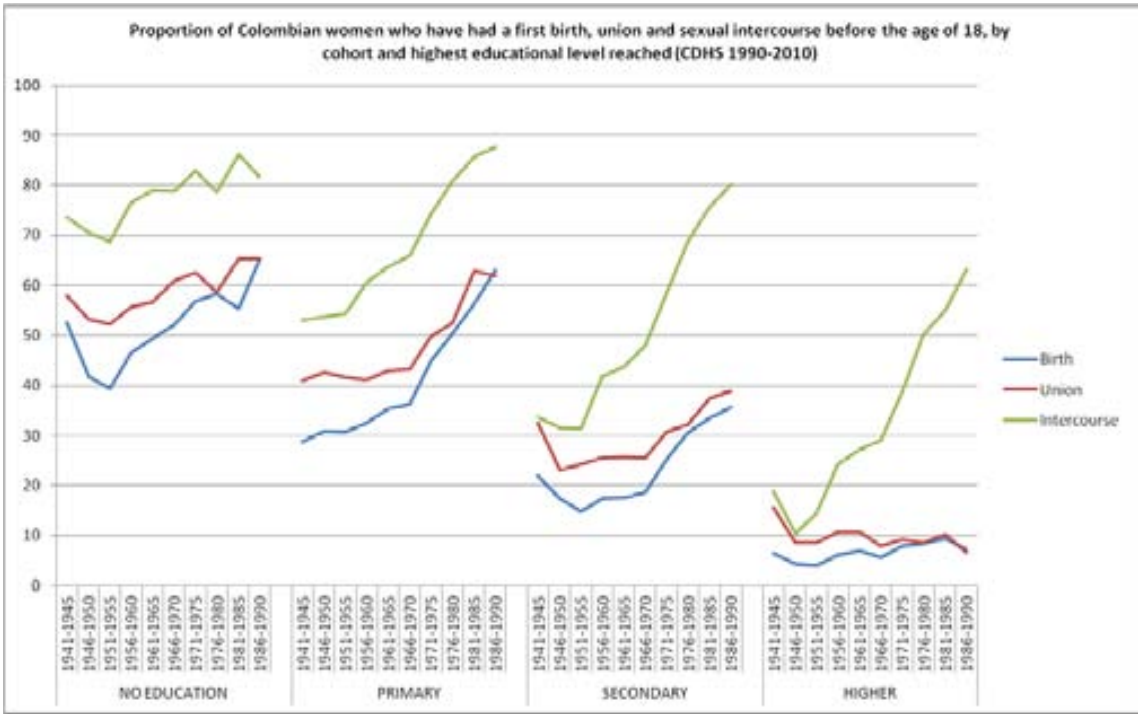
due to the low number of cases[72] (particularly for the younger generations). Having said that, although Colombia has witnessed such a remarkable educational expansion, even though over time the proportions of women with only primary education has decreased, nevertheless, Figure 5.8 shows how for those with this level of schooling in particular, the prevalence of early unions over time has increased. In fact, the proportions entering a union before age 16 have more than doubled over the different generations (from 20% to 45%); while for unions before age 18, the proportions have increased from around 40% among those born in the early 40's to a bit over 60% for those born during the 80's. These results pose the question whether this increase has to do more with a growth of consensual unions, as opposed to formal marriages. And, given the expansion of cohabitation in the country, and the awareness that those people engaging in these type of non formal ties tend to be relatively younger than the ones who formally marry, being able to decipher between both types of unions would be required. With regards to secondary education, on the other hand, the pattern has been that of a decrease for the eldest generations, followed by a certain stability during the 50's and 60's, and an increasing trend for the younger cohorts (the pattern being similar for both before age 16 and 18). Nevertheless, it is those with higher education the ones who barely enter a union before age 16 and to a lesser degree before age 18 (around 10%), while remaining constant over time.

Concerning having a first birth at an early stage in life, the trend is relatively similar to that of first union, yet in all cases the proportions are lower through the elder generations and catch up with the younger ones. Nevertheless, it is the trend for first sexual intercourse that stands out, with striking increases over time for all educational levels. Indeed, among the youngest generations having completed primary education, almost 90% have already engaged in sexual activity before age 18; while the proportion for secondary is close (80%). Finally, for the transitions before age 22, for those with no education around 80% of them have entered a first union and have become mothers; while for primary education the proportions for first union and motherhood have increased from 70% to 80% approximately over time. Hence, it is those with secondary schooling, and especially higher education, that tend to delay most the entry into these transitions.

[72] Notice how there is also another important fluctuation for higher education and the trend for sexual intercourse, especially for the ages 18 and 22. This striking fluctuation at the elder generations is due to the low number of cases: For higher education in cohort 1941-45 there are less than 50 cases, which explains this sudden drop of the proportion of first intercourse on the next cohort.

**Figure 5. 8 : Proportions of women who have experienced the transitional events of first birth, union and sexual intercourse before the ages of 16, 18, 20 and 22, by cohort and educational level.**

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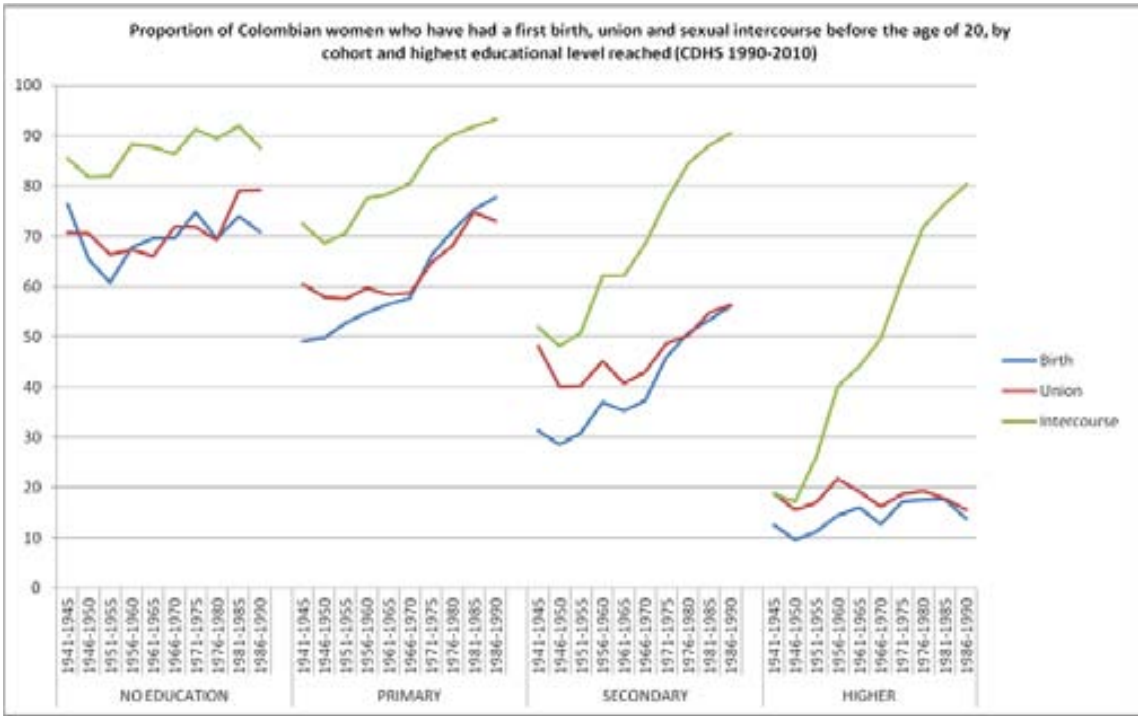
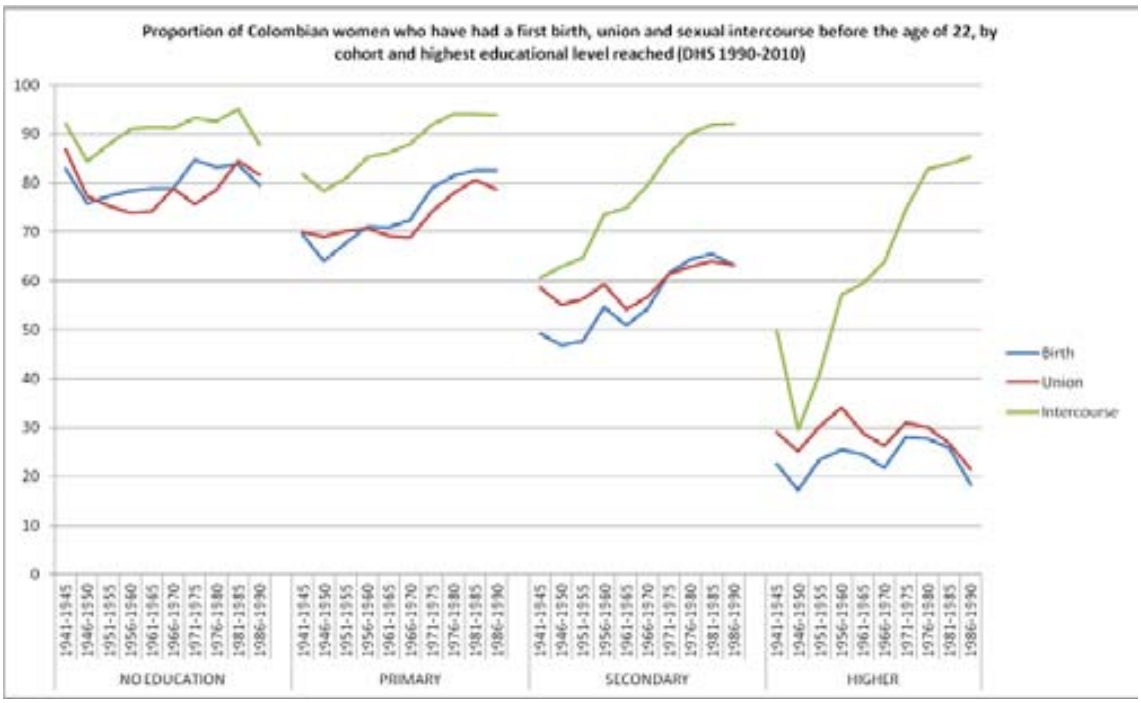
*(Cont.)*




*(Source: own calculations based on CDHS data)*

### 5.3.3. OTHER CONTEXTUAL FACTORS

In this section, the descriptive analysis for other contextual covariates is introduced. Those consist of urban/rural type of place of residence and region. Thus, the following segment is going to take a more geographical magnitude.

Since the decade of the 1970s, and thanks to the development of economy branches linked to the export activity and the production of basic and intermediate goods, urbanization, the spatial concentration of population and economic activity were consolidated: Bogotá increased its economic and demographic weight; Cali and Cartagena were also developed, while Barranquilla and Medellin receded; additionally, settlement boundaries were extended in the Orinoquía and the Amazon, Magdalena and Urabá (Murad, 2003). Moreover, the countryside became the depressed periphery or got emptied by its underdevelopment and those departments with small farming continued to specialize in low-productivity agriculture. While on the other hand, metropolization processes began in cities, in many cases with high densification or dynamism of nearby suburbs, exceeding the infrastructure and facilities creating deficit and elevated costs of urbanization.

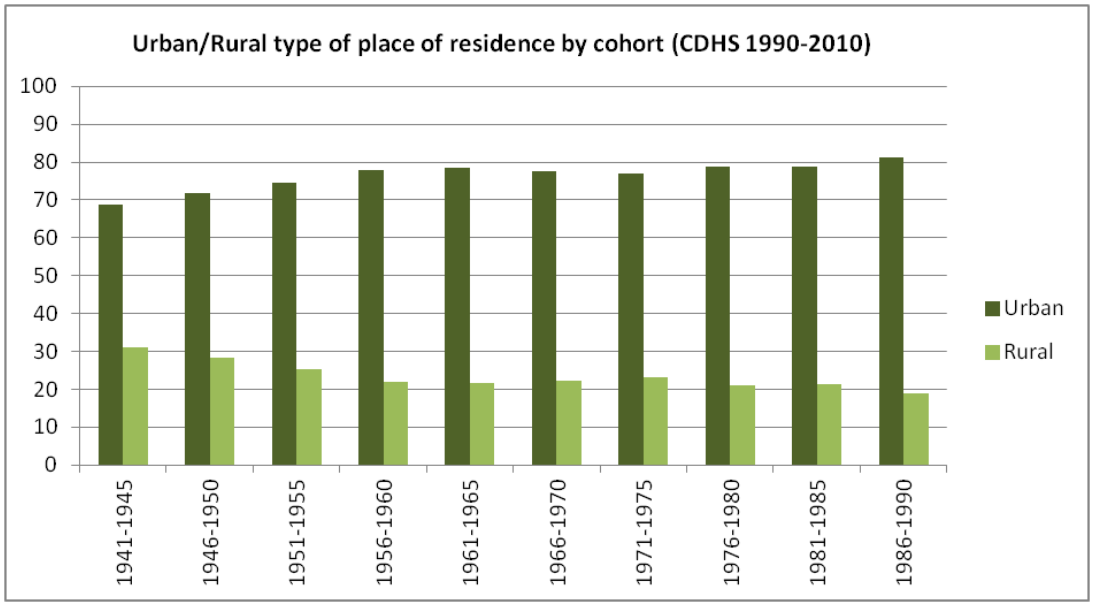
Nonetheless, when interpreting the results for Colombia from a territorial point of view, one cannot omit the fact that this is a country in which violent conflict plays an important role. Data might not allow to include this reality in the research on the timing of the transitions towards first union, birth and sexual intercourse. Yet, it is crucial to keep it in mind when interpreting the results. It was already stated in the theoretical background at the beginning of the thesis that early marriage has often been used as a protective measure in contexts of fragile and conflictive states, especially in regions from Sub-Saharan Africa. In the case of Colombia, in particular, it is known that forced displacement (especially from the 1950's and onwards) has generated migrant flows to metropolitan areas and urban centres, thus influencing the revival of rural-urban flow of internal mobility; it being predominantly concentrated among young groups of people (under age 18) and young adult women, as well as indigenous people[73] and Afro-Colombians (Ruiz, 2008). The author further complements this information by stating that this movement has been more intense in strategic territories - possessing great natural resources or having significant geopolitical importance -, either because they are located in the central area of the country which is more developed or belong to

[73] According to UNHCR (2012), as a result of the internal armed conflict, the indigenous people are increasingly moving to the municipalities and the large Colombian cities with very few possibilities of a voluntary and sustainable return to their lands; and in other cases, various people have been forced to concentrate on small pieces of land to survive. In fact, the condition of nomadic and semi nomadic groups in the Colombian Amazon and Orinoquia is also a matter of great concern: forced sedentary processes and confinement on behalf of illegal armed groups, mines on their lands, forced recruitment of their sons and daughters, sexual violence against their women and girls and the absence of food security have changed the mobility patterns of the Jiw people in the Meta Department, the Nukak and Sikuani in the Guaviare Department, the Embera Katío and Kofán in the Caquetá Department, the Kankuamo people in the Cesar Department, the Iguanitos in the Arauca department, the Awá and Epera in the Nariño Department and the Bari on the border between Colombia and Venezuela.

frontier territories. Indeed, the territories that account for the lowest social indicators and have historically behaved as poles of attraction of population are mainly Bogotá, Atlántico, Valle del Cauca and Santander; while the departments with higher rates of emigration and low social indicators are Chocó, Putumayo and Caquetá (Ruiz, 2008). For instance, a total of 106,562 people were displaced in Colombia between 1997 and 2011; and just in 2011, 4,080 indigenous people were displaced (UNHCR, 2012).

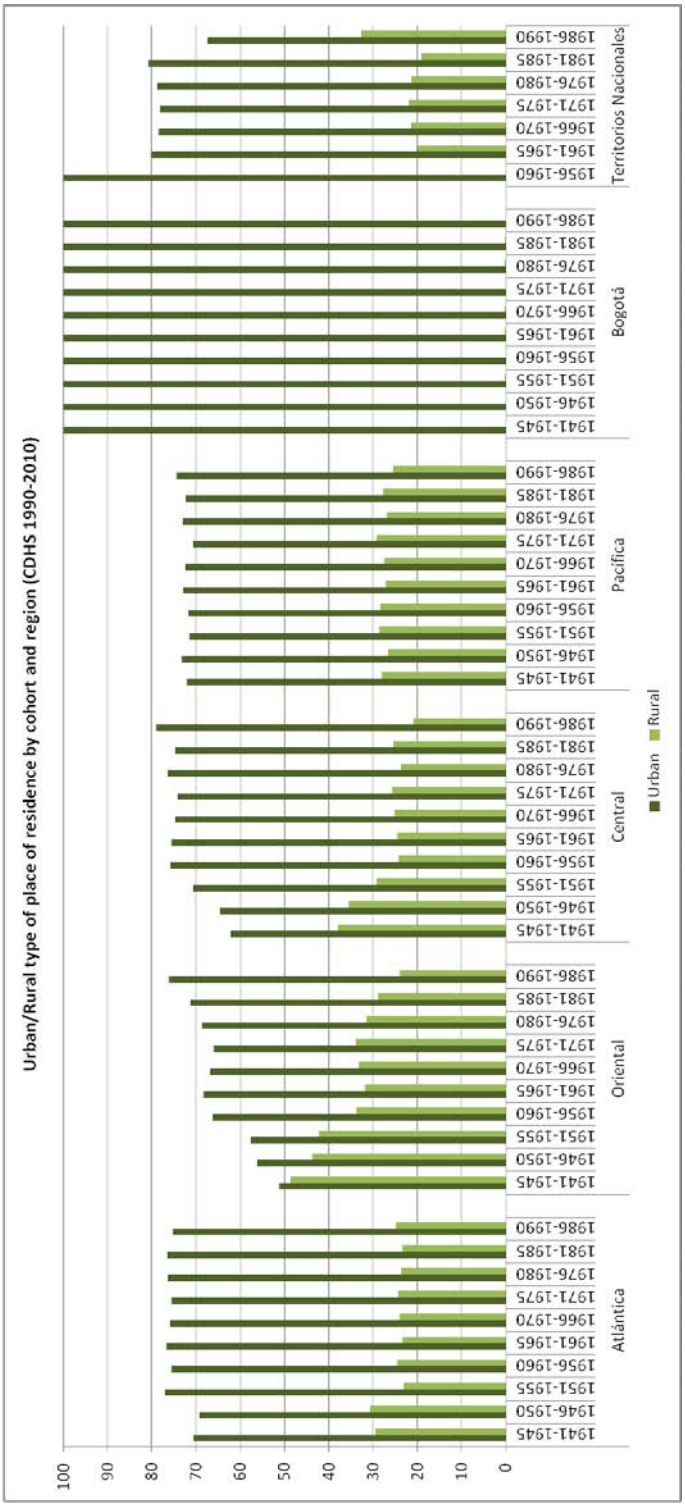
Through the DHS data one can identify Colombia as being mainly an urban country (Figure 5.9). Consecutive cohorts show how the proportion of urban, women in this case, has been maintaining over time, and even increasing a tad - especially for those born in the 50's -, with only 20% approximately remaining rural. Accordingly, by major regions, of course Bogotá is considered an urban environment, with the other regions having large shares of their female populations living also within an urban setting (Figure 5.10). Pacífica, for instance has seen virtually no change over time in its proportions; while in Oriental and, to a lesser extent, in Central and Atlántica there has been a slight de-ruralisation at the beginning of the time period of analysis, possibly aided by armed conflict and forced migration to urban areas; whereas in Territorios Nacionales the opposite seems to happen for the youngest cohort.

**Figure 5. 9 : Total proportions of urban-rural population by cohort and by CDHS survey year.**




*(Source: own calculations based on CDHS data)*

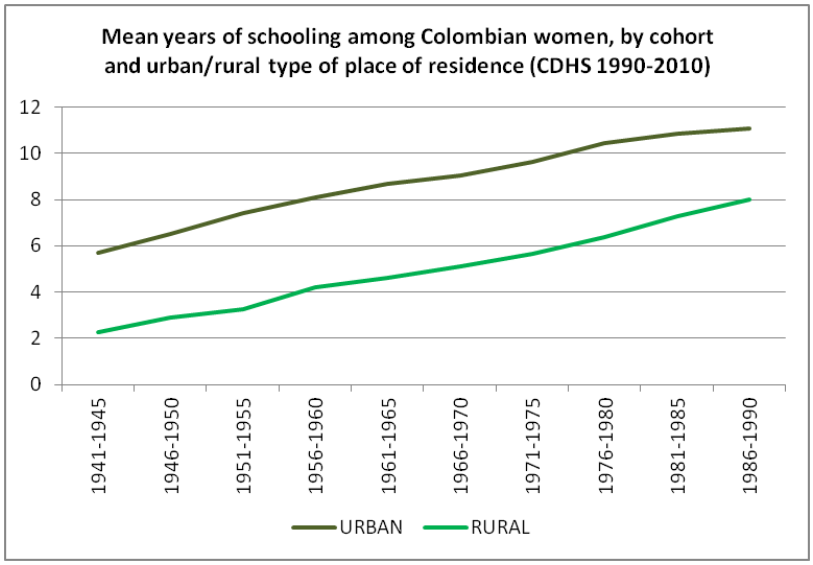
**Figure 5. 10 : Total proportions of urban-rural population by cohort and region.**




*(Source: own calculations based on CDHS data)*

With regards to the educational expansion in Colombia by urban/rural residence, as it was expected, the mean years of schooling have overall been higher for urban women than their rural counterparts, at least by 4 years approximately (Figure 5.11). Even though both subgroups have seen increases in their mean years at school over time, it does not seem that the rural population is however catching up. If so, the pace seems to be rather slow, the difference being of 3 years for the latest cohort group from the late 80's. Consequently, it would be interesting to wait and gather more recent data on even younger cohorts so as to observe if both trends will finally meet or not, and when. Alternatively, if we take a look at the changes over the generations of the highest educational level achieved instead, some features in Figure 5.12.1 can be outlined: firstly, most of the share of females with no education belong to rural area, while there is a noticeable lack of higher education in the rural setting when compared to the urban one (which has saliently increased); secondly, it is also within the rural environment where there is the larger share of women with only primary education, even though it has been decreasing over time in favour of secondary schooling. All in all, the urban Colombian women are not only better educated, but the expansion has been gradual and steady in the direction of upper education (secondary and higher), while for the rural women the expansion has been more from primary to secondary schooling, with higher education just getting started. Ultimately, when comparing the educational attainment of those who have and have not entered an early union by type of place of residence, most of the remarkable growth in secondary, but especially higher education is among those urban women who have remained single until the age of 18 (Figure 5.12.2). Also, the share of non-educated women is higher for those rural women who have been in such unions. In fact, it is noteworthy that among rural women, those with higher education are also the ones who have not started living with their partner before the age of 18.

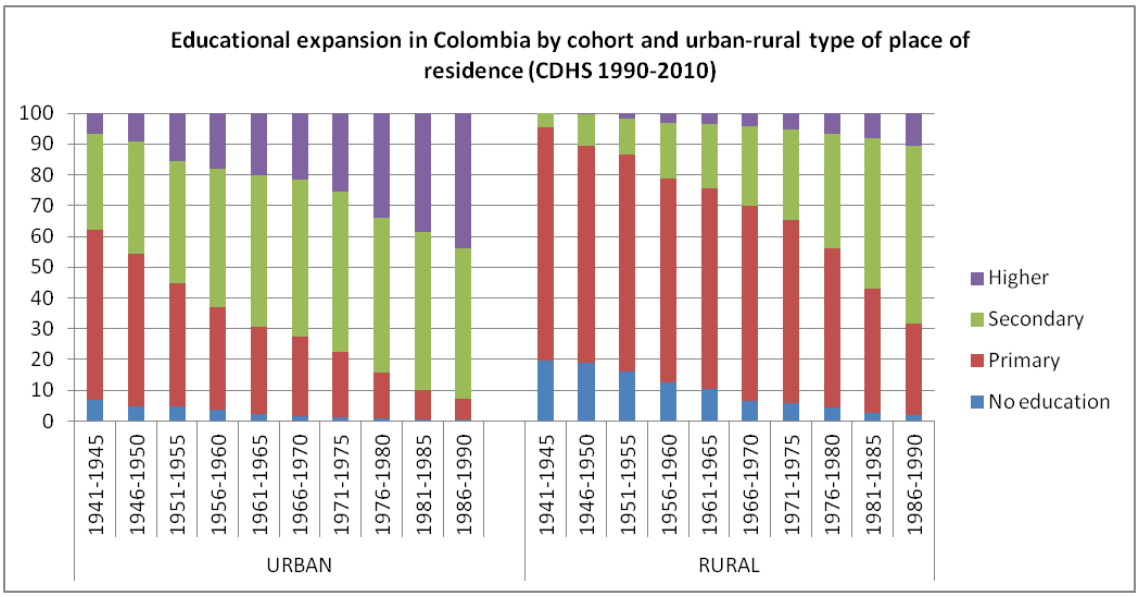
**Figure 5. 11 : Mean years of schooling by cohort and urban-rural type of place of residence.**




*(Source: own calculations based on CDHS data)*

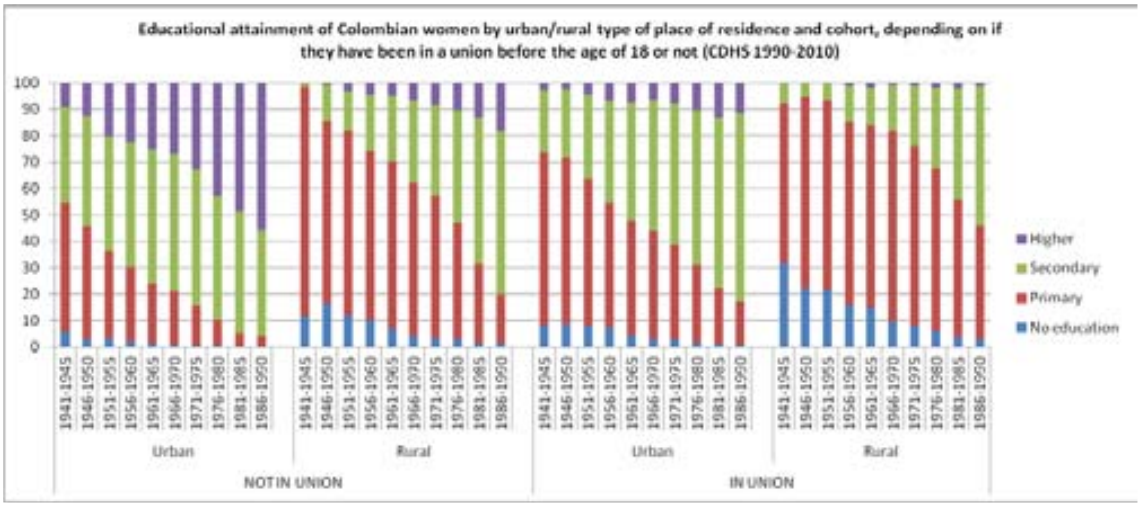
**Figure 5. 12 : Educational expansion by cohort and urban-rural type of place of residence.**

*Figure 5. 12. 1: Educational expansion by cohort and urban-rural type of place of residence.*




*(Source: own calculations based on CDHS data)*

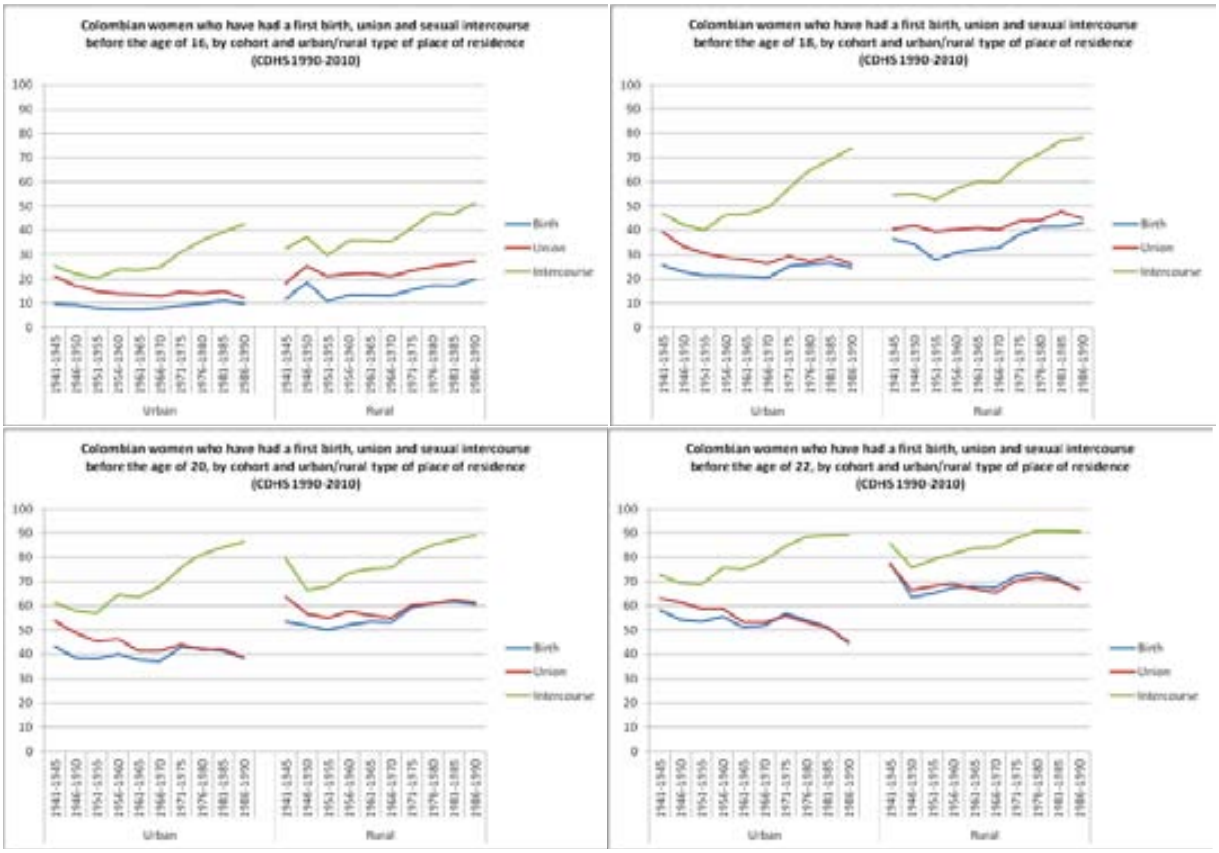
*Figure 5. 12. 2: Educational attainment of Colombian women who have experienced an early marriage and those who have not, by cohort and type of place of residence.*




*(Source: own calculations based on CDHS data)*

Having delineated the growth in terms of education, what about the marriage timing of Colombian women according to urban/rural residency? And more importantly, can anything be said about the entry into early transitions? In accordance to what could have been presumed, marriage timing is slightly earlier for rural women as the proportions for entering an established union before all given ages are higher for rural than urban women (Figure 5.13). Very early unions have been decreasing for urban women (from 20% to a bit more than 10%), while rural girls seem to be going into these unions at an increasing percentage, reaching almost 30% for the youngest generation. This trend could go in line with the hypothesis that early unions are used as a response to armed conflict in the country, yet more in-depth research would be imperative for further verification. It is interesting to note that, for early unions (before age 18), both urban and rural women born in the early 40's started at the same level (with 40% of them entering such unions); however, the trend has been the complete opposite for both of these groups: rapid decline at the beginning with a subsequent plateau for the urban women; and immovability until the half of the period followed by some increase and fluctuation for the rural women. Again, before age 22 it is possible to observe increasing singlehood among urban women, more so than the rural ones. Moreover, concerning the other two transitional events, the trend observed earlier on for first motherhood can still be monitored here too, where the convergence towards the same proportions of first birth and union for the younger generations is found for almost all cases, except for the transitions before age 16 and 22 among rural women (the first being a constant difference over time with the proportions of unions being higher, and the second with almost exact proportions for both union and birth). Finally, the pattern for first sexual intercourse has been signalling towards earlier timing, for both residence settings.

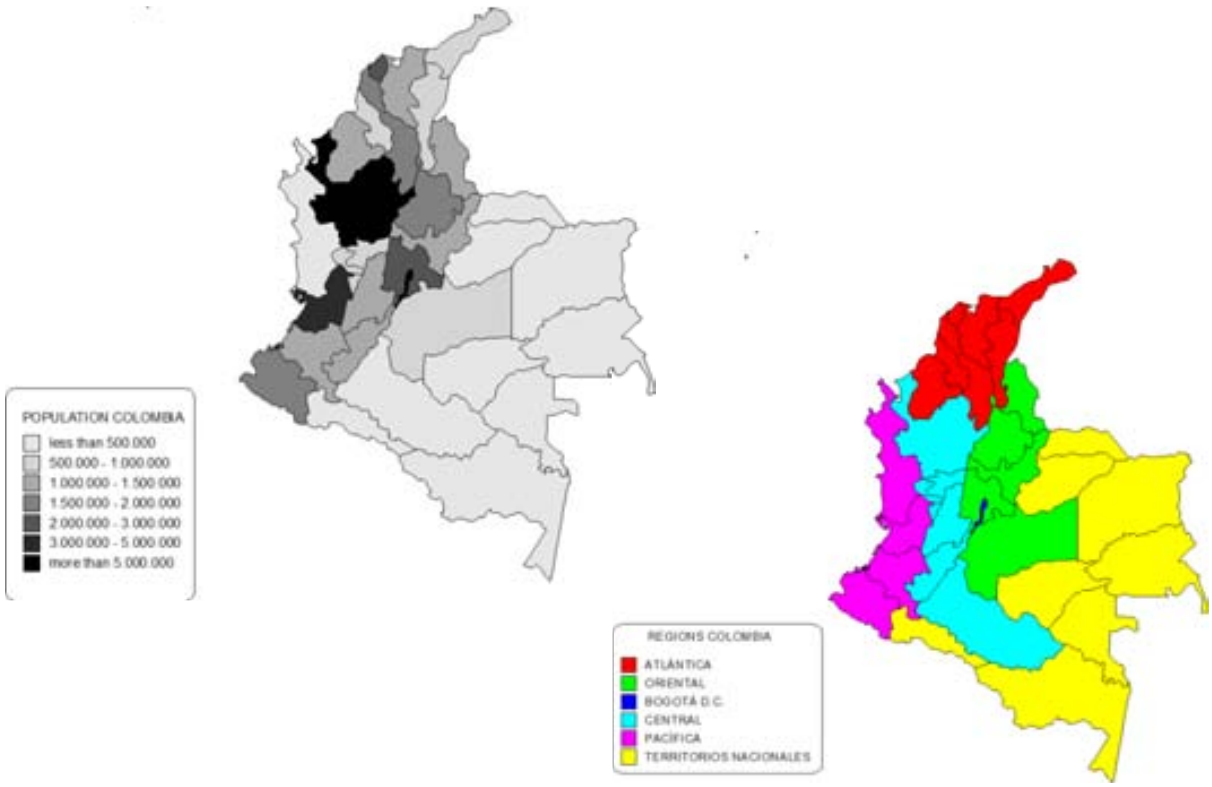
**Figure 5. 13 : Proportions of women who have experienced the transitional events of first birth, union, and sexual intercourse before the ages of 16, 18, 20 and 22, by cohort and urban-rural type of place of residence.**




*(Source: own calculations based on CDHS data)*

On the other hand, another feature that is at the forefront is the region as an explanatory covariate of both educational expansion and the timing of the different transitions - and their association - at a descriptive level. It would have been ideal to be able to study these issues with as much geographic detail as possible, in order to fully obtain a precise depiction over time. As a means to introduce the different regional classifications mentioned in the methodology section, Map 5.1 allows to add some contextualization on the distribution of the population within its boundaries (map on the upper left), as well as to draw the boundaries that will be present all the way through this chapter, and especially on the more analytical level (map on the lower right). In 2005, to total estimated population was over forty-two million people (DANE) and, in terms of their geographical allocation, most of them are located on the Western part of the country (especially in Bogotá, Antioquia, Valle del Cauca, as well as Cundinamarca and Atlántico), and less on the inland (that is the Territorios Nacionales and the South-Eastern areas of Central and Oriental) (Map 5.1).

**Map 5. 1 : Population data by sub-regions ('departamentos') and Colombian Demographic and Health Surveys classification of regions.**



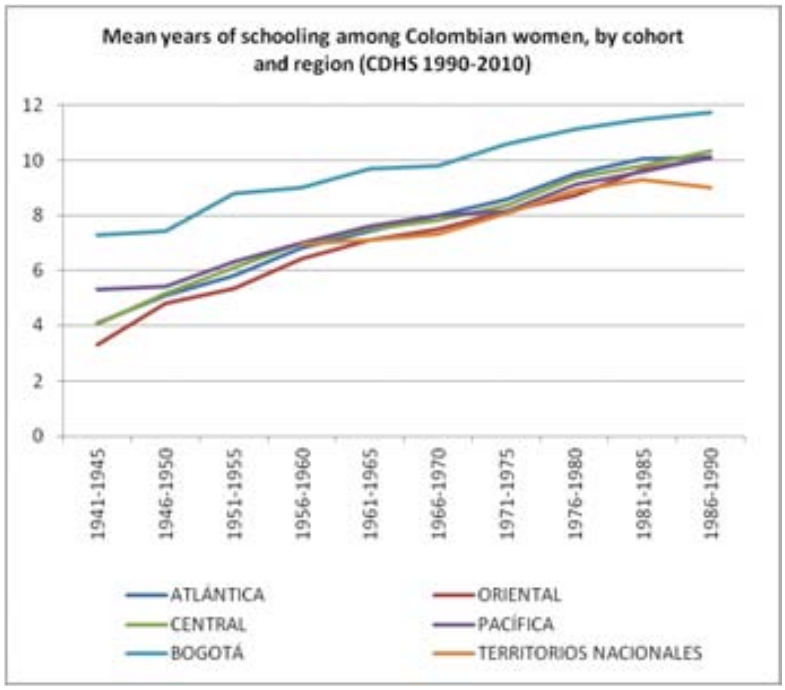

(Data source Population Colombia: Departamento Administrativo Nacional de Estadística (DANE); Own calculations from Population series, estimates for the year 2005 -National and by regional departments)

(Data source regions Colombia: own configuration based on the Colombian DHS classification for regions and departamentos).

When obtaining more specific information on the educational expansion on the regional level (six regions classification), on one hand, if we take a look at the mean years of schooling what we notice is the following: first of all, the region of Bogotá leads its increase by at least 2 years difference over the rest (from almost 8 years for the eldest generation to almost 12 years for the youngest); while the other five regions, although starting from distinct points have had a similar growth over time with mean years going from 6 to 10 approximately (except for Territorios Nacionales from the younger generations, who fare slightly lower) (Figure 5.14). On the other hand, the educational expansion by instruction levels for the different regions shows similar trends in the increase of the proportions of women achieving secondary and higher levels of education for most of the regions,

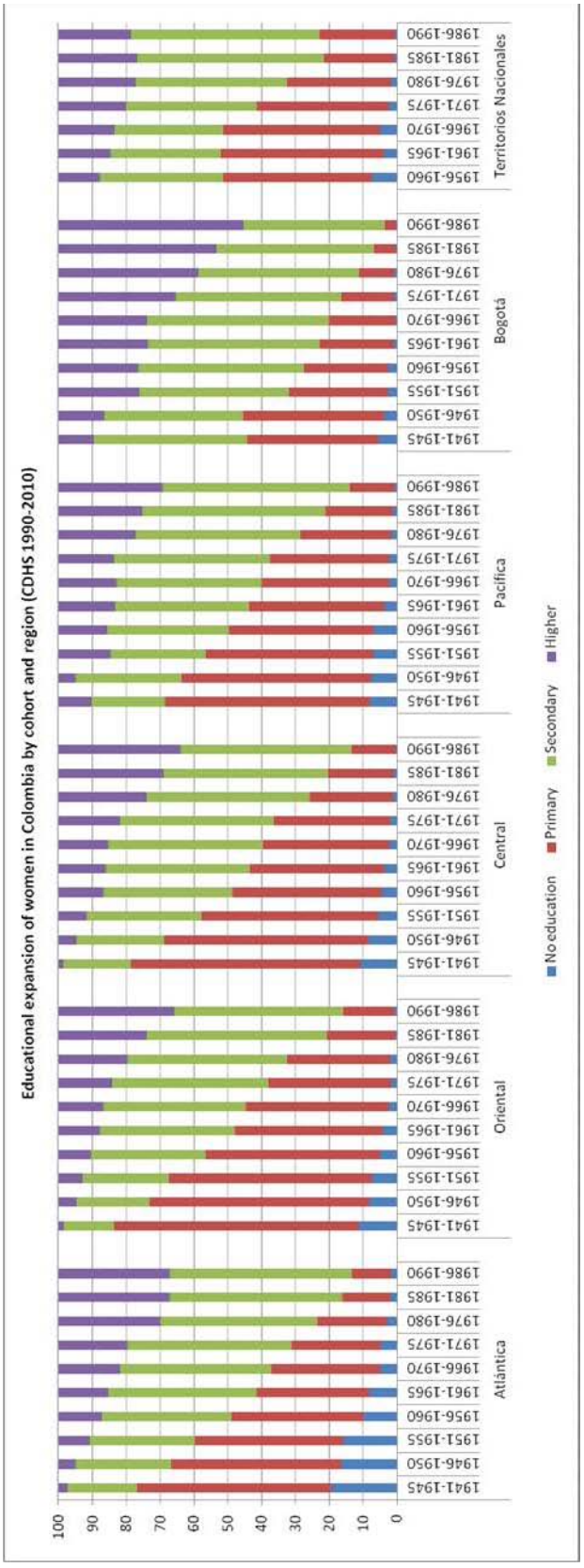
with the exception of Territorios Nacionales who has seen a lesser increase in comparison to the rest, and Bogotá on the other side of the spectrum with 20% more of higher education and reaching less than 5% of women with only primary education than the rest of regions (Figure 5.15). It is worth noting how the trend for no education has diminished over time in all regions considered, and especially for Atlántica, who had a relatively larger share than the rest at the beginning.

**Figure 5. 14 : Mean years of schooling by cohort and region.**




*(Source: own calculations based on CDHS data)*

**Figure 5. 15 : Educational expansion of Colombian women by cohort and region.**

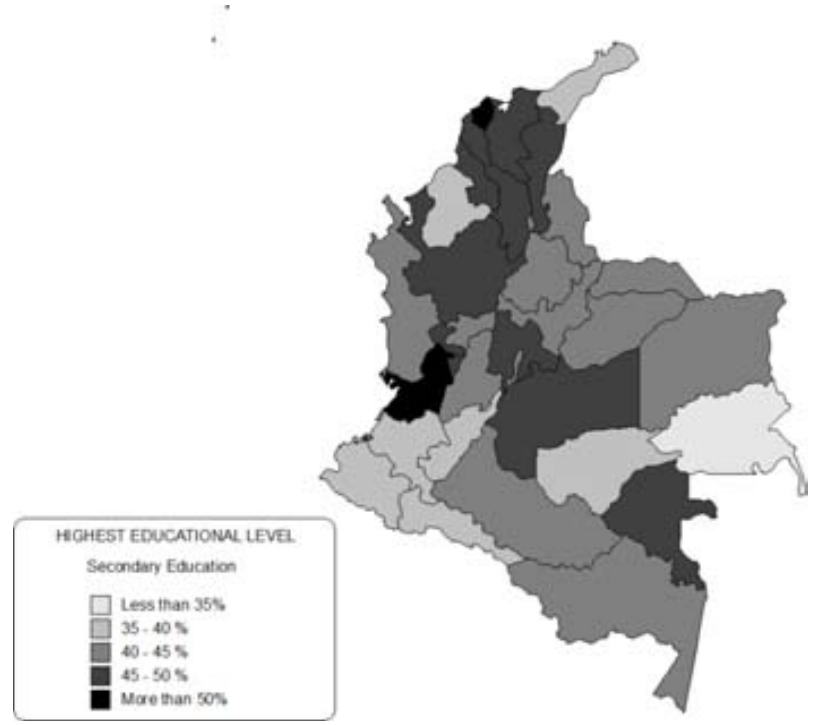


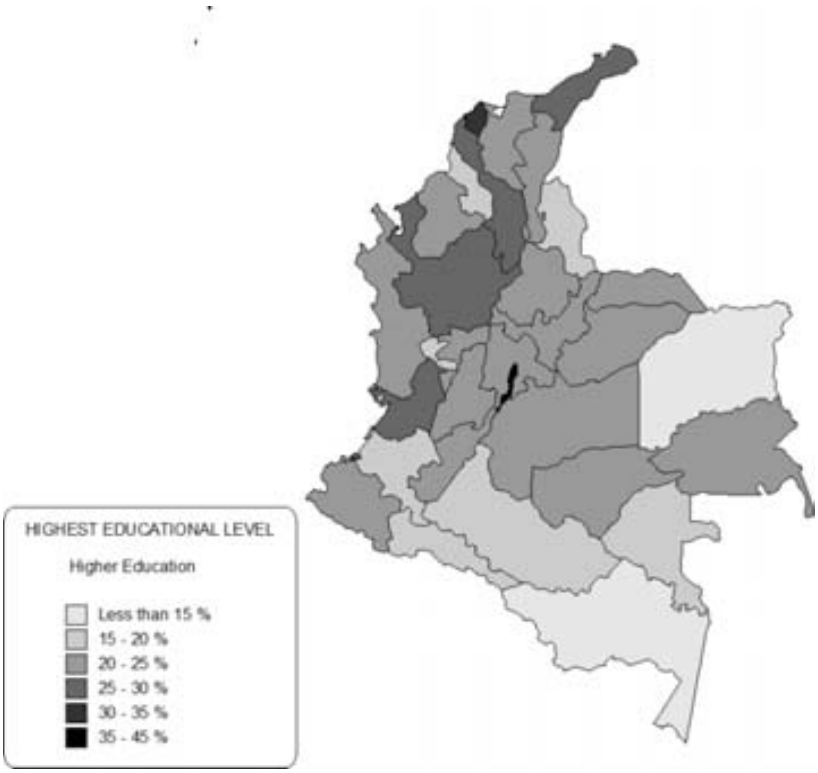

*(Source: own calculations based on CDHS data)*

In order to give a bit more insight, with data from the 2010 Colombian DHS survey, it is possible to obtain a bit more extensive territorial scope of the secondary and higher levels of education reached by Colombian women. In most of the country, secondary schooling is relatively extended, with two regions having accomplished such goal for more than 50% of their female population (departamentos of Atlántico and Valle del Cauca), and plenty of other alongside the Atlantic, North Central and South Oriental, as well as Vaupés in the Territorios Nacionales have proportions around 45-50% (Figure 5.16). Nevertheless, still some of these sub-regions have less than 35% of secondary educated women (Guainia in Territorios Nacionales) and between 35-40% in the Western part of the country (South Pacífica and the Southern-Western area of Territorios Nacionales), as well as two regions in Atlántica (Córdoba and Guajira). With regards to higher education, the second map offers a picture of where a larger share of females have completed this upper level of education, which is mainly in the sub-regions of Bogotá and Atlántico, followed closely by Antioquia in Central, as well as Bolívar in Atlántica, and Valle del Cauca in Pacífica. It is also rather interesting to notice that even though some areas have lower proportions of secondary schooling in the first map they do have, nevertheless, relatively positive shares of women with higher education (examples such as Guajira in the North, or Nariño and Huila in the South-West, and Guainía in the East).

Having outlined the regional impact of educational expansion and its location, the following course of action is to observe the timing of first union also on a geographical level. Before dwelling on the overall trends on the timing of first transitions - union, birth, and intercourse -, a recent picture on the timing of first union among young Colombian women is presented. In Figure 5.17, the median age at first marriage among women aged 25-29 is displayed at a sub-regional level, with data from the 2010 DHS survey. What it achieves is to put forward the heterogeneity within the larger regions in terms of marriage timing, either formal or informal. When analysing and interpreting the results by major regions, it will be important to keep in mind these intra-regional differences, that even though they are not very high in general, they range from a median age of 18.3 in Guainía and 18.7 in both Vichada and Caquetá, to 23.8 and 23.4 in Bogotá and Nariño, respectively. Hence, it appears that there is some diversity within each major region, that should be addressed in future research with more specific data. Nevertheless, it seems that those areas with greater delay in the timing of first union are concentrated on the upper Western side of the country.

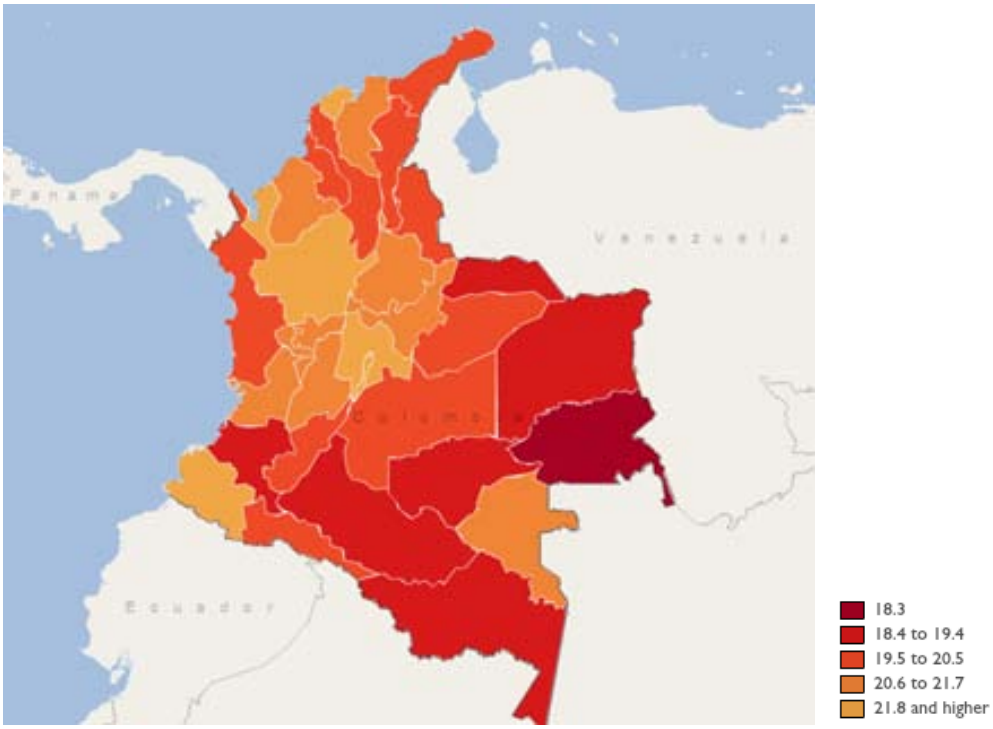
**Figure 5. 16 : Highest educational attainment level (secondary and higher) of Colombian women by sub-regions.**




*(Source: own calculations based on data from the CDHS for the year 2010)*

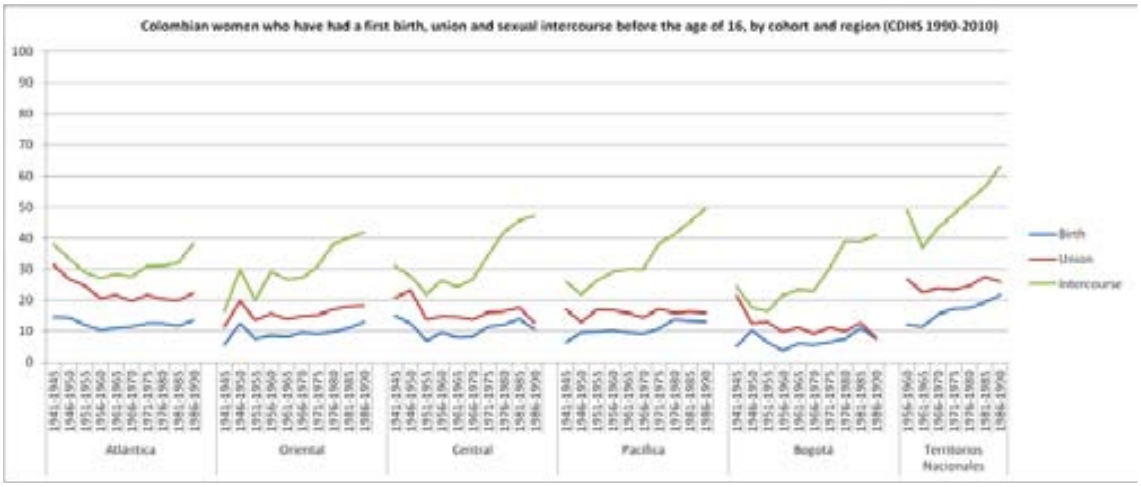
**Figure 5. 17 : Median age at first union by sub-regions in Colombia, for women aged 25-29 in the 2010 Demographic and Health Survey.**

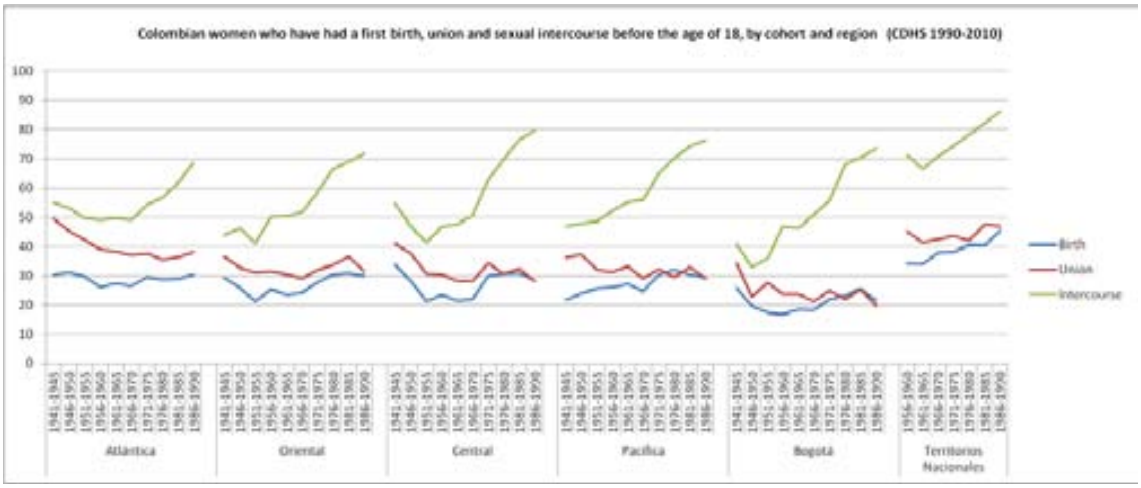


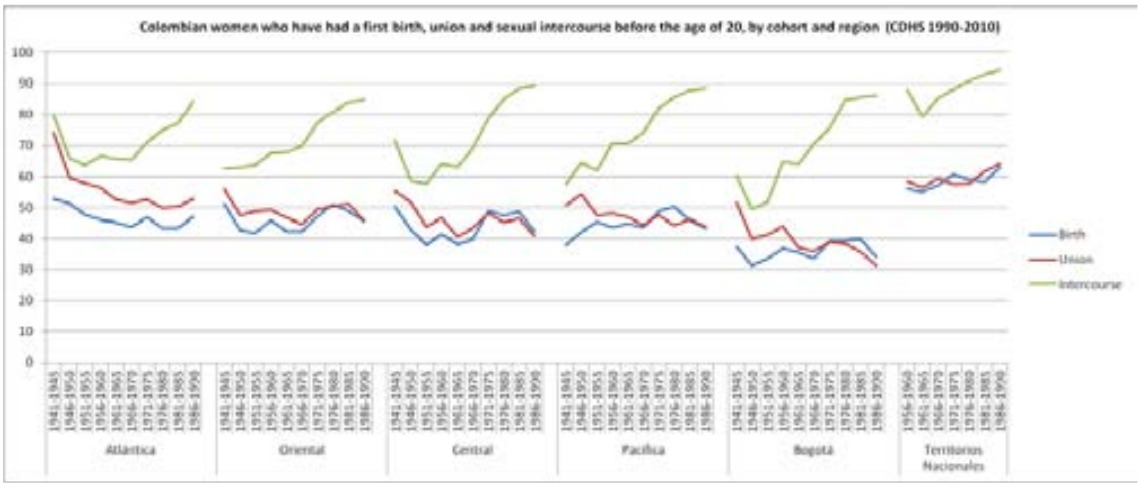

*(Data source: ICF International, 2012. MEASURE DHS STATcompiler; own calculations using the Colombian 2010 DHS)*

Finally, when comparing the patterns for all three transitions over time by main region, Figure 5.18 manifests similar trends in the proportions entering them before the age of 16 for Oriental, Central and Pacífica, while the pattern for the other three regions is slightly distinctive. In Pacífica, for instance, and to a lower extent in Atlántica (for those born in the late 50's and onwards) and Bogotá (between the generations from the 50's to the 80's) there is relative immobility over time in the proportions entering such an early union. In fact, before the ages of 16 and 18, most of the drop in the proportions marrying at such ages occurred for the elder generations in Atlántica, as well as in Central and Bogotá. Yet, in terms of early marriage, those living in the Territorios Nacionales are the ones who manifest a larger share of child brides (around 20-30% before age 16, and increasing from 40 to 50% before age 18), while Bogotá is the region with lower proportions. Concerning first births, on the other hand, for every regions the proportions are lower in contrast to first unions, although in some cases, mainly for the younger generations, first motherhood is aligning itself to first union. Hence, an interesting issue arises with the ordering of both events for the younger cohorts. Another remarkable feature is that for the timing before age 22, where in all regions, although with some fluctuations, there is a trend towards a tad bit more of singlehood and childless women among the younger generations, with the exception again for Territorios Nacionales. However, once more the pattern for first sexual activity is totally distinct, with its increases over the generations in all major regions and for all given ages.

**Figure 5. 18 : Proportions of women who have experienced the transitional events of first birth, union, and sexual intercourse before the ages of 16, 18, 20 and 22, by cohort and region.**

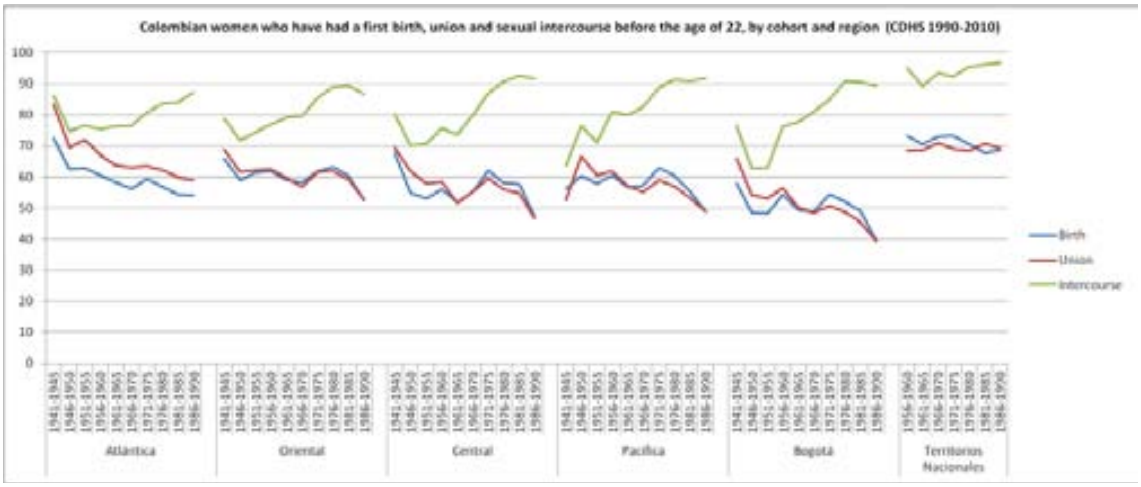



*(Continues...)*

*(Cont.)*




*(Source: own calculations based on CDHS data)*

## 5.4. RESULTS LOGISTIC REGRESSION ANALYSIS

As in the previous chapter on Kenya, the following section shows the results for both the bivariate and multivariate logistic regressions for the transition timings in Colombia. With this particular method, obtaining estimates on the probability of an event occurring, in this case entering a first union/birth/intercourse before the ages of 16 to 22 (as the dependant variables), depending on an amount of explanative variables or factors. These independent or explanatory variables chosen for the analysis are cohort, educational attainment, urban/rural place of residence, region, and survey year (CDHS year). Knowing that in Colombia, as in the large majority of Latin American countries, informal unions are quite present, unfortunately, such variable - that is, formal versus informal type of union - was not included since the DHS only gave the type of union at the time of the survey, and not at the time of the first transitional event. Moreover, in this segment, the estimated coefficient for each co-variable is presented with its exponential value, which helps to interpret the results. Also, it is important to note that, in the multivariate analysis, the resulting probability is conditioned by the values adopted from the other independent variables included in the model, acting as control variables.

Prior to presenting the results for the multivariate analysis, first bivariate logistic regression models have been run for the dependant variables, in order to have a better understanding of those independent variables that have a greater level of explanation of the dependent variable. A separate analysis of the relationship between the dependant and each explanatory variable is performed, so as to evaluate the model through a selection of the more important variables to be included before estimating the coefficients of the final model, and be able to make predictions. Hence, the use of

the *-2 Log likelihood* statistic and the *Cox & Snell R Square* value allows to foresee what variables can be more significant or not for the regression model, as well as shed light on the goodness of fit of the models chosen for the analysis. Hence, what one would seek are low values of the *-2 Log likelihood* statistic; and values closer to the unity for the *Cox & Snell R Square*.

Precisely, when considering **early unions**, bivariate analysis (table 4.1) has permitted to foresee that, among all the covariates included, educational attainment is the one in which the *Cox & Snell R Square* statistic is the highest (0.068 and 0.098 prior to ages 16 and 18), followed by urban/rural residency (0.011 and 0.016) and region (0.009 and 0.010), and lastly cohort (0.001 for before both ages) and the year of the survey (0.0002 and 0.0003). Yet, these values are relatively distant from the unity, even the variable for educational level. With regards to **first birth** before the ages of 16 and 18, this same statistic shows exactly the same order as for first unions, although with values slightly lower (especially in the cases of educational attainment, region and also urban/rural). Thirdly, for early **sexual intercourse**, educational level still is ahead of the rest - more so for before age 16 than 18 (with values of 0.054 for before age 16 and 0.039 for before age 18) -, followed by cohort in this case (0.019 and 0.037), year of the survey (0.010 and 0.021), urban/rural setting (0.008 and 0.006), and region (0.004 and 0.005).

On the other hand, if we compare the values of the *-2 Log likelihood* statistic, for the timing of early unions, again educational level is the one that explains the most with lower values of this particular statistic (78598 and 110728 for before age 16 and 18, respectively), and after that cohort (84019 and 118686), urban/rural type of place of residence (84392 and 119158), region (84585 and 119732) and survey year (85414 and 120718). The order for the timing of first motherhood in terms of this statistics is exactly the same as for first unions, however, for first early sexual activity, the ranking is somewhat different, especially for before age 18, where the variable cohort explains more than education, followed closely by the year of the survey. Therefore, it appears that education does have a certain degree of explanation for the timing of these first transitions at an early stage in life, although the variable for cohort also stands out.

Consequently, taking these rankings into account, what can be said of the three transitions during the teenage years with these variables taken separately? Concerning the explanatory variable for **highest educational level** and first union**,** with no education as the reference category, having primary education decreases the odds by 45% and 35%, respectively, before the ages of 16 and 18; while obtaining secondary levels decreases those odds by even more (75% for before age 16 and 31% prior to age 18), and achieving higher education decreases those odds by 95% and 92%, respectively. For first birth, these odds are fairly similar. Nevertheless, for first sexual intercourse, having secondary attainment only reduces the odds by 70% and 61% (ages 16 and 18), while higher education only diminishes them by 86% and 78%. In all cases, the results have highly significative levels.

Secondly, covariates regarding **urban/rural type of place of residence** and **region** shows that rural women are 1.9, 1.8 and 1.5 times more likely than urban women to enter an early first union, first birth, and first intercourse, respectively (practically the same values for both teenage ages). While, according to region, having Bogotá as the reference category, Territorios Nacionales and Atlántica have 2.7 and 2.2 times more probability to enter very early unions. For very early and early entries into first motherhood and sexual activity, except for Territorios Nacionales again, all the other remaining regions have similar odds ratio (with high significance levels, excluding Oriental for first intercourse before age 18).

Finally, concerning variables that indicate a possible change in time, that is **cohort** and the **year of the survey**, what can be said is that: for very early unions and early unions, the trend is of a small decrease in the odds over the generations (in approximately 2 percent points between the eldest and youngest generations), with fairly significant levels. Hence, bivariate analysis sustains what was seen in the descriptive analysis with this minor decrease in the probability of entering an early union over time. In other words, it appears that there is a certain delay in the timing of first union In Colombia, although at a lesser degree (although the odds results for before age 22, which is the age closer to the median age at first union among Colombian women, there seems to be some change towards a greater delay for the younger generations). Finally, the year of the DHS survey is not significative for early unions, but it is for early motherhood for the latest two surveys (with little variation), and for sexual intercourse every consecutive survey shows increases in the likelihood of having such activity at an early age with high significance levels for all survey years.

So, having introduced the bivariate outcomes, when all these variables come together in a multivariate model (table 4.2), within a pooled analysis, the results show the following:

- Firstly, in terms of early union, once we control for highest educational level, urban/rural, region, and year of the survey, the decline in the probabilities of entering a very early and early union in the variable **cohort** seen in the bivariate analysis disappears. The probability of entering an early union seem to increase slightly over the different cohort groups (1.7 and 1.4), being statistically significant for the younger generations. A similar finding, although to a higher degree, occurs for first motherhood, where the younger generations are 3.1 and 2.2 times more likely to become mothers before the ages of 16 and 18, respectively ($p<0.001$). The same goes for first sexual activity, in which the probability for the youngest Colombian women to engage in sexual intercourse is 3.6 (before age 16) and 4.1 times (before age 18) more likely than for the eldest, also with the highest significative levels. On the other hand, **the year of the survey** is not much significative for early unions (except for the latest one) or early motherhood, but it certainly is for sexual intercourse, especially before age 18 where the likelihood increases over each consecutive survey, even when controlling for the other factors (from 1.2 in 1990 to 1.8 in 2010).

- Secondly, with regards to **educational attainment,** when controlling for the other covariates, the results are practically the same as for the bivariate analysis. Hence, controlling or not, having secondary and higher education heavily reduce the chances of entering an early union, as well as an early childbearing ($p<0.001$). For sexual intercourse, controlling for other factors, slightly increases the likelihood of not engaging in this activity for secondary students and higher educated women, than in the bivariate analysis.

- Thirdly, **urban/rural** type of residence looses significance levels once introduced in the final model for first sexual intercourse (rural women's odds decrease by 3% in contrast to urban women with only $p<0.05$), while there is completely no significance for union and motherhood before the age of 16. However, the outcome is different for the timing before age 18, where rural women are 1.08 times more likely than urbanites to enter an early union ($p<0.001$); 1.05 times more likely than their urban counterparts to enter motherhood ($p<0.01$); and no significance for sexual intercourse, which holds the same for the other ages of 20 and 22. Thus, being urban helps delay first union and motherhood, but appears to slightly favour sexual activity at an early age.

- Finally, for the variable **region**, once it is controlled for the other explanatory factors, the significance levels change depending on the transition and the age considered. For before the age of 16, Territorios Nacionales and Atlántica are 1.8 and 1.7 times more likely than Bogotá to enter such an early union ($p<0.001$) - which are similar results also for unions before age 18 -, while the significance levels fall for the other regions (for both 16 and 18); also, these two regions have higher probabilities of having very young and young mothers. While, in the case of sexual intercourse, except for Pacífica ($p>0.05$) and Territorios Nacionales ($p<0.001$), the other regions have lower odds of having sexual activity than in Bogotá (with $p<0.001$). This last finding can be comparable to the one regarding urban women being relatively more likely to engage in early sexual activity.

**Table 5. 1 : Bivariate Analysis of Colombian women who have experienced the transitions to first union, sexual intercourse and birth.**

Table 1: Bivariate analysis of Colombian women who have experienced the transition events (first union, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22.

| BIVARIATE ANALYSIS: Colombian women who have experienced the transition events (first union, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22. | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Variables** | **Dependant Variable (Before age 16):** | | | **Dependant Variable (Before age 18):** | | | **Dependant Variable (Before age 20):** | | | **Dependant Variable (Before age 22):** | | | | | | | | | | |
| | **First Union** | **First Birth** | **First Intercourse** | **First Union** | **First Birth** | **First Intercourse** | **First Union** | **First Birth** | **First Intercourse** | **First Union** | **First Birth** | **First Intercourse** | | | | | | | | |
| **Cohort** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | | | | | | | | |
| 1941-1945 | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | | | | | | | | |
| 1946-1950 | 0,959 | 1,202 | 0,948 | 0,842 | 0,870 | 0,869 | 0,794 * | 0,848 | 0,761 ** | 0,817 * | 0,735 *** | 0,748 ** | | | | | | | | |
| 1951-1955 | 0,775 * | 0,823 | 0,777 ** | 0,742 *** | 0,736 ** | 0,782 ** | 0,696 *** | 0,811 * | 0,742 ** | 0,763 ** | 0,724 *** | 0,755 ** | | | | | | | | |
| 1956-1960 | 0,730 ** | 0,847 | 0,958 | 0,694 *** | 0,756 ** | 0,981 | 0,727 *** | 0,862 | 0,996 | 0,761 ** | 0,779 ** | 1,008 | | | | | | | | |
| 1961-1965 | 0,726 *** | 0,842 | 0,945 | 0,673 *** | 0,757 ** | 1,016 | 0,613 *** | 0,809 ** | 0,974 | 0,621 *** | 0,677 *** | 1,020 | | | | | | | | |
| 1966-1970 | 0,678 *** | 0,878 | 0,978 | 0,632 *** | 0,748 *** | 1,098 | 0,607 *** | 0,797 ** | 1,152 | 0,620 *** | 0,692 *** | 1,208 * | | | | | | | | |
| 1971-1975 | 0,788 * | 1,034 | 1,315 ** | 0,737 *** | 0,970 | 1,521 *** | 0,697 *** | 1,013 | 1,680 *** | 0,704 *** | 0,846 * | 1,787 *** | | | | | | | | |
| 1976-1980 | 0,760 ** | 1,135 | 1,642 *** | 0,668 *** | 1,016 | 2,030 *** | 0,646 *** | 0,999 | 2,322 *** | 0,649 *** | 0,774 ** | 2,484 *** | | | | | | | | |
| 1981-1985 | 0,826 * | 1,263 | 1,815 *** | 0,753 *** | 1,038 | 2,498 *** | 0,662 *** | 0,975 | 2,815 *** | 0,592 *** | 0,698 *** | 2,627 *** | | | | | | | | |
| 1986-1990 | 0,710 *** | 1,171 | 2,076 *** | 0,635 *** | 0,968 | 3,031 *** | 0,574 *** | 0,863 | 3,331 *** | 0,471 *** | 0,525 *** | 2,660 *** | | | | | | | | |
| Constant | 0,253 *** | 0,113 *** | 0,380 *** | 0,659 *** | 0,406 *** | 0,972 | 1,313 *** | 0,864 | 2,001 *** | 2,066 *** | 1,801 *** | 3,299 *** | | | | | | | | |
| *-2 Log likelihood* | *84019,216* | *62732,027* | *118722,400* | *118686,827* | *109760,035* | *126272,187* | *131785,378* | *130752,266* | *104790,591* | *130292,825* | *130579,820* | *84958,964* | | | | | | | | |
| *Cox & Snell R Square* | *0,001* | *0,002* | *0,019* | *0,001* | *0,004* | *0,037* | *0,002* | *0,002* | *0,036* | *0,004* | *0,004* | *0,024* | | | | | | | | |
| **Highest Educational Level** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | | | | | | | | |
| No education | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | | | | | | | | |
| Primary | 0,550 *** | 0,543 *** | 0,550 *** | 0,643 *** | 0,672 *** | 0,623 *** | 0,735 *** | 0,709 *** | 0,644 *** | 0,791 *** | 0,741 *** | 0,732 *** | | | | | | | | |
| Secondary | 0,246 *** | 0,237 *** | 0,303 *** | 0,318 *** | 0,331 *** | 0,391 *** | 0,405 *** | 0,357 *** | 0,420 *** | 0,452 *** | 0,362 *** | 0,477 *** | | | | | | | | |
| Higher | 0,049 *** | 0,053 *** | 0,140 *** | 0,073 *** | 0,082 *** | 0,214 *** | 0,099 *** | 0,085 *** | 0,237 *** | 0,119 *** | 0,084 *** | 0,274 *** | | | | | | | | |
| Constant | 0,652 *** | 0,383 *** | 1,443 *** | 1,360 *** | 0,990 | 3,486 *** | 2,235 *** | 2,204 *** | 7,007 *** | 3,287 *** | 3,914 *** | 10,332 *** | | | | | | | | |
| *-2 Log likelihood* | *78598,852* | *59483,035* | *11701,3,125* | *110728,788* | *103536,731* | *128179,824* | *123047,624* | *121283,831* | *107628,002* | *121975,639* | *119406,362* | *87000,318* | | | | | | | | |
| *Cox & Snell R Square* | *0,068* | *0,045* | *0,054* | *0,098* | *0,082* | *0,039* | *0,108* | *0,115* | *0,027* | *0,105* | *0,131* | *0,020* | | | | | | | | |
| **Urban-Rural** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | | | | | | | | |
| Urban | | | | | | | | | | | | | | | | | | | | |
| Rural | 1,896 *** | 1,855 *** | 1,571 *** | 1,906 *** | 1,851 *** | 1,477 *** | 1,901 *** | 1,956 *** | 1,432 *** | 1,991 *** | 2,040 *** | 1,403 *** | | | | | | | | |
| Constant | 0,161 *** | 0,096 *** | 0,432 *** | 0,390 *** | 0,306 *** | 1,283 *** | 0,743 *** | 0,667 *** | 2,716 *** | 1,164 *** | 1,122 *** | 4,526 *** | | | | | | | | |
| *-2 Log likelihood* | *84392,895* | *63274,319* | *121636,641* | *119158,821* | *110524,416* | *131470,240* | *132427,495* | *131284,407* | *109949,831* | *131227,000* | *131091,584* | *88686,353* | | | | | | | | |
| *Cox & Snell R Square* | *0,011* | *0,007* | *0,008* | *0,016* | *0,014* | *0,006* | *0,017* | *0,019* | *0,004* | *0,016* | *0,020* | *0,003* | | | | | | | | |
| **Region** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | | | | | | | | |
| Atlantica | 2,268 *** | 1,802 *** | 1,031 *** | 1,995 *** | 1,505 *** | 0,908 *** | 1,820 *** | 1,411 *** | 0,854 *** | 1,784 *** | 1,357 *** | 0,809 *** | | | | | | | | |
| Oriental | 1,596 *** | 1,421 *** | 1,105 *** | 1,553 *** | 1,401 *** | 1,036 | 1,530 *** | 1,446 *** | 1,029 | 1,527 *** | 1,500 *** | 0,988 | | | | | | | | |
| Central | 1,541 *** | 1,532 *** | 1,171 *** | 1,460 *** | 1,352 *** | 1,096 *** | 1,328 *** | 1,311 *** | 1,016 | 1,285 *** | 1,268 *** | 0,970 | | | | | | | | |
| Pacifica | 1,618 *** | 1,660 *** | 1,328 *** | 1,515 *** | 1,503 *** | 1,271 *** | 1,415 *** | 1,449 *** | 1,268 *** | 1,350 *** | 1,384 *** | 1,178 *** | | | | | | | | |
| Bogotá | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | | | | | | | | |
| Territorios Nacionales | 2,792 *** | 2,747 *** | 2,394 *** | 2,600 *** | 2,472 *** | 2,503 *** | 2,402 *** | 2,439 *** | 2,792 *** | 2,351 *** | 2,380 *** | 3,193 *** | | | | | | | | |
| Constant | 0,118 *** | 0,075 *** | 0,422 *** | 0,303 *** | 0,262 *** | 1,311 *** | 0,608 *** | 0,585 *** | 2,853 *** | 0,969 * | 1,004 | 4,939 *** | | | | | | | | |
| *-2 Log likelihood* | *84585,172* | *63597,119* | *122045,95* | *119732,956* | *111389,624* | *131606,025* | *133169,11* | *132606,143* | *109898,685* | *131850,491* | *132522,446* | *88604,425* | | | | | | | | |
| *Cox & Snell R Square* | *0,009* | *0,004* | *0,004* | *0,010* | *0,005* | *0,005* | *0,010* | *0,005* | *0,004* | *0,009* | *0,005* | *0,003* | | | | | | | | |
| **CDHS Year** | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | | | | | | | | |
| 1990 | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | | | | | | | | |
| 1995 | 0,972 | 1,071 | 1,139 ** | 1,006 | 1,072 | 1,229 *** | 0,956 | 1,114 ** | 1,179 *** | 1,019 | 1,025 | 1,242 *** | | | | | | | | |
| 2000 | 0,918 | 0,971 | 1,192 *** | 0,944 | 1,066 | 1,358 *** | 0,900 ** | 1,103 ** | 1,456 *** | 0,923 * | 1,017 | 1,547 *** | | | | | | | | |
| 2005 | 0,914 * | 1,136 ** | 1,707 *** | 0,912 * | 1,171 *** | 1,995 *** | 0,871 *** | 1,177 *** | 2,174 *** | 0,897 *** | 1,094 *** | 2,386 *** | | | | | | | | |
| 2010 | 1,006 | 1,214 *** | 1,941 *** | 0,984 | 1,264 *** | 2,486 *** | 0,902 *** | 1,232 *** | 2,740 *** | 0,920 ** | 1,120 *** | 3,109 *** | | | | | | | | |
| Constant | 0,198 *** | 0,100 *** | 0,294 *** | 0,474 *** | 0,302 *** | 0,729 *** | 0,948 * | 0,660 *** | 1,453 *** | 1,435 *** | 1,201 *** | 2,236 *** | | | | | | | | |
| *-2 Log likelihood* | *85414,927* | *63905,647* | *121404,029* | *120718,122* | *111751,302* | *129987,305* | *134091,831* | *133057,95* | *108120,244* | *132728,256* | *133001,603* | *86826,91* | | | | | | | | |
| *Cox & Snell R Square* | *0,0002* | *0,0004* | *0,010* | *0,0003* | *0,001* | *0,021* | *0,000* | *0,001* | *0,022* | *0,0003* | *0,0003* | *0,021* | | | | | | | | |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

*(Source: own calculations based on CDHS data)*

**Table 5. 2 : Multivariate Analysis of Colombian women who have experienced the transitions to first union, sexual intercourse and birth.**

Table 2: Multivariate analysis of Colombian women who have experienced the transition events (first union, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22.

| MULTIVARIATE ANALYSIS: Colombian women who have experienced the transition events (first union, first birth, and first sexual intercourse) before the age of 16, 18, 20 and 22. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variables | Dependant Variable (Before age 16): | | | Dependant Variable (Before age 18): | | | Dependant Variable (Before age 20): | | | Dependant Variable (Before age 22): | | |
| | First Union | First Birth | First Intercourse | First Union | First Birth | First Intercourse | First Union | First Birth | First Intercourse | First Union | First Birth | First Intercourse |
| | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] | Exp(B)[a] |
| **Cohort** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| 1941-1945 | | | | | | | | | | | | |
| 1946-1950 | 1,059 | 1,298 | 0,981 | 0,894 | 0,916 | 0,851 | 0,864 | 0,867 | 0,769 ** | 0,847 | 0,776 * | 0,727 ** |
| 1951-1955 | 0,957 | 1,019 | 0,896 | 0,885 | 0,871 | 0,837 * | 0,860 | 0,941 | 0,807 * | 0,905 | 0,880 | 0,780 * |
| 1956-1960 | 1,029 | 1,166 | 1,060 | 0,941 | 0,970 | 0,986 | 1,024 | 1,081 | 0,987 | 0,983 | 0,990 | 0,900 |
| 1961-1965 | 1,058 | 1,242 | 1,065 | 0,935 | 1,013 | 0,998 | 0,865 | 1,033 | 0,920 | 0,772 ** | 0,824 * | 0,823 * |
| 1966-1970 | 1,036 | 1,382 * | 1,171 | 0,912 | 1,052 | 1,139 | 0,887 | 1,065 | 1,153 | 0,794 * | 0,886 | 1,028 |
| 1971-1975 | 1,315 * | 1,771 *** | 1,694 *** | 1,162 | 1,499 *** | 1,665 *** | 1,115 | 1,495 *** | 1,750 *** | 0,974 | 1,196 * | 1,531 *** |
| 1976-1980 | 1,497 *** | 2,336 *** | 2,433 *** | 1,229 * | 1,862 *** | 2,494 *** | 1,203 * | 1,747 *** | 2,640 *** | 1,032 | 1,268 ** | 2,250 *** |
| 1981-1985 | 1,851 *** | 2,977 *** | 2,908 *** | 1,566 *** | 2,129 *** | 3,228 *** | 1,354 *** | 1,876 *** | 3,300 *** | 0,992 | 1,212 * | 2,372 *** |
| 1986-1990 | 1,712 *** | 3,132 *** | 3,675 *** | 1,400 *** | 2,195 *** | 4,105 *** | 1,244 * | 1,794 *** | 4,028 *** | 0,802 * | 0,922 | 2,353 *** |
| **Highest Educational Level** | | | | | | | | | | | | |
| No education | *** | *** | *** | *** | *** | *** | *** | *** | | *** | *** | *** |
| Primary | 0,555 *** | 0,503 *** | 0,456 *** | 0,657 *** | 0,624 *** | 0,512 *** | 0,762 *** | 0,666 *** | 0,531 *** | 0,848 *** | 0,715 *** | 0,616 *** |
| Secondary | 0,222 *** | 0,182 *** | 0,189 *** | 0,300 *** | 0,261 *** | 0,239 *** | 0,402 *** | 0,299 *** | 0,257 *** | 0,484 *** | 0,330 *** | 0,308 *** |
| Higher | 0,041 *** | 0,037 *** | 0,071 *** | 0,064 *** | 0,058 *** | 0,101 *** | 0,093 *** | 0,065 *** | 0,111 *** | 0,123 *** | 0,071 *** | 0,138 *** |
| **Urban-Rural** | | | | | | | | | | | | |
| Urban | | | | | | | | | | | | |
| Rural | 1,036 | 0,997 | 0,963 * | 1,089 *** | 1,058 ** | 0,973 | 1,133 *** | 1,119 *** | 0,959 | 1,143 *** | 1,143 *** | 0,962 |
| **Region** | | | | | | | | | | | | |
| Atlántica | 1,667 *** | 1,262 *** | 0,779 *** | 1,530 *** | 1,101 *** | 0,715 *** | 1,428 *** | 1,034 | 0,678 *** | 1,430 *** | 0,995 | 0,656 *** |
| Oriental | 1,037 | 0,912 * | 0,788 *** | 1,040 | 0,922 ** | 0,776 *** | 1,046 | 0,943 * | 0,778 *** | 1,065 ** | 0,971 | 0,760 *** |
| Central | 1,080 * | 1,073 | 0,909 *** | 1,045 | 0,966 | 0,893 *** | 0,964 | 0,926 *** | 0,833 *** | 0,944 ** | 0,878 *** | 0,807 *** |
| Pacífica | 1,106 ** | 1,126 ** | 1,003 | 1,064 * | 1,047 | 1,016 | 1,011 | 1,005 | 1,029 | 0,984 | 0,953 * | 0,969 |
| Bogotá | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Territorios Nacionales | 1,791 *** | 1,634 *** | 1,488 *** | 1,790 *** | 1,558 *** | 1,546 *** | 1,738 *** | 1,608 *** | 1,660 *** | 1,756 *** | 1,611 *** | 1,852 *** |
| **CDHS Year** | | | | | | | | | | | | |
| 1990 | *** | * | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| 1995 | 0,967 | 1,040 | 1,116 ** | 1,019 | 1,058 | 1,216 *** | 0,960 | 1,116 ** | 1,146 *** | 1,042 | 1,042 | 1,225 *** |
| 2000 | 0,947 | 0,920 | 1,070 | 0,995 | 1,019 | 1,214 *** | 0,940 | 1,092 * | 1,273 *** | 0,995 | 1,069 | 1,392 *** |
| 2005 | 0,954 | 1,030 | 1,455 *** | 0,978 | 1,106 ** | 1,634 *** | 0,936 * | 1,187 *** | 1,734 *** | 1,049 | 1,249 *** | 2,019 *** |
| 2010 | 1,102 * | 1,073 | 1,503 *** | 1,125 *** | 1,187 *** | 1,797 *** | 1,063 | 1,310 *** | 1,916 *** | 1,259 *** | 1,496 *** | 2,445 *** |
| **Constant** | 0,451 *** | 0,233 *** | 1,067 | 1,060 | 0,759 ** | 2,574 *** | 1,935 *** | 1,589 *** | 5,451 *** | 2,792 *** | 3,334 *** | 8,172 *** |
| *-2 Log likelihood* | 76071,723 | 57278,744 | 110127,909 | 107439,247 | 99747,054 | 118456,362 | 119652,656 | 117283,394 | 98739,771 | 118884,096 | 116000,164 | 80354,528 |
| *Cox & Snell R Square* | 0,080 | 0,058 | 0,103 | 0,112 | 0,103 | 0,112 | 0,121 | 0,133 | 0,095 | 0,116 | 0,144 | 0,070 |

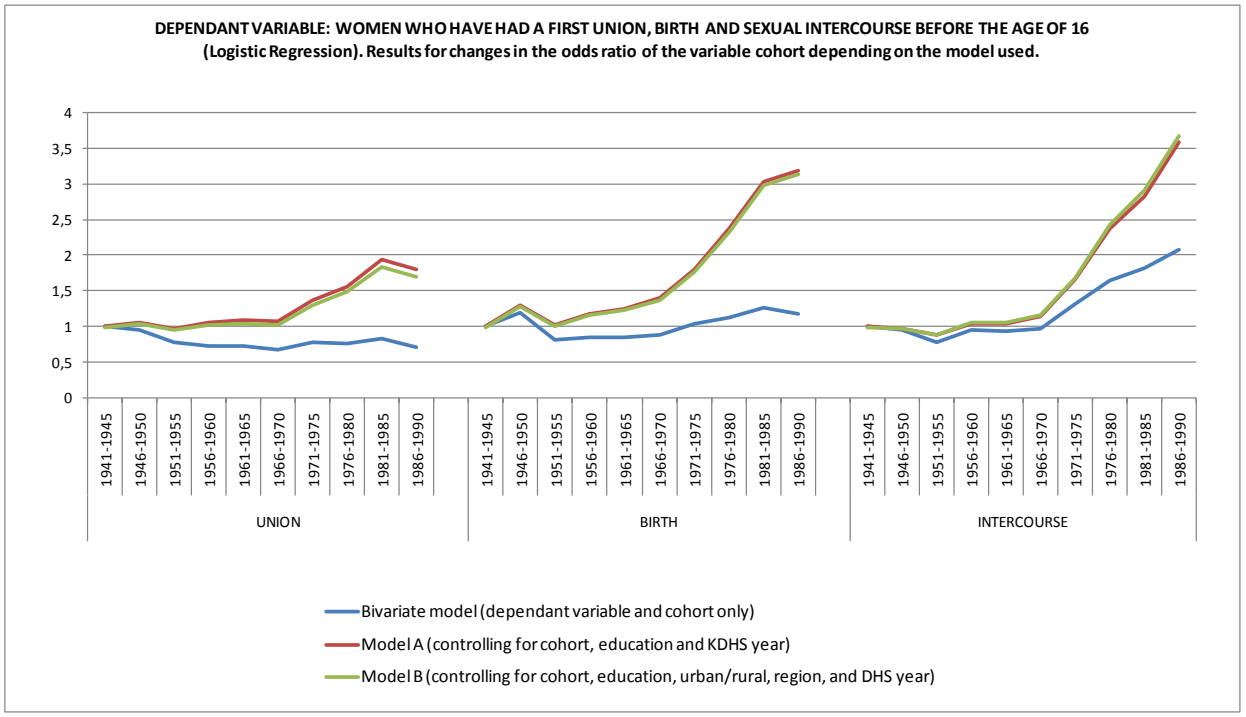
(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

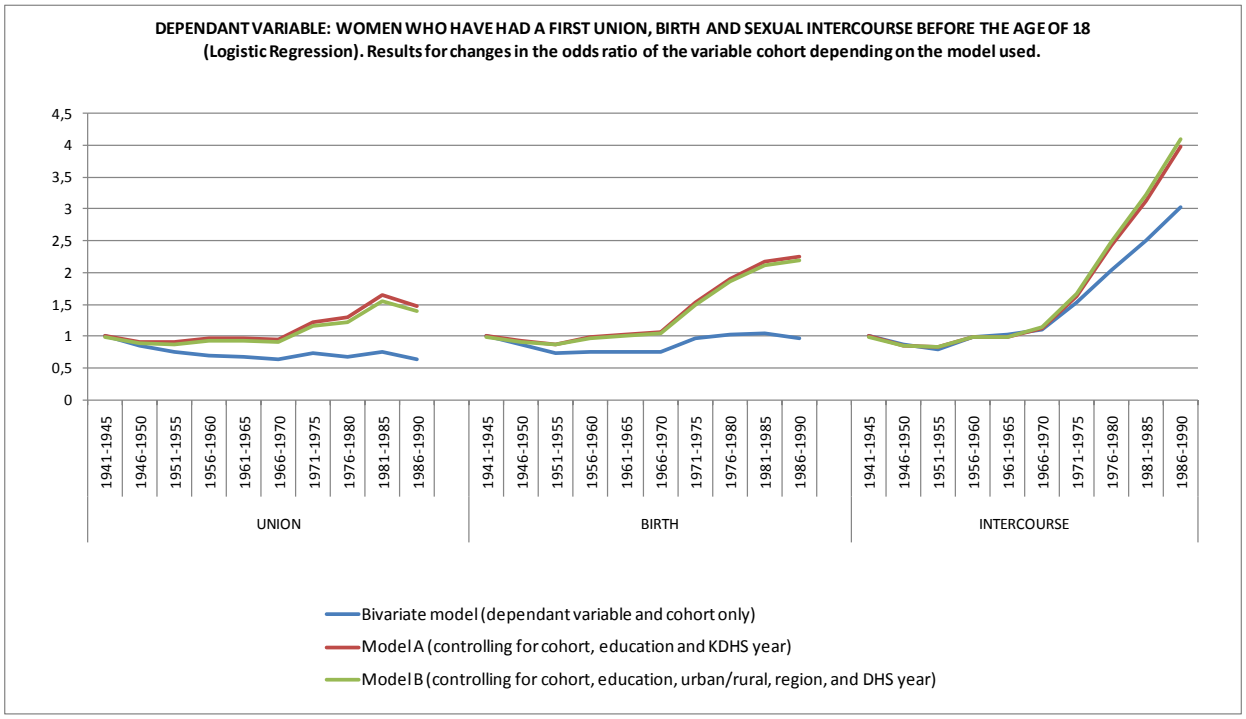
*(Source: own calculations based on CDHS data)*

Finally, one of the main objectives is to examine to what extent education has been a crucial element in the postponement or not of first unions, especially during childhood, without implying any causality or the direction of it. is The reason being that we have the highest educational level at the time of the survey and not at the time of the event at interest. Hence, an indirect way to measure the importance of the increasing schooling outcomes in union timing has been adopted. Basically, in Figure 5.19, the intention is to differentiate between structural and behavioural changes over time (through the variable cohort) from the odds ratio from the previous logistic regression. In other words, the estimates (odds ratio) of three models are compared: first, the bivariate model (with the dependant variable and cohort); second, another model in which we control for educational attainment (model A); and third, the final model with all the additional contextual variables, mainly the geographical/territorial ones regarding urban/rural and region (model B). Thus, by doing so we are able to scope those periods in which the delay in the early transitions has been due to changes in the structure (educational structure of the female population) and those in which the behaviour has been mostly involved.

The first issue that comes to light with such procedure in Figure 5.19, is that there is almost no variation between models A and B, that is, adding urban/rural and region does not make much of a difference. Secondly, the patterns are fairly similar for both ages considered, so the one that will be commented as follows is the one for before age 18. Thus, for both early unions (and similarly for early childbearing) it appears that for the elder cohorts, born before the 50's, the small drop in the odds of becoming a child bride has been the same for the three models (indicating slight changes in the behavioural domain); yet, it is among those born between 1941 and 1970 where on the one hand, the odds in the bivariate model have been slowly decreasing, and on the other, the odds have remained constant when introducing education, implying that some of the decline in early unions have been due to changes in the structure of the female population as more women were achieving higher levels of education; however, the pattern took another turn with the younger generations, with the bivariate estimates being constant with models A and B on the rise when introducing the educational factor. Finally, for first sexual intercourse before age 18, the bivariate model and the ones including education and the rest of variables (models A and B) have the exact same pattern in their estimates for the cohorts born between 1941 and 1970, whereas for the younger generations the odds increase in all three cases, more so when controlling for education. Thus, these results lead to uphold the idea that in the case of sexual activity, the changes have been more due to behaviour than to changes in the educational structure.

Figure 5. 19 : Results for the changes in the odds ratio of the variable cohort by model used (bivariate, controlling for education, controlling for the other variables) for the early transitions towards first union, birth and sexual intercourse.




*(Source: own calculations based on CDHS data)*

## 5.4. CONCLUSIONS AND DISCUSSION

Cross sectional data for Colombia indicates that over the last decade it appears that not much change is found in terms of marriage timing. Just to give an idea, the median age at first union has practically been the same - around the age of 21 - in the different DHS surveys from 1990 to 2010. In fact, if we take a look at the overall proportions of women who have entered a first union before the given ages of 16, 18, 20 and 22, it is possible to observe a relative small change over time with a trends towards a delay in the age at entry of this transitional event. Regarding first motherhood, there is a certain convergence in the younger cohorts towards a similar timing to first union. Nevertheless, there is a striking rise in the proportions of women who begin sexual intercourse at a younger age, where sexual activity is not being delayed but the exact opposite. If the focus is drawn to the main subject of interest, that is early unions, even though Latin American brides tend to be relatively elder, especially when compared to other geographical regions where child marriage is much more present, in Colombia such early marriages do exist. Not only that, the pattern observed exhibits almost no change over time, where not only 30% of Colombian girls enter a union before the age of 18, but 15-20% of them do so before age 16. However, if one takes a look at unions before age 22, results reveal a certain level of delay for young-adults.

On the other hand, in Colombia the mean years of schooling have almost doubled among the younger generations when compared to the eldest, reaching levels of over 50% for secondary and almost 40% for higher education among the youngest generation, and barely no girls without education. In fact, those women who were single, at least up to the age of 18, have seen an impressive gain in their schooling levels, not only on the secondary stage, but especially at higher education; while, for those who did enter an early union even though they have seen a good decline in primary schooling in favour of secondary, still higher education remains to be accomplished.

Precisely, even though the trend in the prevalence of early marriage slightly diminished among the eldest cohorts, it is not as much as one would have expected with such an increase in the educational domain, especially since as the mean years of schooling have continued to grow over time, the proportions entering an early union have remained virtually constant. Although early motherhood presents a similar pattern, early sexual intercourse shows the contrary, where the proportions have been strongly augmenting over time, especially for the younger generations. Specifically, when a country experiences on the macro level such an educational expansion, one could assume that this scenario would entail women adopting demographic behaviours of their educational counterparts, and as more women would reach higher educational levels the trends would be relatively stable over time. In Colombia such logic only seems to hold true for higher education with regards to early unions, although to a certain extent. While for those with primary education and secondary (especially among younger cohorts), the prevalence of early marriage,

nonetheless, has been increasing over time. Again a similar pattern is found for early motherhood, yet for sexual activity at young ages the escalation in the proportions over time has been taking place for all educational levels, higher education included.

Moreover, with regards to other contextual factors, mainly those with a more geographical and territorial scope - that is urban/rural type of place of residence and region -, the descriptive analysis alluded to first a de-ruralisation in the country, and second to better educational achievement for urban women (especially in the region of Bogotá, with Territorios Nacionales being on the lower spectrum). The latter was to be expected, as well as the fact that rural women with higher education are also the ones who have not started living with their partner before the age of 18, and that rural women tend to start living together with their partners earlier in time when compared to their urban counterparts. Actually, very early unions have been decreasing among urban women, which cannot be said for those living in a rural environment. All in all, what the descriptive analysis achieved is to put forward the heterogeneity in the country in terms of the age at entry into first unions, not only between major regions but also within them. In effect, most of the drop in early unions among the elder cohorts occurred in Atlántica, Central and Bogotá; yet, Territorios Nacionales still encounter the major share of child brides. However, the pattern for first sexual intercourse is totally distinct, with increases over time for all regions and given ages.

Finally, bivariate logistic regression analysis made it clear that the variable for education is the one that explains a greater deal of the dependent variables at the individual level. And, for early unions in particular, once we control for the rest of the variables in the multivariate analysis (highest educational level, urban/rural, region, and year of the survey), the decline in the probabilities of entering a very early and early union in the variable cohort seen in the bivariate analysis disappears. Hence, the probabilities of entering an early union, as well as engaging in early sexual activity and motherhood seem to increase slightly over the different cohort groups, being statistically significant for the younger generations. Actually, it appears that for the elder cohorts some of the decline in early unions was due to changes in the structure of the female population as more women were achieving higher levels of education; however, for the younger generations, even though at the macro level there is a stability in the estimates of early unions, once the educational factor is introduced, the estimates start to rise. The same goes for early sexual activity. Thus, these results lead to believe that a behavioural change is mostly behind these trends, more so than the changes in the educational structure.

Having said that, the following question in the analysis would probably be with regards to the socioeconomic level of women, beyond the educational one. If one takes a look at Figure V.III from the Annex, early unions (before the age of 18) have remained fairly constant over time for the poorest groups with proportions around 50%, while for the poorer and middle wealth index groups there has been a slight increase for the younger age groups; and, on the contrary, those with richer

and richest indexes have seen declines in the percentage of early unions. Still, early motherhood works similarly, yet sexual activity is on the rise, independent on the level of wealth. The study of Flórez (2005) with a longitudinal character and life history approach, combining both quantitative and qualitative methods, based on a health survey of adolescents in 2003, conducted by the Center for Economic Development Studies (CEDE) of Colombia, in Cali and Bogotá, brought in some interesting points regarding the socioeconomic strata, where great differences were observed in the patterns of sexual activity, marriage and motherhood, not only in relation to the starting age, but also with the age pattern: higher frequency of adolescent maternity from the lower stratum, as a result of an early onset of sexual intercourse and unions and less willingness to use family planning methods. Additionally, those results revealed an important role of the family, their operation and supervision of the reproductive behaviour of adolescents, suggesting that in previous studies on the determinants of reproductive activity for this group (onset of sexual intercourse, first pregnancy) the contextual factors of the household have been underestimated. Precisely, in the field of education - understood as an instrument of policy for the prevention of teenage pregnancy - programs on family planning, reproductive biology and sexuality ought to be perfected and improved (Flórez, 2005).

Finally, it is well known that around the world early marriage has often been used as a protective measure in contexts of fragile and conflictive states, especially in regions from Sub-Saharan Africa. Hence, when interpreting the results for Colombia, one cannot omit the fact that this is a country in which violent conflict has played and still plays an important role, even though the degree of violence has receded in the most recent years. Consequently, indigenous people as well as several other communities and population groups have seen a major impact on their livelihoods, resulting in displacement, extreme marginalization and environmental degrading in the indigenous territory, among other many negative consequences. Data might not allow to include this reality in the research on the timing of the transitions towards first union, birth and sexual intercourse, or even so on its impact on the educational sphere. However, it would be prudent to acknowledge this particular situation when studying early unions and the different circumstances behind its practice. Not only that, but future research ought to include the difference between early informal and formal types of unions, it being a specificity to the Latin American context.

# CHAPTER 6 :

*"TYING THE KNOT AND KISSING CHILDHOOD GOODBYE? EARLY MARRIAGE IN EDUCATIONALLY EXPANDING SOCIETIES"*

# CONCLUSIONS AND DISCUSSION

## 6.1 Synthesis of results:

There is a general awareness among social scientists of the association between age at union formation and the educational level achieved, in which education is seen as being a strong agent on family change. The fact that studies worldwide show that, systematically, women with more years of education tend to delay their entry into first union, brings upon the idea that in a scenario in which a great educational expansion has been taking place, marriage timing will evidently alter. Hence, one would expect to observe later ages at first marriage. And, due to the fact that in many countries there has been an increase in the age at marriage as well as an educational expansion, occurring almost in parallel, both phenomenon have often been linked together. In other words, given that the association between education and age at first marriage has been confirmed at an individual level, with a general growth of educational attainment levels among a population over time one would anticipate changes at the macro level - i.e. a change in its structure. Additionally, in terms of the prevalence of early marriages, the same logic would apply where the expected outcome would be a descent of child brides as more girls reach higher levels of education.

The practice of marriage before or during adolescence prevails across much of Africa, Asia and Latin America, and in some form or another exists throughout the world. To date, although regional variation within national boundaries can be found, an early median age at first marriage is still prevalent in Middle and West Africa and the South of Asia, followed by the East and Southern

Africa, Southeast Asia, and to a lesser extent the Caribbean and Central America. However, national figures can often veil an elevated prevalence of early marriage for some regions or population sectors. In the last decades, nonetheless, early marriage has been slightly diminishing, more so in some countries than others. And, with regards to the educational expansion that has been taking place worldwide, recent trends show that plenty of countries, especially in the African region, still have homework to do in terms of improving their female citizens schooling levels, while others have improved immensely as it has been in the case of Latin America in general.

Thus, with data from the *Integrated Public Use of Microdata Series* international project (IPUMSi) and the Demographic and Health Surveys (DHS) Program, the central aim in the present research has been to provide some evidence on this regard by comparing three different countries and experiences - India, Kenya and Colombia - since they have all undergone major advances in terms of educational achievement, as well as changes in their early marriage prevalence. Each case study presents a unique context and provide an excellent opportunity for comparison. Therefore, with the major research questions at hand, the results in each country have been the following:

**Firstly,** ***what has been the educational expansion trend? To what extent has there been an improvement?***

- **India:** Despite large regional imbalances, there has been some encouraging progress in the educational front in India. Between 1983-2004, for all age groups and for both males and females, the proportions of Indians with less than primary education have declined over time. However, the country faces great regional differences, where the southern and northern parts have better educational levels. On a more detailed note, for instance, for women aged 30-34 the average with less than primary education was around 80% in 1983 dropping to levels of 60% for the same age group in 2004 (mostly located in areas such as Bihar, Madhya Pradesh, Andhra Pradesh, the south of Orissa, Rajasthan and Gujarat). For all age groups there has been an increase in the average proportion of girls with completed primary education from 1983 to 2004 (20% approx. in 1983 at ages 20-34 doubling to a bit more than 40% in 2004 for the youngest generation aged 15-19). The educational expansion has specially been observed for women with the increase in the average of girls completing primary and secondary schooling levels (for all age groups), while a slight augment in the proportion of men and women with university education has been noted, small at the ages 25-34 (less than 20%) and a bit more remarkable at the ages 15-24 (around 20%).

- **Kenya:** In the country there has been an impressive decline of women with no education, where the mean years of schooling for the younger generations is almost three times more than

the eldest cohort in our sample, and the completion of primary studies has impressively grown (in almost 40 percentage points between cohorts); yet the goal of universal primary schooling is still facing some challenges as a constant portion (20-30%) of girls do not complete that basic level. It has been noted that the encouragement from the Kenyan government to give priority on secondary and higher education has certainly been paid off to some extent, but still 70% of its female citizens have yet to reach post-primary levels. And, although rural and urban women have increased the mean years spent in class, there are still large regional imbalances in schooling accomplishments, where Nairobi and its neighbouring Central region fare much better than the rest, and the Coastal belt scores the lowest.

- **Colombia:** the country's mean years of schooling have almost doubled among the younger generations when compared to the eldest. This growth has translated into an impressive decrease of those women with no education or primary education in favour of an increase in the proportions of females who have attained secondary and higher education. Precisely, among those younger generations who have reached 20 years of age at least, less than 1% have no education and only a bit over 10% have primary level as the highest achieved one. In fact, those cohorts born in the early 60's are the ones in which the proportions for secondary education started towering that of primary education, with a gradual increase over time on the share of women with not only secondary but also higher education - reaching levels of over 50% for secondary and almost 40% for higher education among the youngest generation. In terms of urban/rural type of place of residence, it is the urban women who are better educated, especially since the region of Bogotá seemed to have lead the increase in schooling positive outcomes, whereas Territorios Nacionales fare lower.

**Secondly,** ***has the prevalence of early marriage diminished?***

- **India:** The proportions of ever married by age have been declining throughout the period of study (1983 to 2004). However, marriage still remains important and virtually almost universal, especially for women at the ages 30 to 34, yet high proportions of women are already married at ages 20-24. It is noteworthy that a great deal of the decline over time on the age at first marriage has occurred at the younger ages (15-19) as well as in the following age group (20-24). Nevertheless, marriage patterns within the country are diverse, especially for these women aged 15-24. For instance, later entries into first union seem to be located in regions bordering the coast, as well as the South of the country (Kerala or Tamil Nadu) and the North/West (Punjab and Himachal Pradesh); while the areas where the proportions of ever married girls aged 15-19, are still relatively high are Rajasthan, West Bengal, Bihar, Madhya Pradesh, Andhra Pradesh and

Jharkhand, which are commonly known as the regions with higher prevalence of early marriage, even in 2004.

- **Kenya:** So far both descriptive and logistic analyses have shown a positive increase in the postponement of first marriage among Kenyan women over time. On the descriptive side, transitions to first marriage have been delayed, especially for those cohorts born in the 60's. If we take a look at the prevalence of child marriage, before the age of 16, it has diminished over time for the overall female population from the KDHS surveys – as the elder generations born in the late 40s and early 50s accounted for 40%, it already reduced in half for those born in the early 70s and since has remained fairly constant around 20% . Furthermore, a declining trend can also be found for early marriage (before age 18) from 60% to a bit less than 40% over our time period. Hence, even though the intensity of early and very early marriage among women seems to have been brought down in Kenya, the plateau in the trend of the proportions of girls marrying before the ages of 16 among those born in the 70s and 80s, alongside with a similar trend for those married before the age of 18, means that early marriage in Kenya comes across as an issue that will still have to be tackled.

- **Colombia :** Cross sectional data indicates that over the last decade it appears that not much change has been found in terms of marriage timing. In fact, the median age at first union has practically been the same - around the age of 21 - in the different surveys from 1990 to 2010; although a very small trend towards a delay can be observed in the overall proportions of women who have entered a first union before the given ages of 16, 18, 20 and 22, especially in the latter. And concerning early unions, even though Latin American brides tend to be relatively elder, especially when compared to other geographical regions where child marriage is much more present, in Colombia such early unions do exist. Not only that, the pattern observed exhibits almost no change over time, where not only 30% of Colombian girls enter a union before the age of 18, but 15-20% of them do so before age 16.

**Thirdly,** ***at a descriptive and analytical level, what can be said about the relationship between education and early marriage?***

- **India:** If we compare the nuptial calendar through the proportions of ever married at the ages of 15-19 by educational level, the results show a steady decline in both the average of girls who are married at that age and the regional variability if they have less than primary education (from 55% in 1983 to 37% in 2004). While for the group of primary completed the drop is observed during the period 1983-1987, remaining then relatively constant over time, as with secondary schooling levels. Yet, marriage still remains important and almost universal for

women (even if they have secondary and university education). All in all, the interesting outcome from the study is that the incidence of early marriage seems to be declining among the lower educated portion of the female population. Furthermore, the results from the multilevel logistic regression indicate a strong decrease in the probabilities of being married over time for girls aged 15-19, although this fall is attenuated when controlling for education. Therefore, given that the most important contribution to marriage postponement for women has been made by the youngest age groups, as well as the two lowest segments of the educational hierarchy, it is rather plausible to assume that there have been changes not only in the educational structure of the population but also in its behaviour. However, results indicate that the educational expansion does seem to explain a great deal of the decrease in early marriage for elder generation of Indian women, although for the youngest generations the postponement has been drawn by changes in behaviour. Altogether, it does not seem that there is any sign of a retreat from marriage over time for women.

- **Kenya:** When linking educational attainment with the timing of the transitional events of first marriage, what was expected is confirmed in the analysis. Those with post-primary education are the ones that delay the most, not only before age 18, but especially before age 22; and, while there is almost no change in the timing for those with no education, those who did attend primary school (even if they did not complete it) are slowly delaying their entry into first marriage. Nonetheless, by age 22, the universality of marriage is pretty evident for those with no and little education, where the ones who are really changing the pattern are those with primary and higher. Moreover, the results of the multivariate logistic regression confirm the descriptive results, with high significance levels, where not only the youngest cohorts are indeed delaying the entry into first marriage, but the ones that have greater odds of delaying it are the most educated, urban, residing in Nairobi and Central, and not belonging to the Luo ethnical group. With regards to educational attainment in particular, it is the ones with secondary and higher who have lower chances of experiencing these events during childhood; although having at least some primary education already reduces the odds of marriage before age 16 by 24%, and by 16% before age 18. In general, it appears that for the eldest cohorts, which were the ones that initiated the educational expansion with impressive results, the reduction in the proportions of women entering early unions was mainly due to a change in the structure of the population, followed by changes in the behaviour that favoured such postponement, and finally, for the last period there has not been much change, other than those related to additional factors that have nothing to do with education.

- **Colombia:** Precisely, even though the trend in the prevalence of early marriage slightly diminished among the eldest cohorts, it is not as much as one would have expected with such an increase in the educational domain, especially since as the mean years of schooling have

continued to grow over time, the proportions entering an early union have remained virtually constant. Specifically, when a country experiences on the macro level such an educational expansion, one could assume that this scenario would entail women adopting demographic behaviours of their educational counterparts, and as more women would reach higher educational levels. In Colombia such logic only seems to hold true for higher education with regards to early unions, although to a certain extent. While for those with primary education and secondary (especially among younger cohorts), the prevalence of early marriage, nonetheless, has been increasing over time. Even though education is the variable explaining a greater deal in the bivariate logistic regression analysis at the individual level, once we control for the rest of the variables in the multivariate analysis, the decline in the probabilities of entering a very early and early union in the variable cohort seen in the bivariate analysis not only disappears, but seems to increase slightly for the younger generations. Actually, it appears that for the elder cohorts some of the decline in early unions was due to changes in the structure of the female population as more women were achieving higher levels of education; however, for the younger generations, even though at the macro level there is a stability in the estimates of early unions, once the educational factor is introduced, the estimates start to rise, which leads to believe that a behavioural change is mostly behind these trends, more so than the changes in the educational structure.

**Finally,** ***are there other contextual factors that could be taken into account when explaining the issue on early marriage?***

- **India:** When taking into account the type of place of residence, being urban seems to reduce the chances of being married at an earlier age for girls, but once we control for education, the estimates significantly reduce. Also, it seems that the regional differences on the likelihood of being ever married are slightly reduced also when controlling for education (for the age group 15-19). Additionally, multivariate regression analysis with data from the NFHS-3 for Indian women shows that, with respect to region, some states gain the spotlight in the bivariate analysis where, for example, in Bihar the odds of marrying before the age of 18 is 10,8 times higher than in Kerala (reference state), but after controlling for education and other socio-demographic factors, the odds reduce to 4,4. In fact, even after applying several controls, those states in which the likelihood of entering into an early marriage is still high for women are Bihar, Andhra Pradesh, Rajasthan, Chhattisgarh, Madhya and Uttar Pradesh; while the southern states of Goa, Tamil Nadu and northern-eastern Manipur, Tripura and northern Punjab are the least likely to wed as a child. Additionally, it is worth mentioning that the difference in the odds

ratio with regards to the respondent's wealth is there but it is not as sizeable as one could have expected, once it is controlled by education, age, urban/rural, religion and state.

- **Kenya:** As stated before, the multivariate logistic regression results confirm that the women who have greater odds of delaying marriage are the most educated, urban, residing in Nairobi and Central, and not belonging to the Luo ethnical group. It is essential to mention that because the country's ethnicities are regionally located, it is possible to observe very similar marriage patterns between the main ethnical groups and the region in which they reside. Additionally, since in this country the order of the events of first marriage and first birth are not so clear, and because Kenyan law discriminates pregnant girls who have to interrupt their studies it is possible to expect certain parallelisms in schooling differences between those girls who remain childless and unmarried and those who do not. Therefore, further analysis is required on that regard, which is one of the reasons why the transitions to first sexual intercourse and first birth were included in this case study, with first birth's patterns being relatively similar to that of first marriage, and first sexual intercourse also revealing a delay over time.

- **Colombia:** concerning other covariates, specifically those with a more geographical and territorial scope - that is urban/rural type of place of residence and region -, it is interesting to notice that those rural women with higher education are also the ones who have not started living with their partner before the age of 18, and that rural women tend to start living together with their partners earlier in time when compared to their urban counterparts. Actually, very early unions have been decreasing among urban women, which cannot be said for those living in a rural environment. All in all, the results put forward the heterogeneity in the country in terms of the age at entry into first unions, not only between major regions but also within them. Finally, the other contextual factor worth taking into account is the age at first sexual activity, with its striking rise in the proportions of women who begin sexual intercourse at a younger age, where it is not being delayed but the exact opposite.

Overall, what we are presented is with three very different scenarios in which, parting from a similar base - experience of an educational expansion for the female population in particular - the outcome in terms of early marriage prevalence seems to differ. On the one hand, there is India, in which most of the delay in the entry into first marriage is happening among the younger age groups, and not only that, but those who are delaying their first marriage also belong to the lowest educational levels. Hence, marriage postponement appears to be beyond the educational expansion. On the other hand, Kenya possibly represents the country in which the parallelisms between educational expansion and delay in the age at first marriage do apply, even though some efforts will have to be made in order to diminish even more the proportions of child brides, especially among

certain sectors of its population. Finally, the third scenario is brought by Colombia, which is the country with the most impressive educational expansion, yet the timing of first unions have barely changed over time, particularly among early unions.

## 6.2 Discussion and future lines of investigation:

In addition to the various discussion points that have been introduced in each case studies' conclusion/discussion section, such as firstly, the potential of "love marriages", the value placed in daughters by the Indian family system and household dynamics, or the imbalances in the marriage market for India; secondly, the importance of ethnical political power and its imbalances on the Kenyan territory, as well as the specificities in terms of marriage customs by each ethnical group and the negative outcomes from the riots and civil unrest since the year 2007 in Kenya; and thirdly, the socioeconomic factors and role of the family, without omitting the violent conflict in Colombia and its impact on its population, as well as the distinction between formal and informal types of unions in the region.

What all these issues bring into play is that each country is a world in its own, where its particular context matters indeed. It is out of the question that there is indeed a strong empirical association between education and marriage. Thus, it is valid to hypothesize that an educational expansion within a society in which a relative proportion of girls marry at young ages, would entail a postponement of said marriages. As Castro (1995) pointed out, even where the prevailing social system encourages early marriage, differentials exist in the timing of marriage by educational level. Nevertheless, as it was mentioned in the theoretical background in the introduction, some authors do raise some doubt on the dominant role of increased education as a cause of nuptiality change. Not everywhere does it lead towards the expected outcome. Great examples have been the cases of India and Colombia, the first in which it is the lower educated women the ones who are postponing their marriage, while in Colombia there is very little change[74], even though education has grown tremendously in the country. On the other hand, in Kenya the theory works quite nicely, although to a certain extent. Consequently, these results pose a whole new set of questions. Basically, all starting with the word "why". So far, it has been possible to observe the different trends and patterns of early nuptiality as well as its intensity, which would be the "when" and the "how much", but much more research is required in order to give answers to the reasons why these family

[74] As Esteve et al. (2013) revealed: the educational expansion in Latin America involved ages at which schooling did not run into conflict with union formation, given that early marriage in Latin America is not as prevalent as in other areas of the world (e.g., Sub-Saharan Africa or India). Although research from Colombia in particular did attest to the fact that early unions can be found in the country and that the proportions have been constant over time.

patterns are changing. Precisely, contextual factors could be the key, although it seems more feasible that it is an accumulation of various factors working together and influencing one another. As Castro Martín & Juárez (1995, p.4) stressed, the availability of data for a large number of countries by the World Fertility Surveys provided further insights into the link between education and fertility, and Demographers stopped considering the impact of education on fertility as something automatic to recognize that this impact is conditioned by the level of development[75], social organization, gender stratification and the cultural environment". Taking the latter into account, an ideal future line of research would entail more qualitative type of research instead of quantitative. More specific questionnaires created for each country, including its specificities, as well as focus groups in order to discuss and gather valuable information of the thought processes behind the decision to postpone or not a marriage is rather imperative. Finally, if we apply the line of thinking from Professor Cabré (2006), it would be advantageous to value the experiences in the past at the local level and create, what she calls a "*software or know-how*", meaning that if it is correctly managed and theorized it could surely be exported to other countries where similar outcomes will possibly happen in the near future.

This present investigation has faced several limitations, not only from a methodological point of view, especially when it comes to the data available (see chapter 2, and methodological section in each case study), but also in some more theoretical assumptions. That is on the main definition of child and the age frame that delimits it. For instance, the age at which people gain maturity is difficult to establish and can vary greatly, and circumstances can sometimes speed up the process. The main solution has been given by the legal framework, which identifies becoming an adult at the age of 18. Consequently, by definition, early marriages are those that occur before the person has reached the legal age, even when they occur with the seeming consent of the child, since by legal definition a child cannot give consent (Jensen & Thornton, 2003). However, it poses the question whether some teenage marriages might have the full consent from both bride and groom, in the sense that it has been a well thought decision and an event that has been desired. A perfect example would be those marriages or unions out of love, where the couple share a genuine affection for each other (which in the case of India it could hold true since love marriages are on the rise).

Moreover, it would have been very interesting to being able to compare both men and women and their nuptiality timings, especially taking into account that the documentation on the age at marriage for men in the literature is sparse (Malhotra, 1997), and more so in the case of early marriages due

[75] In a sense, unlike the developed countries, for instance in Latin America, the extension of mandatory schooling occurs in a context of increasing social inequality, weakening of development planning mechanisms and significant uncertainty about future human resource requirements (Tedesco & López, 2002).

to the relative infrequency of men marrying during their teenage years (Mensch et al. 2005). In part, this line of research was achieved for the case study of India, but future investigations ought to include men too in the analysis.

Another issue brought up in the thesis were the transitional events to first sexual activity and first motherhood, as a means to complement the information on the transition to first marriage. Especially in developing regions, both formal and informal unions represent the primary context where sexuality is practiced, particularly, with reproductive purposes and, because of this it is the context where fertility occurs (McDevitt, 1996). Additionally, the age at sexual initiation is used to evaluate the precociousness of exposition to the risk of pregnancy as well as its intensity, which alongside the age at union formation and contraceptive use, are often evaluated in terms of the proximate determinants of fertility (Bongaarts, 1978) and, empirically it has been proved that sexually active adolescents have, on average, a lower probability to use effective contraception compared to adult women (Terry and Manlove, 2000). Therefore, the influence of socio-cultural and environmental variables is extremely important in teenage fertility, given that these characteristics are not only fundamental in defining sexual, marriage and reproductive behaviours, but also for the definition of the role of adolescents in society (Dulanto, 2000). Thus, by investigating other related processes and transitions, such as first sexual intercourse or childbearing, one can begin to build a more contextualized picture.

On a final note, in the literature education has often been used as proxy of socioeconomic development, implying a sense of modernization, in structural explanations of demographic change. As Esteve et al. 2013 assert "it is important to reassess the relative meaning of education and being in union in changing societies" (p.71). Not only that, but even the same us of the word "developing" when referring to countries throughout the globe implies certain connotations behind, not always positive. Maybe it would be interesting to lose the "Western glasses" when analysing family change in other countries that have a different cultural and social background. Probably, in future research on the topic I would like to keep this issue in mind and try my best to overcome this difficult task.

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# ANNEX

# APPENDIX CHAPTER 1: Introduction

**Table I.I : Median age at first marriage/union** among women age 25-49 years, by current age and selected background characteristics (urban/rural type of place of residence, household wealth index, and highest educational level) in South-East Asia, Latin America and Sub-Saharan Africa. The total absolute difference in each background characteristic is included.

| ASIA | Survey | Median age at first marriage | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Age group: 25-49 | | | | | | | | | | | | | |
| | | | Residence | | | Household wealth index | | | | | | Highest educational level | | | |
| | | Total | Urban | Rural | Δ urban/ rural | Lowest | Second | Middle | Fourth | Highest | Δ lowest/ highest | No education | Primary | Secondary or higher | Δ No education/ Secondary or Higher |
| Bangladesh | 2007 DHS | 15,0 | 15,8 | 14,8 | 1,0 | 14,3 | 14,7 | 14,9 | 15,2 | 16,4 | -2,1 | 14,2 | 14,8 | 16,9 | -2,7 |
| | 2011 DHS | 15,5 | 16,2 | 15,3 | 0,9 | 15,0 | 15,0 | 15,2 | 15,6 | 17,0 | -2,0 | 14,7 | 15,0 | 17,2 | -2,5 |
| Cambodia | 2005 DHS | 20,1 | 20,7 | 20,0 | 0,7 | 20,4 | 20,0 | 20,0 | 19,7 | 20,5 | -0,1 | 20,0 | 19,9 | 21,1 | -1,1 |
| | 2010 DHS | 20,3 | 21,9 | 20,0 | 1,9 | 20,2 | 19,9 | 19,9 | 20,0 | 21,7 | -1,5 | 19,7 | 20,1 | 21,7 | -2,0 |
| India | 1998-99 DHS | 17,1 | 18,6 | 16,6 | 2,0 | | | | | | - | 16,0 | 16,9 | 19,6 | -3,6 |
| | 2005-06 DHS | 17,4 | 18,7 | 16,8 | 1,9 | 16,3 | 16,4 | 16,9 | 17,8 | 19,8 | -3,5 | 16,3 | 17,0 | 19,8 | -3,5 |
| Indonesia | 2007 DHS | 19,8 | 21,3 | 18,7 | 2,6 | 18,7 | 18,5 | 19,1 | 19,9 | 21,9 | -3,2 | 17,2 | 18,1 | 22,3 | -5,1 |
| | 2012 DHS | 20,4 | 21,5 | 19,1 | 2,4 | 19,1 | 19,4 | 19,7 | 20,6 | 22,6 | -3,5 | 17,2 | 18,1 | 22,3 | -5,1 |
| Maldives | 2009 DHS | 19,0 | 20,4 | 18,5 | 1,9 | 18,2 | 18,3 | 18,6 | 19,6 | 21,1 | -2,9 | 17,0 | 18,2 | 22,6 | -5,6 |
| Nepal | 2006 DHS | 17,0 | 17,8 | 16,9 | 0,9 | 16,9 | 16,7 | 16,7 | 16,8 | 18,3 | -1,4 | 16,6 | 17,1 | 19,5 | -2,9 |
| | 2011 DHS | 17,5 | 18,5 | 17,4 | 1,1 | 17,0 | 17,1 | 17,0 | 17,5 | 19,1 | -2,1 | 16,6 | 17,3 | 20,0 | -3,4 |
| Pakistan | 2006-07 DHS | 19,1 | 19,7 | 18,8 | 0,9 | 17,7 | 18,7 | 18,9 | 19,2 | 20,7 | -3,0 | 18,2 | 19,1 | 22,1 | -3,9 |
| | 2012-13 DHS | 19,5 | 20,7 | 18,8 | 1,9 | 17,8 | 18,6 | 19,2 | 20,2 | 22,1 | -4,3 | 18,3 | 19,3 | 23,0 | -4,7 |
| Philippines | 2003 DHS | 22,0 | 22,9 | 20,9 | 2,0 | 19,7 | 20,6 | 21,5 | 22,8 | 24,6 | -4,9 | 18,2 | 19,6 | 23,1 | -4,9 |
| | 2008 DHS | 22,2 | 23,2 | 21,0 | 2,2 | 19,8 | 20,8 | 21,5 | 23,3 | | -3,5 | 18,4 | 19,7 | 23,1 | -4,7 |
| Sri Lanka | 1987 DHS | 22,4 | 24,3 | 22,0 | 2,3 | | | | | | - | 18,8 | 19,3 | 22,7 | -3,9 |
| Thailand | 1987 DHS | 20,5 | 23,6 | 20,0 | 3,6 | | | | | | - | 18,7 | 20,0 | | -1,3* |
| Timor-Leste | 2009-10 DHS | 20,9 | 21,1 | 20,8 | 0,3 | 20,9 | 20,8 | 20,7 | 20,5 | 21,3 | -0,4 | 20,7 | 19,7 | 21,8 | -1,1 |
| Vietnam | 1997 DHS | 21,3 | 23,5 | 20,8 | 2,7 | | | | | | - | 20,5 | 20,0 | 21,8 | -1,3 |
| | 2002 DHS | 21,1 | 23,6 | 20,6 | 3,0 | | | | | | - | 19,3 | 20,0 | 21,6 | -2,3 |

| LATIN AMERICA | Survey | Median age at first marriage | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Age group: 25-49 | | | | | | | | | | | | | |
| | | | Residence | | | Household wealth index | | | | | | Highest educational level | | | |
| | | Total | Urban | Rural | Δ urban/ rural | Lowest | Second | Middle | Fourth | Highest | Δ lowest/ highest | No education | Primary | Secondary or higher | Δ No education/ Secondary or Higher |
| Bolivia | 2003 DHS | 20,6 | 21,0 | 20,0 | 1,0 | 19,8 | 19,9 | 19,9 | 20,7 | 22,7 | -2,9 | 19,9 | 19,7 | 22,6 | -2,7 |
| | 2008 DHS | 20,9 | 21,3 | 20,1 | 1,2 | 19,8 | 20,1 | 20,2 | 20,9 | 23,5 | -3,7 | 20,3 | 19,5 | 23,0 | -2,7 |
| Brazil | 1986 DHS | 21,2 | 21,5 | 20,3 | 1,2 | | | | | | - | 19,4 | 20,4 | 25,0 | -5,6 |
| | 1996 DHS | 21,1 | 21,3 | 20,2 | 1,1 | 20,0 | 20,1 | 20,8 | 21,6 | 22,3 | -2,3 | 18,8 | 19,7 | 22,2 | -3,4 |
| Colombia | 2005 DHS | 21,7 | 22,3 | 20,0 | 2,3 | 19,4 | 20,5 | 21,3 | 22,7 | 23,8 | -4,4 | 18,2 | 19,8 | 23,0 | -4,8 |
| | 2010 DHS | 21,5 | 22,1 | 19,8 | 2,3 | 19,1 | 20,3 | 21,2 | 22,3 | 24,3 | -5,2 | 17,7 | 19,2 | 22,8 | -5,1 |
| Dominican Repul | 2002 DHS | 19,0 | 19,3 | 18,5 | 0,8 | 17,3 | 17,8 | 18,5 | 19,6 | 21,5 | -4,2 | 16,3 | 17,5 | 21,5 | -5,2 |
| | 2007 DHS | 18,8 | 19,2 | 18,0 | 1,2 | 17,2 | 17,8 | 18,3 | 19,6 | 21,3 | -4,1 | 16,1 | 17,2 | 20,9 | -4,8 |
| Ecuador | 1987 DHS | 20,1 | 20,5 | 19,5 | 1,0 | | | | | | - | 18,4 | 19,3 | 21,9 | -3,5 |
| | 2004 RHS | 20,5 | 20,9 | 19,8 | 1,1 | | | | | | - | 18,6 | 19,2 | 21,9 | -3,3 |
| El Salvador | 2002-03 RHS | 19,3 | 20,4 | 18,2 | 2,2 | | | | | | - | 16,9 | 18,3 | 21,8 | -4,9 |
| Guatemala | 1998-99 DHS | 19,3 | 20,3 | 18,4 | 1,9 | 17,6 | 18,1 | 18,5 | 19,8 | 21,0 | -3,4 | 17,8 | 19,0 | 21,9 | -4,1 |
| | 2002 RHS | 18,7 | 19,7 | 18,1 | 1,6 | | | | | | - | 17,2 | 18,5 | 22,8 | -5,6 |
| Guyana | 2009 DHS | 20,7 | 23,6 | 19,9 | 3,7 | 18,9 | 19,7 | 20,3 | 21,6 | 22,7 | -3,8 | 17,3 | 19,1 | 21,6 | -4,3 |
| Haiti | 2005-06 DHS | 20,4 | 21,3 | 19,8 | 1,5 | 19,2 | 19,8 | 19,7 | 20,3 | 23,4 | -4,2 | 19,1 | 19,8 | 23,8 | -4,7 |
| | 2012 DHS | 21,8 | 22,8 | 21,1 | 1,7 | 20,5 | 20,5 | 20,9 | 21,9 | 24,7 | -4,2 | 19,7 | 20,5 | | -0,8* |
| Honduras | 2005-06 DHS | 18,9 | 19,6 | 18,2 | 1,4 | 17,9 | 18,0 | 18,2 | 19,1 | 21,0 | -3,1 | 17,5 | 18,1 | 21,6 | -4,1 |
| | 2011-12 DHS | 19,3 | 20,1 | 18,5 | 1,6 | 18,2 | 18,3 | 18,5 | 19,6 | 21,7 | -3,5 | 17,5 | 18,2 | 22,1 | -4,6 |
| Mexico | 1987 DHS | 19,9 | 20,6 | 18,3 | 2,3 | | | | | | - | 17,3 | 19,3 | 22,7 | -5,4 |
| Nicaragua | 1998 DHS | 18,3 | 18,7 | 17,6 | 1,1 | 17,0 | 17,5 | 17,7 | 18,7 | 19,9 | -2,9 | 16,6 | 17,4 | 20,3 | -3,7 |
| | 2001 DHS | 18,2 | 18,7 | 17,3 | 1,4 | 16,7 | 17,2 | 17,7 | 18,5 | 20,0 | -3,3 | 16,4 | 17,4 | 20,1 | -3,7 |
| Paraguay | 1990 DHS | 20,9 | 21,8 | 19,8 | 2,0 | 19,4 | 19,4 | 20,5 | 21,5 | 22,6 | -3,2 | 19,4 | 20,0 | 23,3 | -3,9 |
| | 2004 RHS | 20,7 | 21,6 | 19,2 | 2,4 | | | | | | - | 17,3 | 19,1 | 22,6 | -5,3 |
| Peru | 2011 DHS | 21,6 | 22,6 | 19,5 | 3,1 | 19,1 | 19,9 | 21,0 | 22,5 | | -3,4 | 18,6 | 18,9 | 23,2 | -4,6 |
| | 2012 DHS | 21,6 | 22,4 | 19,7 | 2,7 | 19,3 | 19,7 | 21,0 | 22,6 | | -3,3 | 18,9 | 18,9 | 23,1 | -4,2 |
| Trinidad and Tob | 1987 DHS | 19,6 | 19,9 | 19,4 | 0,5 | | | | | | - | 18,1 | 18,8 | 21,1 | -3,0 |

| SUB-SAHARAN AFRICA | Survey | Median age at first marriage | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Age group: 25-49* | | | | | | | | | | | | | |
| | | | Residence | | | Household wealth index | | | | | | Highest educational level | | | |
| | | Total | Urban | Rural | *Δ urban/ rural* | Lowest | Second | Middle | Fourth | Highest | *Δ lowest/ highest* | No education | Primary | Secondary or higher | *Δ No education/ Secondary or Higher* |
| **Benin** | 2001 DHS | **18,8** | 20,0 | 18,2 | 1,8 | 17,8 | 18,1 | 17,9 | 18,7 | 21,8 | -4,0 | 18,1 | 19,6 | 23,6 | -5,5 |
| | 2006 DHS | **18,6** | 19,8 | 18,1 | 1,7 | 17,7 | 18,0 | 18,2 | 18,8 | 21,2 | -3,5 | 18,1 | 19,6 | 23,5 | -5,4 |
| **Burkina Faso** | 2003 DHS | **17,7** | 19,0 | 17,6 | 1,4 | 17,4 | 17,5 | 17,7 | 17,7 | 18,7 | -1,3 | 17,6 | 18,3 | 23,0 | -5,4 |
| | 2010 DHS | **17,8** | 19,2 | 17,6 | 1,6 | 17,4 | 17,5 | 17,7 | 17,8 | 19,3 | -1,9 | 17,6 | 18,4 | 22,2 | -4,6 |
| **Cote d'Ivoire** | 1998-99 DHS | **18,7** | 19,8 | 18,2 | 1,6 | 18,0 | 18,4 | 18,4 | 18,6 | 20,3 | -2,3 | 17,9 | 19,3 | 22,5 | -4,6 |
| | 2011-12 DHS | **19,7** | 21,1 | 18,8 | 2,3 | 19,1 | 18,9 | 18,9 | 19,7 | 22,5 | -3,4 | 18,7 | 20,6 | 24,3 | -5,6 |
| **Ghana** | 2003 DHS | **19,4** | 20,2 | 18,8 | 1,4 | 18,7 | 18,7 | 18,9 | 19,3 | 21,7 | -3,0 | 18,8 | 18,6 | 20,2 | -1,4 |
| | 2008 DHS | **19,8** | 21,3 | 18,7 | 2,6 | 18,6 | 18,4 | 19,2 | 20,3 | 23,4 | -4,8 | 18,6 | 18,3 | 21,3 | -2,7 |
| **Guinea** | 1999 DHS | **16,4** | 17,4 | 16,0 | 1,4 | 15,9 | 15,9 | 16,1 | 16,4 | 17,8 | -1,9 | 16,1 | 17,1 | 20,1 | -4,0 |
| | 2005 DHS | **16,2** | 17,1 | 15,9 | 1,2 | 15,6 | 15,8 | 16,2 | 16,6 | 17,6 | -2,0 | 16,0 | 17,0 | 19,1 | -3,1 |
| **Liberia** | 2007 DHS | **18,4** | 19,4 | 17,9 | 1,5 | 18,1 | 17,6 | 17,9 | 18,5 | 20,2 | -2,1 | 17,8 | 18,0 | 20,6 | -2,8 |
| **Mali** | 2001 DHS | **16,5** | 17,5 | 16,2 | 1,3 | 16,1 | 16,1 | 16,0 | 16,4 | 18,1 | -2,0 | 16,1 | 17,1 | 21,8 | -5,7 |
| | 2006 DHS | **16,6** | 17,3 | 16,3 | 1,0 | 16,4 | 16,4 | 16,4 | 16,2 | 17,8 | -1,4 | 16,4 | 17,1 | 20,3 | -3,9 |
| **Mauritania** | 2000-01 DHS | **17,1** | 17,5 | 16,8 | 0,7 | 16,2 | 16,6 | 17,0 | 17,1 | 18,3 | -2,1 | 16,2 | 18,5 | 21,6 | -5,4 |
| **Niger** | 1998 DHS | **15,1** | 15,8 | 15,0 | 0,8 | 15,0 | 15,0 | 15,0 | 15,0 | 15,8 | -0,8 | 15,0 | 15,9 | 20,5 | -5,5 |
| | 2006 DHS | **15,5** | 16,7 | 15,4 | 1,3 | 15,4 | 15,3 | 15,4 | 15,5 | 16,3 | -0,9 | 15,4 | 16,5 | 21,5 | -6,1 |
| **Nigeria** | 2003 DHS | **16,6** | 18,9 | 15,9 | 3,0 | 15,0 | 15,1 | 15,9 | 17,4 | 21,8 | -6,8 | 14,8 | 17,3 | 22,0 | -7,2 |
| | 2008 DHS | **18,3** | 21,1 | 16,9 | 4,2 | 15,4 | 15,9 | 17,9 | 19,9 | 23,1 | -7,7 | 15,5 | 18,3 | 23,3 | -7,8 |
| **Senegal** | 2010-11 DHS | **19,3** | 21,5 | 17,7 | 3,8 | 16,5 | 17,7 | 19,1 | 20,6 | 23,2 | -6,7 | 17,9 | 21,5 | | -3,6* |
| **Sierra Leone** | 2008 DHS | **17,0** | 18,4 | 16,5 | 1,9 | 16,6 | 16,6 | 16,3 | 16,9 | 19,4 | -2,8 | 16,4 | 17,8 | 21,4 | -5,0 |
| **Togo** | 1998 DHS | **18,8** | 20,0 | 18,5 | 1,5 | 18,3 | 18,5 | 18,4 | 19,0 | 20,4 | -2,1 | 18,4 | 18,8 | 22,2 | -3,8 |
| **Cameroon** | 2004 DHS | **17,6** | 18,7 | 16,6 | 2,1 | 15,8 | 16,5 | 17,6 | 18,1 | 20,7 | -4,9 | 15,3 | 17,5 | 20,8 | -5,5 |
| | 2011 DHS | **18,5** | 20,0 | 17,3 | 2,7 | 16,0 | 17,6 | 18,1 | 19,4 | 21,9 | -5,9 | 15,8 | 18,1 | 21,8 | -6,0 |
| **Central African Repub** | 1994-95 DHS | **17,3** | 16,9 | 17,6 | -0,7 | 17,9 | 17,8 | 17,2 | 16,7 | 16,8 | 1,1 | 17,4 | 17,0 | 17,7 | -0,3 |
| **Chad** | 1996-97 DHS | **15,8** | 16,0 | 15,8 | 0,2 | 15,6 | 15,7 | 15,9 | 16,0 | 16,0 | -0,4 | 15,7 | 16,5 | 17,9 | -2,2 |
| | 2004 DHS | **15,9** | 16,2 | 15,8 | 0,4 | 15,5 | 15,9 | 16,1 | 15,8 | 16,1 | -0,6 | 15,7 | 16,7 | 18,5 | -2,8 |
| **Congo (Brazzaville)** | 2005 DHS | **20,4** | 21,0 | 19,5 | 1,5 | 19,4 | 19,5 | 20,2 | 20,6 | 21,9 | -2,5 | 18,3 | 19,0 | 21,2 | -2,9 |
| **Congo Democratic Re** | 2007 DHS | **18,6** | 19,2 | 18,2 | 1,0 | 18,4 | 18,3 | 18,1 | 18,3 | 20,3 | -1,9 | 18,1 | 17,8 | 20,0 | -1,9 |
| **Gabon** | 2012 DHS | **22,0** | 22,3 | 19,9 | 2,4 | 20,2 | 20,9 | 21,5 | 22,4 | 24,4 | -4,2 | 19,5 | 20,0 | 23,1 | -3,6 |
| **Sao Tome and Princip** | 2008-09 DHS | **18,8** | 19,0 | 18,6 | 0,4 | 18,3 | 18,5 | 18,3 | 18,9 | 20,0 | -1,7 | 18,2 | 18,4 | 20,5 | -2,3 |
| **Burundi** | 2010 DHS | **20,3** | 22,5 | 20,2 | 2,3 | 20,2 | 20,1 | 20,2 | 20,0 | 21,0 | -0,8 | 19,9 | 20,2 | | -0,3* |
| **Comoros** | 1996 DHS | **18,5** | 19,5 | 18,3 | 1,2 | 17,9 | 17,6 | 18,1 | 18,8 | 20,5 | -2,6 | 17,8 | 18,8 | 23,4 | -5,6 |
| **Eritrea** | 1995 DHS | **16,7** | 18,0 | 16,3 | 1,7 | 16,0 | 16,1 | 16,4 | 16,9 | 18,4 | -2,4 | 16,2 | 17,7 | 21,6 | -5,4 |
| | 2002 DHS | **18,2** | 19,3 | 17,5 | 1,8 | 17,1 | 17,5 | 17,9 | 18,0 | 20,9 | -3,8 | 17,4 | 18,1 | 22,8 | -5,4 |
| **Ethiopia** | 2005 DHS | **16,1** | 18,2 | 15,9 | 2,3 | 16,1 | 15,7 | 16,1 | 15,9 | 17,0 | -0,9 | 15,8 | 16,5 | 21,2 | -5,4 |
| | 2011 DHS | **16,5** | 18,1 | 16,3 | 1,8 | 16,3 | 16,0 | 16,3 | 16,4 | 18,0 | -1,7 | 15,9 | 17,5 | 23,3 | -7,4 |
| **Kenya** | 2003 DHS | **19,7** | 21,4 | 19,3 | 2,1 | 17,8 | 19,0 | 19,3 | 20,2 | 22,0 | -4,2 | 17,3 | 18,9 | 22,7 | -5,4 |
| | 2008-09 DHS | **20,0** | 22,2 | 19,4 | 2,8 | 18,6 | 18,7 | 19,1 | 20,3 | 22,6 | -4,0 | 17,5 | 18,9 | 22,4 | -4,9 |
| **Madagascar** | 2003-04 DHS | **19,1** | 20,2 | 18,8 | 1,4 | 17,6 | 18,1 | 18,5 | 19,8 | 21,3 | -3,7 | 17,2 | 18,7 | 21,3 | -4,1 |
| | 2008-09 DHS | **18,9** | 20,4 | 18,6 | 1,8 | 17,5 | 18,4 | 18,5 | 19,0 | 20,5 | -3,0 | 17,4 | 18,5 | 20,6 | -3,2 |
| **Malawi** | 2004 DHS | **17,9** | 18,5 | 17,8 | 0,7 | 17,7 | 17,8 | 17,6 | 17,8 | 18,8 | -1,1 | 17,3 | 17,8 | 21,5 | -4,2 |
| | 2010 DHS | **17,8** | 18,6 | 17,7 | 0,9 | 17,6 | 17,5 | 17,6 | 17,7 | 18,8 | -1,2 | 17,1 | 17,5 | 20,8 | -3,7 |
| **Mozambique** | 2003 DHS | **17,5** | 18,1 | 17,1 | 1,0 | 17,0 | 17,0 | 17,0 | 17,5 | 18,8 | -1,8 | 17,2 | 17,5 | 21,4 | -4,2 |
| | 2011 DHS | **18,8** | 19,6 | 18,5 | 1,1 | 18,9 | 18,4 | 18,1 | 18,4 | 20,3 | -1,4 | 18,7 | 18,5 | 21,5 | -2,8 |
| **Rwanda** | 2010 DHS | **21,4** | 23,0 | 21,2 | 1,8 | 21,0 | 21,1 | 21,1 | 21,2 | 22,8 | -1,8 | 20,1 | 21,4 | 24,1 | -4,0 |
| **Sudan** | 1989-90 DHS | **17,8** | 19,1 | 17,1 | 2,0 | | | | | | - | 16,2 | 18,3 | | -2,1* |
| **Tanzania** | 2004-05 DHS | **18,6** | 19,4 | 18,3 | 1,1 | 18,3 | 18,0 | 18,2 | 18,7 | 19,9 | -1,6 | 17,5 | 18,6 | 23,6 | -6,1 |
| | 2010 DHS | **18,8** | 19,8 | 18,5 | 1,3 | 18,3 | 18,3 | 18,6 | 18,6 | 20,5 | -2,2 | 17,7 | 18,8 | 23,1 | -5,4 |
| **Uganda** | 2006 DHS | **17,6** | 18,8 | 17,5 | 1,3 | 17,4 | 17,2 | 17,3 | 17,3 | 19,0 | -1,6 | 17,1 | 17,3 | 20,6 | -3,5 |
| | 2011 DHS | **17,9** | 20,0 | 17,6 | 2,4 | 17,5 | 17,4 | 17,5 | 17,5 | 19,7 | -2,2 | 16,9 | 17,4 | 20,8 | -3,9 |
| **Zambia** | 2001-02 DHS | **17,8** | 18,3 | 17,6 | 0,7 | 17,6 | 17,5 | 17,3 | 17,8 | 19,1 | -1,5 | 16,8 | 17,4 | 20,2 | -3,4 |
| | 2007 DHS | **18,2** | 19,1 | 17,8 | 1,3 | 17,7 | 17,8 | 17,7 | 17,9 | 20,4 | -2,7 | 17,3 | 17,5 | 20,9 | -3,6 |
| **Zimbabwe** | 2005-06 DHS | **19,3** | 20,1 | 18,8 | 1,3 | 18,5 | 18,6 | 18,9 | 19,6 | 20,5 | -2,0 | 17,7 | 18,2 | 20,4 | -2,7 |
| | 2010-11 DHS | **19,7** | 20,9 | 19,2 | 1,7 | 18,7 | 19,0 | 19,4 | 20,0 | 21,3 | -2,6 | 17,7 | 18,0 | 20,7 | -3,0 |
| **Botswana** | 1988 DHS | **24,0** | 24,0 | 23,9 | 0,1 | | | | | | - | 23,7 | 23,4 | | 0,3* |
| **Lesotho** | 2004 DHS | **19,1** | 20,9 | 18,7 | 2,2 | 18,1 | 18,4 | 18,8 | 19,2 | 20,3 | -2,2 | 18,1 | 18,4 | 20,7 | -2,6 |
| | 2009 DHS | **19,9** | 21,7 | 19,3 | 2,4 | 18,8 | 19,1 | 19,2 | 19,9 | 21,9 | -3,1 | 17,8 | 18,7 | 21,9 | -4,1 |
| **South Africa** | 1998 DHS | **24,2** | 24,8 | 22,9 | 1,9 | 22,3 | 24,2 | 24,9 | | 22,9 | -0,6 | 21,4 | 23,1 | 24,9 | -3,5 |

(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

* Difference between no education and primary, as the highest level of education.

**Table I.II : Percent distribution of women by highest level of education** attended, according to age, residence, and region.

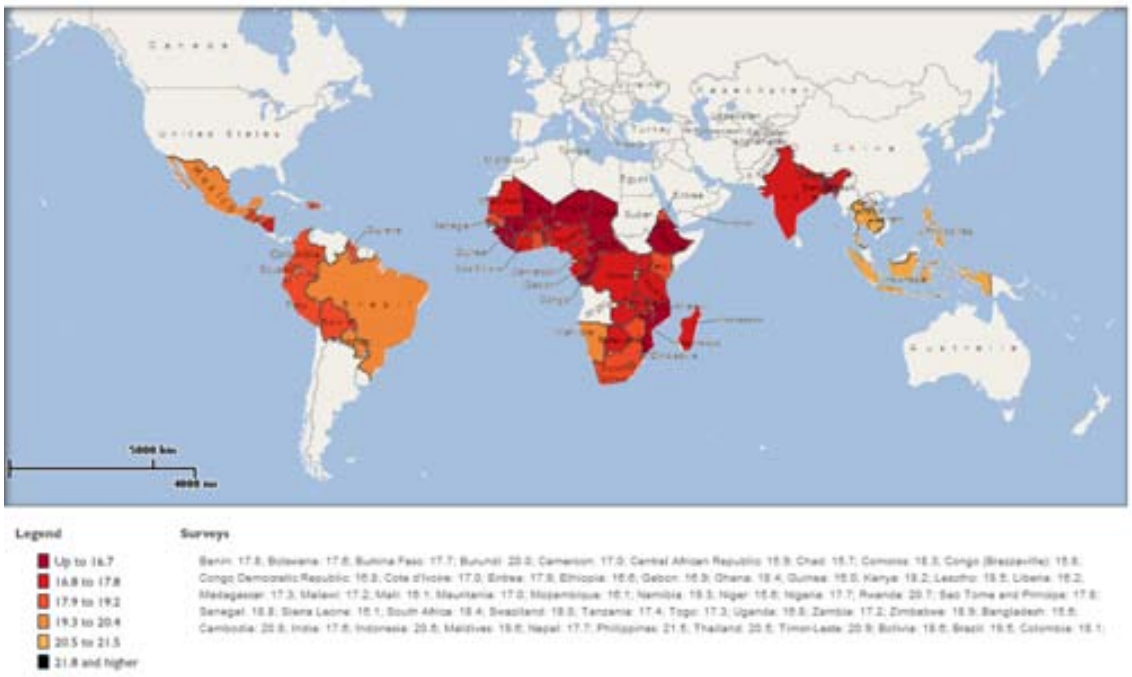
| LATIN AMERICA | Survey | Respondent level of education by background characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Highest educational level: Secondary or higher | | | | | | | | |
| | | Total | Residence | | Age in 5 year categories | | | | | |
| | | | Urban | Rural | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
| Bolivia | 2003 DHS | **47,4** | 60,5 | 18,2 | 60,5 | 48,9 | 40,9 | 34,4 | 30,7 | 27,9 |
| | 2008 DHS | **54,3** | 68,6 | 26,4 | 71,1 | 57,9 | 48,2 | 42,4 | 35,0 | 28,8 |
| Brazil | 1986 DHS | **26,0** | 32,5 | 5,7 | 32,1 | 30,0 | 24,4 | 19,0 | 14,9 | |
| | 1996 DHS | **61,9** | 68,6 | 31,3 | 71,8 | 65,9 | 62,9 | 54,4 | 48,1 | 39,1 |
| Colombia | 2005 DHS | **70,3** | 78,7 | 40,9 | 81,9 | 75,5 | 66,3 | 62,7 | 59,0 | 50,9 |
| | 2010 DHS | **76,1** | 82,7 | 51,4 | 87,7 | 82,1 | 73,6 | 67,4 | 61,4 | 58,4 |
| Dominican Republic | 2002 DHS | **50,6** | 55,9 | 39,1 | 63,2 | 53,9 | 50,3 | 47,5 | 37,5 | 30,2 |
| | 2007 DHS | **59,1** | 64,5 | 45,4 | 74,2 | 64,0 | 56,7 | 51,4 | 48,5 | 36,0 |
| Ecuador | 1987 DHS | **44,7** | 61,9 | 19,7 | 58,6 | 45,6 | 41,1 | 30,5 | 25,8 | 19,6 |
| El Salvador | 1985 DHS | **16,1** | 24,5 | 5,1 | 24,0 | 16,1 | 16,4 | 10,9 | 6,6 | 8,9 |
| Guatemala | 1995 DHS | **24,5** | 43,0 | 10,3 | 27,5 | 24,2 | 22,0 | 17,9 | 16,3 | 16,4 |
| | 1998-99 DHS | **25,4** | 39,3 | 14,1 | 30,6 | 24,2 | 20,3 | 23,1 | 13,1 | 13,8 |
| Guyana | 2009 DHS | **79,6** | 92,2 | 74,3 | 87,4 | 80,4 | 79,4 | 75,6 | 67,8 | 65,8 |
| Haiti | 2005-06 DHS | **37,5** | 55,2 | 22,1 | 54,5 | 49,0 | 36,0 | 23,4 | 18,4 | 9,4 |
| | 2012 DHS | **48,9** | 64,8 | 34,6 | 65,0 | 59,1 | 48,9 | 37,1 | 28,6 | 16,7 |
| Honduras | 2005-06 DHS | **35,3** | 52,3 | 15,6 | 40,2 | 31,6 | 29,3 | 30,2 | 25,3 | 21,4 |
| | 2011-12 DHS | **45,9** | 61,5 | 27,5 | 59,6 | 47,1 | 35,6 | 31,3 | 31,5 | 26,8 |
| Mexico | 1987 DHS | **40,5** | 50,0 | 13,8 | 54,8 | 39,1 | 29,5 | 26,1 | 17,4 | 7,5 |
| Nicaragua | 1998 DHS | **44,0** | 58,1 | 18,0 | 50,4 | 50,8 | 47,1 | 37,6 | 26,5 | 16,8 |
| | 2001 DHS | **46,0** | 62,4 | 18,1 | 53,4 | 46,0 | 47,1 | 42,8 | 31,5 | 27,8 |
| Paraguay | 1990 DHS | **36,1** | 53,4 | 13,8 | 44,6 | 41,2 | 36,0 | 30,5 | 20,6 | 18,4 |
| Peru | 2011 DHS | **75,2** | 86,3 | 42,5 | 86,0 | 77,4 | 71,7 | 68,1 | 62,7 | 59,1 |
| | 2012 DHS | **75,2** | 85,3 | 45,2 | 87,2 | 79,8 | 72,7 | 67,1 | 60,3 | 59,6 |
| Trinidad and Tobago | 1987 DHS | **53,8** | 62,3 | 47,0 | 69,8 | 53,7 | 38,9 | 36,7 | 28,9 | 20,1 |

| ASIA | Survey | Respondent level of education by background characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Highest educational level: Secondary or higher | | | | | | | | |
| | | Total | Residence | | Age in 5 year categories | | | | | |
| | | | Urban | Rural | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
| Bangladesh | 2007 DHS | **36,3** | 48,1 | 32,8 | 53,1 | 39,1 | 28,4 | 23,8 | 16,8 | 15,0 |
| | 2011 DHS | **42,3** | 55,0 | 37,8 | 60,2 | 49,9 | 37,1 | 29,9 | 21,8 | 16,5 |
| Cambodia | 2005 DHS | **24,8** | 42,8 | 20,9 | 27,9 | 23,6 | 23,5 | 22,7 | 7,0 | 8,3 |
| | 2010 DHS | **34,7** | 57,4 | 28,7 | 47,8 | 29,8 | 23,3 | 25,2 | 20,5 | 9,2 |
| India | 1998-99 DHS | **29,6** | 54,5 | 20,8 | 36,3 | 33,7 | 29,8 | 26,4 | 23,9 | 21,8 |
| | 2005-06 DHS | **44,7** | 65,8 | 34,4 | 55,1 | 45,6 | 38,0 | 32,0 | 28,7 | 26,5 |
| Indonesia | 2007 DHS | **45,5** | 61,6 | 34,0 | 60,6 | 56,4 | 50,6 | 47,4 | 33,7 | 23,5 |
| | 2012 DHS | **63,5** | 75,2 | 50,9 | 78,1 | 71,6 | 62,5 | 55,1 | 47,0 | 34,8 |
| Maldives | 2009 DHS | **40,9** | 58,1 | 32,4 | 82,1 | 61,1 | 37,3 | 17,5 | 10,6 | 5,4 |
| Nepal | 2006 DHS | **29,3** | 52,1 | 25,1 | 42,0 | 27,6 | 20,7 | 11,4 | 7,2 | 3,6 |
| | 2011 DHS | **42,8** | 63,7 | 39,2 | 57,8 | 42,4 | 33,6 | 24,1 | 14,8 | 8,6 |
| Pakistan | 2006-07 DHS | **20,8** | 41,4 | 10,5 | 24,3 | 29,0 | 25,3 | 15,7 | 15,7 | 11,0 |
| | 2012-13 DHS | **27,0** | 50,5 | 15,3 | 31,9 | 34,1 | 29,8 | 25,3 | 18,9 | 16,6 |
| Philippines | 2003 DHS | **75,6** | 83,7 | 64,4 | 85,2 | 81,0 | 74,4 | 70,0 | 61,9 | 55,9 |
| | 2008 DHS | **79,3** | 87,3 | 69,1 | 88,8 | 83,9 | 80,1 | 71,9 | 70,0 | 63,1 |
| Sri Lanka | 1987 DHS | **59,1** | 74,7 | 56,2 | 58,5 | 65,5 | 65,9 | 61,4 | 51,7 | 42,6 |
| Thailand | 1987 DHS | **11,8** | 35,8 | 6,5 | 14,3 | 17,1 | 11,6 | 10,5 | 10,1 | 5,5 |
| Timor-Leste | 2009-10 DHS | **47,8** | 69,6 | 40,0 | 63,6 | 50,6 | 42,7 | 34,6 | 22,9 | 10,8 |
| Vietnam | 2002 DHS | **66,9** | 81,2 | 63,5 | 60,2 | 69,5 | 70,8 | 69,9 | 65,7 | 61,5 |
| | 2005 AIS | **75,5** | 86,8 | 72,5 | 77,6 | 71,2 | 71,6 | 73,0 | 70,7 | 71,4 |

| SUB-SAHARAN AFRICA | Survey | Respondent level of education by background characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Highest educational level: Secondary or higher | | | | | | | | |
| | | Total | Residence | | Age in 5 year categories | | | | | |
| | | | Urban | Rural | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
| Benin | 2001 DHS | **13,9** | 26,3 | 5,4 | 14,0 | 10,1 | 13,7 | 11,9 | 9,0 | 8,1 |
| | 2006 DHS | **16,4** | 29,3 | 7,2 | 21,1 | 9,9 | 10,1 | 11,0 | 11,9 | 5,9 |
| Burkina Faso | 2003 DHS | **8,7** | 33,7 | 1,8 | 12,7 | 8,7 | 5,8 | 3,9 | 4,0 | 3,2 |
| | 2010 DHS | **12,4** | 35,2 | 3,9 | 16,6 | 10,4 | 9,4 | 6,2 | 5,6 | 3,9 |
| Cote d'Ivoire | 1998-99 DHS | **15,3** | 28,4 | 5,9 | 20,2 | 15,1 | 13,8 | 11,8 | 12,4 | 4,9 |
| | 2011-12 DHS | **21,4** | 34,8 | 7,3 | 25,8 | 19,8 | 15,1 | 14,5 | 14,8 | 10,2 |
| Ghana | 2003 DHS | **51,8** | 67,7 | 36,9 | 60,2 | 49,0 | 45,4 | 41,4 | 47,1 | 41,4 |
| | 2008 DHS | **58,6** | 73,5 | 44,7 | 67,1 | 61,7 | 51,1 | 48,6 | 47,2 | 44,1 |
| Guinea | 1999 DHS | **9,4** | 24,2 | 2,3 | 11,6 | 8,1 | 10,0 | 8,3 | 7,9 | 6,2 |
| | 2005 DHS | **11,1** | 28,4 | 3,3 | 15,4 | 5,9 | 7,5 | 6,2 | 8,0 | 5,5 |
| Liberia | 2007 DHS | **25,4** | 45,8 | 10,4 | 34,9 | 26,2 | 23,9 | 24,4 | 20,4 | 13,2 |
| | 2009 MIS | **28,2** | 46,1 | 9,9 | 39,0 | 28,2 | 22,7 | 21,3 | 27,1 | 16,0 |
| Mali | 2001 DHS | **8,7** | 25,1 | 1,6 | 10,0 | 7,1 | 7,1 | 7,6 | 5,6 | 4,1 |
| | 2006 DHS | **10,3** | 24,4 | 3,1 | 13,3 | 5,3 | 6,0 | 5,2 | 7,4 | 6,2 |
| Mauritania | 2000-01 DHS | **14,9** | 27,2 | 4,5 | 20,8 | 18,1 | 13,9 | 7,8 | 3,0 | 5,5 |
| Niger | 1998 DHS | **5,3** | 22,0 | 1,0 | 8,7 | 5,0 | 4,6 | 2,8 | 1,1 | 1,4 |
| | 2006 DHS | **6,1** | 25,8 | 1,2 | 7,1 | 4,9 | 5,2 | 4,1 | 3,3 | 1,7 |
| Nigeria | 2003 DHS | **37,0** | 55,6 | 27,3 | 48,3 | 41,3 | 30,4 | 25,7 | 17,5 | 10,0 |
| | 2008 DHS | **44,6** | 66,7 | 32,3 | 55,3 | 46,0 | 39,8 | 35,1 | 29,4 | 18,5 |
| Senegal | 2008-09 MIS | **17,7** | 28,5 | 8,1 | 19,5 | 13,3 | 12,3 | 8,6 | 10,5 | 9,8 |
| | 2010-11 DHS | **20,4** | 32,8 | 8,3 | 24,4 | 13,9 | 13,0 | 11,2 | 11,0 | 10,4 |
| Sierra Leone | 2008 DHS | **21,1** | 46,1 | 7,0 | 28,0 | 14,5 | 18,2 | 14,0 | 16,4 | 10,5 |
| Togo | 1988 DHS | **12,5** | 24,6 | 5,9 | 18,0 | 18,7 | 8,6 | 5,4 | 3,8 | 0,4 |
| | 1998 DHS | **17,0** | 32,4 | 7,7 | 20,8 | 14,3 | 17,5 | 13,8 | 12,4 | 5,8 |
| Angola | 2006-07 MIS | **16,8** | 27,1 | 1,2 | 25,1 | 19,3 | 12,0 | 12,0 | 12,6 | 12,1 |
| Cameroon | 2004 DHS | **39,1** | 56,2 | 18,3 | 45,0 | 41,0 | 35,8 | 30,2 | 23,9 | 17,5 |
| | 2011 DHS | **46,2** | 65,1 | 24,1 | 54,5 | 43,2 | 39,5 | 35,0 | 30,1 | 25,4 |
| Central African Republic | 1994-95 DHS | **13,5** | 26,7 | 3,7 | 19,4 | 17,6 | 15,7 | 7,5 | 4,1 | 0,7 |
| Chad | 1996-97 DHS | **3,8** | 14,0 | 0,7 | 6,1 | 4,0 | 3,3 | 2,3 | 1,3 | 0,6 |
| | 2004 DHS | **6,4** | 22,8 | 2,0 | 9,5 | 6,4 | 2,9 | 3,1 | 2,0 | 1,6 |
| Congo (Brazzaville) | 2005 DHS | **62,4** | 77,5 | 42,8 | 61,5 | 67,0 | 66,0 | 70,0 | 63,4 | 45,6 |
| Congo Democratic Repub | 2007 DHS | **40,6** | 65,0 | 20,4 | 44,6 | 42,9 | 42,7 | 39,6 | 28,6 | 23,8 |
| Gabon | 2000 DHS | **58,7** | 65,7 | 30,5 | 62,7 | 65,0 | 62,6 | 53,5 | 42,6 | 33,2 |
| | 2012 DHS | **74,4** | 77,6 | 49,3 | 83,5 | 75,7 | 72,0 | 64,4 | 66,9 | 49,0 |
| Sao Tome and Principe | 2008-09 DHS | **36,1** | 43,3 | 27,4 | 44,2 | 33,3 | 30,1 | 22,1 | 23,9 | 15,2 |
| Burundi | 1987 DHS | **2,2** | 30,3 | 1,0 | 2,8 | 2,9 | 2,9 | 1,1 | 2,4 | 0,9 |
| | 2010 DHS | **12,1** | 46,8 | 8,0 | 16,6 | 10,9 | 9,5 | 7,0 | 3,8 | 2,4 |
| Comoros | 1996 DHS | **20,6** | 39,4 | 12,6 | 31,1 | 30,6 | 22,0 | 9,2 | 4,7 | 0,5 |
| Eritrea | 1995 DHS | **16,0** | 42,3 | 3,3 | 26,6 | 13,9 | 9,1 | 6,5 | 4,3 | 2,5 |
| | 2002 DHS | **20,1** | 41,2 | 4,2 | 26,3 | 24,7 | 14,8 | 13,1 | 9,6 | 4,0 |
| Ethiopia | 2005 DHS | **11,9** | 50,9 | 3,5 | 17,3 | 12,1 | 9,8 | 7,2 | 5,9 | 2,8 |
| | 2011 DHS | **11,2** | 35,2 | 3,6 | 21,9 | 9,9 | 8,6 | 6,4 | 4,9 | 2,3 |
| Kenya | 2003 DHS | **29,3** | 48,2 | 23,0 | 34,2 | 31,1 | 33,3 | 31,0 | 30,0 | 19,8 |
| | 2008-09 DHS | **34,3** | 57,6 | 26,3 | 38,6 | 34,6 | 34,9 | 33,5 | 35,6 | 27,0 |
| Madagascar | 2003-04 DHS | **30,8** | 56,9 | 22,2 | 31,1 | 30,6 | 36,4 | 36,7 | 25,6 | 23,6 |
| | 2008-09 DHS | **32,1** | 67,6 | 24,6 | 30,5 | 25,0 | 27,2 | 32,6 | 35,7 | 26,3 |
| Malawi | 2004 DHS | **15,5** | 40,2 | 10,1 | 23,9 | 16,9 | 8,5 | 6,4 | 4,6 | 4,7 |
| | 2010 DHS | **20,0** | 45,7 | 14,1 | 28,1 | 24,4 | 18,9 | 9,7 | 7,8 | 3,9 |
| Mozambique | 2003 DHS | **7,8** | 19,3 | 1,2 | 10,2 | 6,8 | 5,3 | 6,0 | 4,2 | 2,4 |
| | 2011 DHS | **18,5** | 40,1 | 7,1 | 25,9 | 18,1 | 13,2 | 9,9 | 7,1 | 5,6 |
| Rwanda | 2007-08 DHS | **11,6** | 28,4 | 8,1 | 14,3 | 10,1 | 12,2 | 10,1 | 8,4 | 5,0 |
| | 2010 DHS | **16,2** | 37,5 | 12,4 | 21,8 | 10,8 | 11,6 | 14,0 | 12,2 | 7,2 |
| Sudan | 1989-90 DHS | **15,2** | 28,5 | 7,3 | 27,1 | 21,4 | 16,3 | 7,3 | 5,4 | 2,0 |
| Tanzania | 2004-05 DHS | **8,6** | 21,5 | 3,4 | 10,1 | 9,2 | 8,7 | 5,2 | 4,9 | 3,0 |
| | 2010 DHS | **16,2** | 32,2 | 9,9 | 19,5 | 11,6 | 9,4 | 6,5 | 6,8 | 6,8 |
| Uganda | 2006 DHS | **21,3** | 51,6 | 15,2 | 29,2 | 21,7 | 15,6 | 11,9 | 11,9 | 8,1 |
| | 2011 DHS | **27,7** | 58,9 | 20,0 | 40,4 | 31,3 | 22,9 | 17,0 | 15,8 | 9,4 |
| Zambia | 2001-02 DHS | **30,0** | 50,4 | 16,3 | 35,1 | 33,0 | 29,2 | 22,5 | 19,5 | 14,9 |
| | 2007 DHS | **35,1** | 59,7 | 17,3 | 41,0 | 36,4 | 27,4 | 24,1 | 24,2 | 21,5 |
| Zimbabwe | 2005-06 DHS | **63,1** | 84,6 | 49,3 | 75,3 | 68,3 | 65,2 | 61,1 | 30,5 | 17,1 |
| | 2010-11 DHS | **69,7** | 86,0 | 59,4 | 77,2 | 73,5 | 69,4 | 64,6 | 60,9 | 30,5 |
| Botswana | 1988 DHS | **26,0** | 35,5 | 21,9 | 35,5 | 24,5 | 20,3 | 12,1 | 12,9 | 7,9 |
| Lesotho | 2004 DHS | **38,7** | 57,7 | 32,8 | 45,8 | 45,6 | 38,8 | 40,1 | 26,6 | 17,3 |
| | 2009 DHS | **52,2** | 69,3 | 43,5 | 60,4 | 53,0 | 48,7 | 45,1 | 41,8 | 31,9 |
| Namibia | 2000 DHS | **57,4** | 73,1 | 46,4 | 73,9 | 66,1 | 56,6 | 46,4 | 39,1 | 34,5 |
| | 2006-07 DHS | **68,5** | 81,1 | 56,6 | 79,4 | 75,6 | 69,1 | 57,0 | 53,4 | 39,9 |
| South Africa | 1998 DHS | **68,3** | 77,7 | 53,9 | 84,1 | 74,5 | 64,7 | 58,4 | 50,3 | 44,4 |
| Swaziland | 2006-07 DHS | **59,3** | 73,5 | 54,1 | 68,9 | 68,2 | 61,6 | 53,7 | 46,6 | 38,3 |

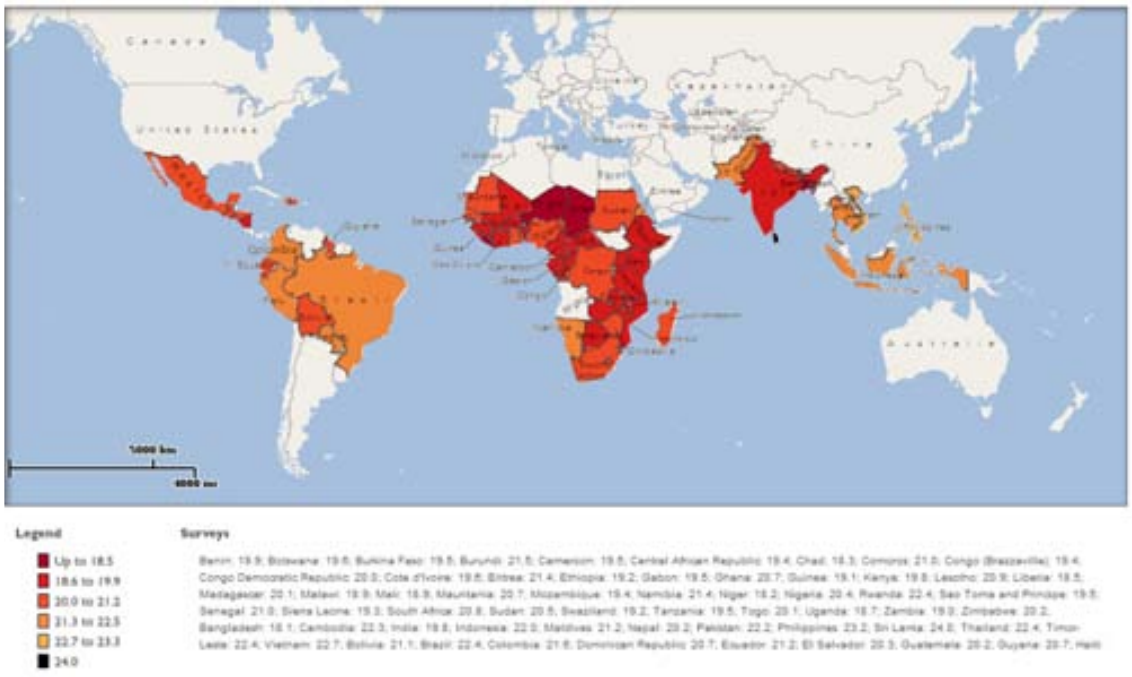
(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

**Map I.I : Median age at first sexual intercourse among women aged 25-49 (national and by sub-regions):**



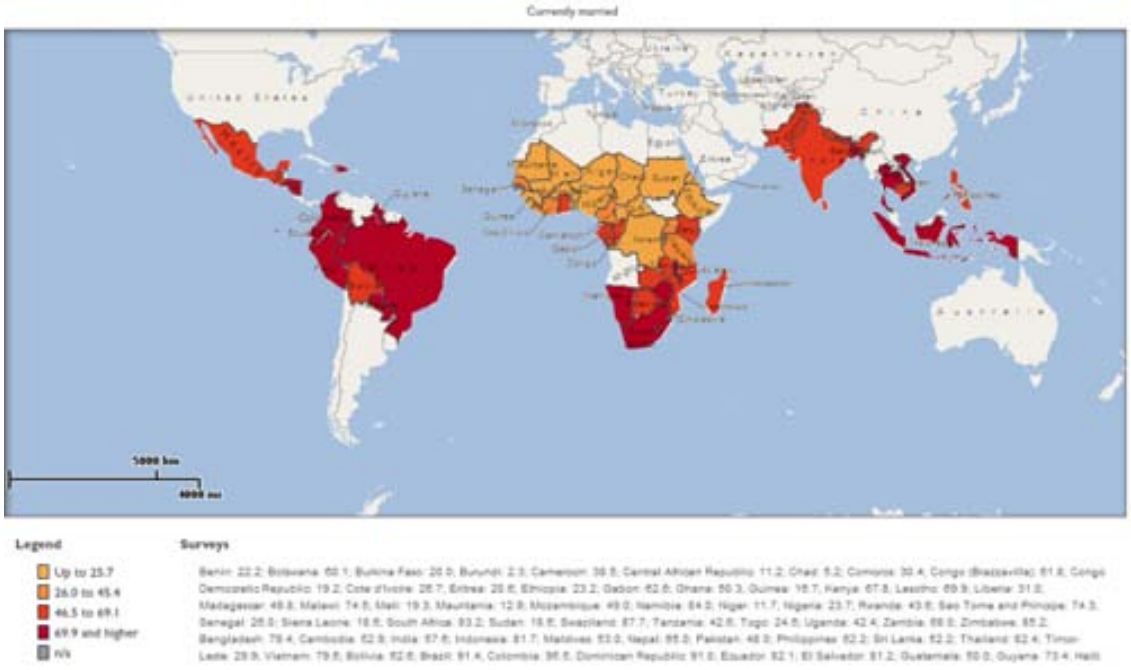

(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

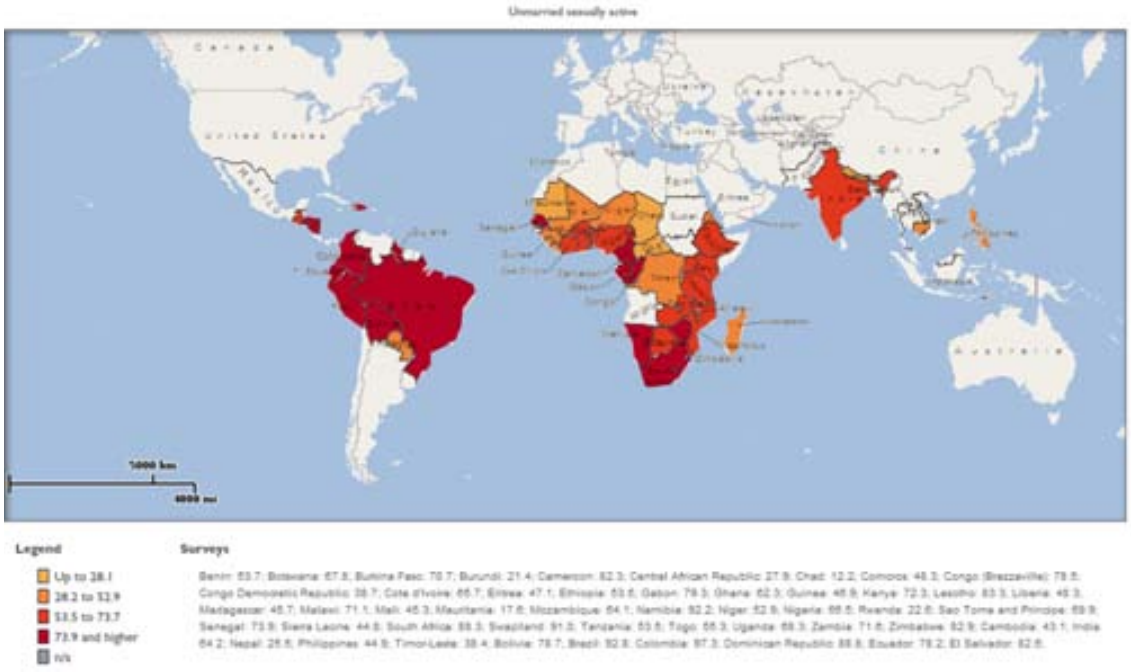
**Map I.II : Median age at first birth among women aged 25-49 (national and by sub-regions):**




(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

**Map I.III : Percentage of currently married and of sexually active unmarried women who have ever used any modern method of contraception (aged 25+)**



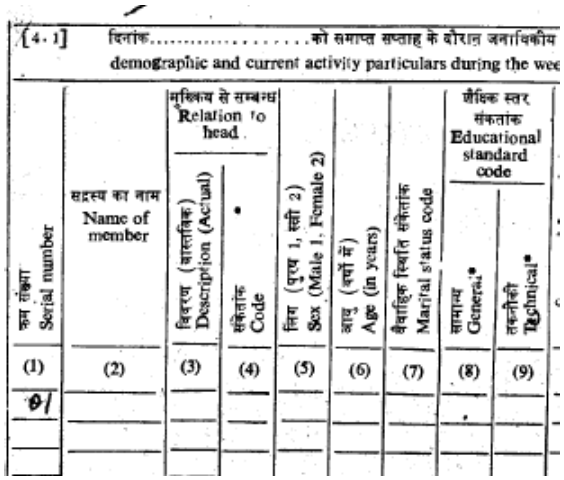




(Data source: ICF International, 2012. MEASURE DHS STATcompiler)

# APPENDIX CHAPTER 2: Data and Methods

**APPENDIX II.I : Survey questionnaire examples**

- Example of the 1983 Questionnaire of the Indian National Survey (provided by IPUMS-International) for the marital status question:

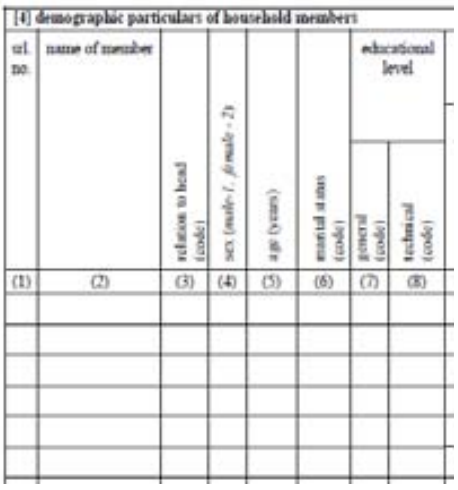


[4-1] दिनांक.....को समाप्त सप्ताह के दौरान जनांकिकीय
demographic and current activity particulars during the wee

| क्रम संख्या Serial number | सदस्य का नाम Name of member | मुखिया से सम्बन्ध Relation to head | | लिंग (पुरुष 1, स्त्री 2) Sex (Male 1, Female 2) | आयु (वर्षों में) Age (in years) | वैवाहिक स्थिति संकेतांक Marital status code | शैक्षिक स्तर संकेतांक Educational standard code | |
|---|---|---|---|---|---|---|---|---|
| | | विवरण (वास्तविक) Description (Actual) | संकेतांक Code | | | | सामान्य General* | तकनीकी Technical* |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 01 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Col. 7-marital status code: never married-1, currently married-2, widower/divorced/separated-3.

- Example of the 2004 Questionnaire of the Indian National Survey (provided by IPUMS-International) for the marital status question:



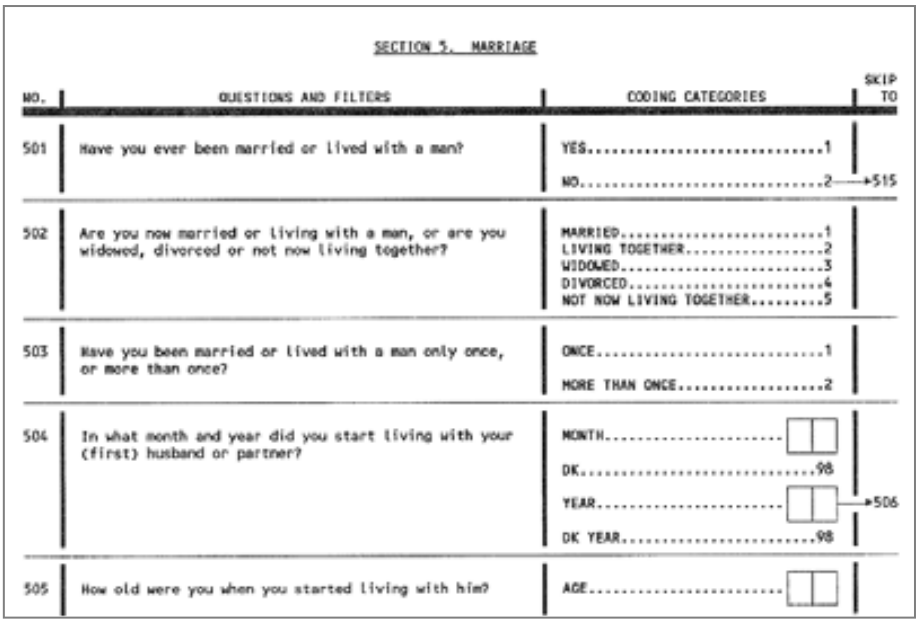
[4] demographic particulars of household members

| srl. no. | name of member | relation to head (code) | sex (male-1, female-2) | age (years) | marital status (code) | educational level | |
|---|---|---|---|---|---|---|---|
| | | | | | | general (code) | technical (code) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

*col. (6): marital status:*
*never married -1, currently married -2, widowed -3, divorced/separated -4.*

*col. (7): educational level - general:*
*not literate -01,* literate without formal schooling: *EGS/ NFEC/ AEC -02, TLC -03, others -04;* literate: *below primary -05, primary -06, middle -07, secondary -08, higher secondary -10, diploma/certificate course -11, graduate -12, postgraduate and above -13.*

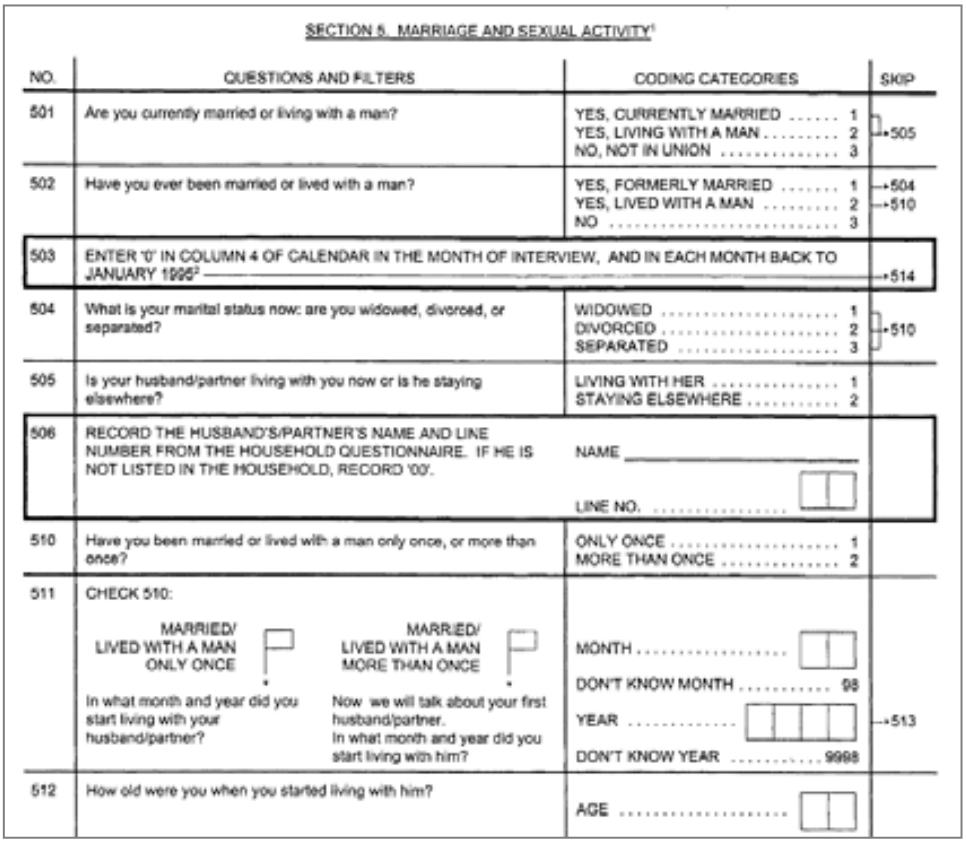
- Example of the DHS Questionnaire Phase 1 (1984-89):



SECTION 5. MARRIAGE

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP TO |
|---|---|---|---|
| 501 | Have you ever been married or lived with a man? | YES.....1<br>NO.....2 | →515 |
| 502 | Are you now married or living with a man, or are you widowed, divorced or not now living together? | MARRIED.....1<br>LIVING TOGETHER.....2<br>WIDOWED.....3<br>DIVORCED.....4<br>NOT NOW LIVING TOGETHER.....5 | |
| 503 | Have you been married or lived with a man only once, or more than once? | ONCE.....1<br>MORE THAN ONCE.....2 | |
| 504 | In what month and year did you start living with your (first) husband or partner? | MONTH.....<br>DK.....98<br>YEAR.....<br>DK YEAR.....98 | →506 |
| 505 | How old were you when you started living with him? | AGE..... | |

- Example of the DHS Questionnaire Phase 4 (1997-2003):



SECTION 5. MARRIAGE AND SEXUAL ACTIVITY[1]

| NO. | QUESTIONS AND FILTERS | CODING CATEGORIES | SKIP |
|---|---|---|---|
| 501 | Are you currently married or living with a man? | YES, CURRENTLY MARRIED ..... 1<br>YES, LIVING WITH A MAN ..... 2<br>NO, NOT IN UNION ..... 3 | →505 |
| 502 | Have you ever been married or lived with a man? | YES, FORMERLY MARRIED ..... 1<br>YES, LIVED WITH A MAN ..... 2<br>NO ..... 3 | →504<br>→510 |
| 503 | ENTER '0' IN COLUMN 4 OF CALENDAR IN THE MONTH OF INTERVIEW, AND IN EACH MONTH BACK TO JANUARY 1995[2] | | →514 |
| 504 | What is your marital status now: are you widowed, divorced, or separated? | WIDOWED ..... 1<br>DIVORCED ..... 2<br>SEPARATED ..... 3 | →510 |
| 505 | Is your husband/partner living with you now or is he staying elsewhere? | LIVING WITH HER ..... 1<br>STAYING ELSEWHERE ..... 2 | |
| 506 | RECORD THE HUSBAND'S/PARTNER'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'. | NAME _____<br>LINE NO. ..... | |
| 510 | Have you been married or lived with a man only once, or more than once? | ONLY ONCE ..... 1<br>MORE THAN ONCE ..... 2 | |
| 511 | CHECK 510:<br>MARRIED/ LIVED WITH A MAN ONLY ONCE → In what month and year did you start living with your husband/partner?<br>MARRIED/ LIVED WITH A MAN MORE THAN ONCE → Now we will talk about your first husband/partner. In what month and year did you start living with him? | MONTH .....<br>DON'T KNOW MONTH ..... 98<br>YEAR .....<br>DON'T KNOW YEAR ..... 9998 | →513 |
| 512 | How old were you when you started living with him? | AGE ..... | |

- Example of the DHS Questionnaire Phase 4 (1997-2003) for the age and educational background of the respondent:

| | | | |
|---|---|---|---|
| 105 | In what month and year were you born? | MONTH ..... ☐☐<br>DON'T KNOW MONTH ..... 98<br>YEAR ..... ☐☐☐☐<br>DON'T KNOW YEAR ..... 9998 | |
| 106 | How old were you at your last birthday?<br><br>COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT. | AGE IN COMPLETED YEARS ☐☐ | |
| 107 | Have you ever attended school? | YES ..... 1<br>NO ..... 2 | →111 |
| 108 | What is the highest level of school you attended: primary, secondary, or higher?[2] | PRIMARY ..... 1<br>SECONDARY ..... 2<br>HIGHER ..... 3 | |
| 109 | What is the highest (grade/form/year) you completed at that level?[2] | GRADE ..... ☐☐ | |

[1] Wording of this paragraph should be modified in countries where participation is legally required.
[2] Revise according to the local education system.

## APPENDIX II.II : Summary tables for India, Kenya and Colombia

### India: Ever married proportions and number of cases by sex, age, educational attainment level, urban/rural, and year

| FEMALES: | | India 1983 | | India 1987 | | India 1993 | | India 1999 | | India 2004 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married |
| Rural | | 74381 | 82,21 | 83279 | 81,03 | 69925 | 78,02 | 72533 | 75,74 | 74242 | 72,96 |
| Urban | | 25011 | 68,58 | 25999 | 67,23 | 24573 | 65,05 | 26574 | 62,95 | 26939 | 61,84 |
| AGE GROUPS AND LEVEL OF EDUCATION: | Less primary | 17096 | 58,63 | 16727 | 55,77 | 11837 | 47,11 | 9812 | 41,88 | 7935 | 38,63 |
| | Primary | 8266 | 22,93 | 9354 | 21,27 | 8686 | 17,28 | 10596 | 16,98 | 11705 | 15,37 |
| 15-19 | Secondary | 2668 | 9,29 | 3608 | 10,55 | 4745 | 8,21 | 6088 | 8,79 | 7408 | 7,10 |
| | Universitary | 111 | 15,95 | 120 | 14,64 | 63 | 4,38 | 98 | 8,52 | 110 | 9,41 |
| | **Total 15-19** | **28141** | **43,30** | **29809** | **39,31** | **25332** | **29,49** | **26594** | **24,26** | **27158** | **19,88** |
| | Less primary | 18907 | 93,40 | 20569 | 93,26 | 15057 | 92,40 | 12847 | 91,79 | 11515 | 90,38 |
| | Primary | 5681 | 78,45 | 6271 | 77,64 | 5560 | 78,88 | 6463 | 79,19 | 7845 | 76,59 |
| 20-24 | Secondary | 2159 | 51,62 | 2949 | 52,55 | 3484 | 52,69 | 4681 | 54,00 | 5473 | 53,23 |
| | Universitary | 727 | 33,78 | 956 | 35,55 | 1176 | 31,00 | 1646 | 32,92 | 1909 | 31,90 |
| | **Total 20-24** | **27473** | **85,45** | **30744** | **84,37** | **25276** | **81,10** | **25637** | **77,94** | **26742** | **74,56** |
| | Less primary | 17608 | 98,44 | 19434 | 97,97 | 15769 | 98,02 | 14444 | 97,66 | 11807 | 97,75 |
| | Primary | 4571 | 94,26 | 4973 | 95,41 | 4708 | 95,54 | 5797 | 94,67 | 6540 | 95,62 |
| 25-29 | Secondary | 1453 | 86,23 | 1775 | 87,99 | 2058 | 87,70 | 3041 | 90,48 | 3477 | 89,99 |
| | Universitary | 665 | 74,26 | 829 | 75,58 | 1004 | 77,47 | 1397 | 78,91 | 1867 | 77,06 |
| | **Total 25-29** | **24297** | **96,26** | **27011** | **96,15** | **23539** | **95,75** | **24678** | **95,01** | **23691** | **94,39** |
| | Less primary | 15258 | 99,24 | 16284 | 99,08 | 14274 | 99,10 | 14666 | 98,94 | 14096 | 98,70 |
| | Primary | 3059 | 98,42 | 3645 | 97,10 | 3813 | 97,91 | 4376 | 97,69 | 5488 | 98,09 |
| 30-34 | Secondary | 805 | 94,43 | 1190 | 93,13 | 1578 | 96,08 | 2104 | 95,88 | 2738 | 96,96 |
| | Universitary | 359 | 93,94 | 594 | 92,01 | 687 | 93,40 | 1052 | 93,37 | 1267 | 92,75 |
| | **Total 30-34** | **19481** | **98,81** | **21714** | **98,23** | **20352** | **98,45** | **22199** | **98,14** | **23589** | **98,03** |
| Total general | | **99392** | **78,78** | **109277** | **77,74** | **94499** | **74,65** | **99108** | **72,31** | **101181** | **70,00** |

| MALES: | | India 1983 | | India 1987 | | India 1993 | | India 1999 | | India 2004 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married |
| Rural | | 73499 | 56,30 | 83450 | 55,39 | 71042 | 51,84 | 72168 | 49,61 | 72994 | 47,71 |
| Urban | | 28373 | 43,90 | 28721 | 42,69 | 27132 | 40,69 | 28897 | 38,47 | 30194 | 36,97 |
| AGE GROUPS AND LEVEL OF EDUCATION: | Less primary | 12327 | 16,17 | 12037 | 14,56 | 9014 | 9,70 | 7374 | 7,59 | 6212 | 5,79 |
| | Primary | 14535 | 8,87 | 16480 | 8,03 | 14164 | 5,18 | 15535 | 3,90 | 15935 | 2,93 |
| 15-19 | Secondary | 4647 | 8,06 | 5767 | 6,23 | 7305 | 4,18 | 8268 | 2,68 | 9543 | 1,61 |
| | Universitary | 119 | 15,07 | 158 | 7,76 | 83 | 2,93 | 120 | 5,36 | 91 | 6,64 |
| | **Total 15-19** | **31629** | **11,62** | **34442** | **10,01** | **30566** | **6,27** | **31298** | **4,45** | **31781** | **3,10** |
| | Less primary | 11053 | 57,68 | 11437 | 57,31 | 8222 | 54,61 | 6845 | 52,16 | 6343 | 51,05 |
| | Primary | 9221 | 44,39 | 9548 | 40,72 | 7873 | 38,23 | 8731 | 36,34 | 10098 | 35,10 |
| 20-24 | Secondary | 4642 | 27,68 | 6056 | 26,08 | 7067 | 25,17 | 7754 | 21,75 | 7920 | 18,69 |
| | Universitary | 1216 | 20,33 | 1562 | 20,13 | 1531 | 19,07 | 1838 | 14,95 | 2230 | 14,09 |
| | **Total 20-24** | **26131** | **45,92** | **28603** | **43,13** | **24694** | **38,76** | **25169** | **34,58** | **26591** | **32,25** |
| | Less primary | 11099 | 87,41 | 12800 | 88,93 | 9425 | 87,53 | 8381 | 85,04 | 6835 | 84,80 |
| | Primary | 8045 | 80,22 | 8238 | 79,59 | 6728 | 77,74 | 7379 | 75,28 | 8360 | 73,30 |
| 25-29 | Secondary | 3323 | 68,28 | 3790 | 68,24 | 4182 | 65,44 | 5574 | 66,19 | 5673 | 64,62 |
| | Universitary | 1562 | 56,48 | 1811 | 55,90 | 2047 | 48,00 | 2440 | 49,67 | 2583 | 48,99 |
| | **Total 25-29** | **24029** | **80,35** | **26639** | **80,85** | **22383** | **76,85** | **23774** | **73,96** | **23451** | **71,88** |
| | Less primary | 10049 | 94,66 | 11229 | 95,47 | 9511 | 95,45 | 8659 | 95,13 | 7099 | 94,36 |
| | Primary | 5992 | 95,09 | 6717 | 94,39 | 6060 | 93,68 | 5949 | 92,29 | 7126 | 93,48 |
| 30-34 | Secondary | 2807 | 90,46 | 3026 | 90,55 | 3229 | 90,80 | 4170 | 90,03 | 4797 | 88,73 |
| | Universitary | 1235 | 89,17 | 1515 | 89,74 | 1731 | 86,50 | 2046 | 85,79 | 2343 | 83,31 |
| | **Total 30-34** | **20083** | **93,86** | **22487** | **94,10** | **20531** | **93,44** | **20825** | **92,38** | **21366** | **91,59** |
| **Total general** | | **101872** | **52,84** | **112172** | **52,14** | **98174** | **48,76** | **101065** | **46,42** | **103188** | **44,57** |

Source: India National Survey. IPUMS-International (own calculations)

**Kenya: Proportions married before ages 16, 18, 20, and 22, with number of cases by cohort, educational attainment level, urban/rural, region, main ethnicities, and survey year**

| VARIABLES | | nº cases | % married before age 16 | % married before age 18 | % married before age 20 | % married before age 22 |
|---|---|---|---|---|---|---|
| COHORT | 1944-1948 | **1105** | 42,3 | 63,8 | 79,8 | 87,5 |
| | 1949-1953 | **2028** | 40,0 | 60,1 | 76,3 | 87,0 |
| | 1954-1958 | **3021** | 36,9 | 57,3 | 74,3 | 85,0 |
| | 1959-1963 | **4941** | 30,2 | 52,1 | 70,1 | 79,7 |
| | 1964-1968 | **5281** | 23,5 | 43,2 | 61,3 | 73,4 |
| | 1969-1973 | **4742** | 20,0 | 38,0 | 56,5 | 68,0 |
| | 1974-1978 | **4029** | 18,2 | 37,5 | 56,4 | 68,9 |
| | 1979-1983 | **2912** | 17,5 | 35,9 | 54,7 | 63,9 |
| | 1984-1988 | **1703** | 18,6 | 35,5 | 53,8 | 62,0 |
| EDUCATIONAL ATTAINMENT LEVEL | No education | **5133** | 50,4 | 69,7 | 82,2 | 88,6 |
| | Less than primary | **6919** | 39,5 | 63,4 | 79,7 | 87,1 |
| | Primary | **11473** | 18,5 | 42,6 | 63,9 | 75,8 |
| | Secondary and More | **6237** | 3,0 | 10,1 | 28,4 | 44,2 |
| URBAN/RURAL TYPE OF PLACE OF RESIDENCE | Urban | **6829** | 16,8 | 30,6 | 47,2 | 58,6 |
| | Rural | **22933** | 28,3 | 49,6 | 68,1 | 78,6 |
| REGION | Nairobi | **2726** | 13,5 | 25,3 | 41,4 | 52,4 |
| | Central | **3989** | 12,8 | 31,7 | 53,2 | 66,8 |
| | Coast | **2438** | 38,1 | 54,0 | 68,9 | 77,5 |
| | Eastern | **5355** | 19,5 | 40,4 | 60,4 | 73,4 |
| | Nyanza | **4898** | 38,3 | 58,9 | 75,7 | 83,1 |
| | Rift Valley | **6876** | 28,6 | 49,1 | 65,0 | 75,7 |
| | Western | **3481** | 27,1 | 50,9 | 71,6 | 81,5 |
| MAIN ETHNICITIES | Kalenjin | **3403** | 30,4 | 51,7 | 66,4 | 76,1 |
| | Kamba | **3641** | 17,4 | 38,1 | 59,4 | 72,0 |
| | Kikuyu | **6447** | 13,1 | 31,0 | 50,9 | 63,8 |
| | Luhya | **4538** | 25,7 | 47,5 | 66,7 | 77,9 |
| | Luo | **3778** | 41,6 | 62,6 | 78,2 | 84,2 |
| | Other ethnicities | **7956** | - | - | - | - |
| DHS SURVEY YEAR | 1988 | **5143** | 34,8 | 55,6 | 72,5 | 81,1 |
| | 1993 | **5741** | 27,7 | 48,0 | 65,8 | 76,4 |
| | 1998 | **5965** | 25,9 | 45,0 | 62,5 | 73,9 |
| | 2003 | **6286** | 20,4 | 40,4 | 59,7 | 71,4 |
| | 2008 | **6628** | 21,5 | 39,6 | 58,0 | 69,0 |
| Total | | 29763 | 25,6 | 45,3 | 63,3 | 74,0 |

Source: Kenyan Demographic and Health Surveys 1988-2008 (own calculations)

**Colombia: Proportions married before ages 16, 18, 20, and 22, with number of cases by cohort, educational attainment level, urban/rural, region, and survey year**

| VARIABLES | | nº cases | % married before age 16 | % married before age 18 | % married before age 20 | % married before age 22 |
|---|---|---|---|---|---|---|
| COHORT | 1941-1945 | 698 | 20,2 | 39,7 | 56,7 | 67,3 |
| | 1946-1950 | 1725 | 19,5 | 35,7 | 51,0 | 62,8 |
| | 1951-1955 | 3340 | 16,4 | 32,8 | 47,8 | 61,2 |
| | 1956-1960 | 8558 | 15,6 | 31,4 | 48,9 | 61,1 |
| | 1961-1965 | 15676 | 15,5 | 30,7 | 44,6 | 56,2 |
| | 1966-1970 | 16746 | 14,7 | 29,4 | 44,4 | 56,2 |
| | 1971-1975 | 14888 | 16,7 | 32,7 | 47,8 | 59,3 |
| | 1976-1980 | 14421 | 16,2 | 30,5 | 45,9 | 57,3 |
| | 1981-1985 | 12513 | 17,3 | 33,1 | 46,5 | 55,0 |
| | 1986-1990 | 7039 | 15,3 | 29,5 | 43,0 | 49,3 |
| HIGHEST EDUCATIONAL LEVEL | No education | 2911 | 40,1 | 58,0 | 69,4 | 76,6 |
| | Primary | 29161 | 26,5 | 46,8 | 62,3 | 72,3 |
| | Secondary | 43730 | 13,8 | 30,2 | 47,6 | 59,8 |
| | Higher | 21369 | 3,1 | 9,0 | 18,1 | 28,1 |
| URBAN/RURAL TYPE OF PLACE OF RESIDENCE | Urban | 75807 | 13,9 | 28,0 | 42,5 | 53,7 |
| | Rural | 21368 | 23,5 | 42,8 | 58,7 | 68,8 |
| REGION | Atlántica | 19660 | 21,1 | 37,7 | 52,5 | 63,3 |
| | Oriental | 17225 | 15,8 | 32,1 | 48,2 | 59,7 |
| | Central | 24881 | 15,4 | 30,6 | 44,7 | 55,4 |
| | Pacífica | 16636 | 16,0 | 31,4 | 46,2 | 56,6 |
| | Bogotá | 17505 | 10,6 | 23,2 | 37,7 | 49,0 |
| | Territorios Nacionales | 1268 | 24,9 | 44,2 | 59,5 | 69,5 |
| DHS SURVEY YEAR | 1990 | 6709 | 16,5 | 32,2 | 48,7 | 58,9 |
| | 1995 | 8974 | 16,1 | 32,3 | 47,5 | 59,4 |
| | 2000 | 9321 | 15,4 | 30,9 | 46,0 | 57,0 |
| | 2005 | 31453 | 15,3 | 30,2 | 45,2 | 56,3 |
| | 2010 | 40718 | 16,6 | 31,8 | 46,1 | 56,9 |
| Total | | 97175 | 16,0 | 31,3 | 46,1 | 57,0 |

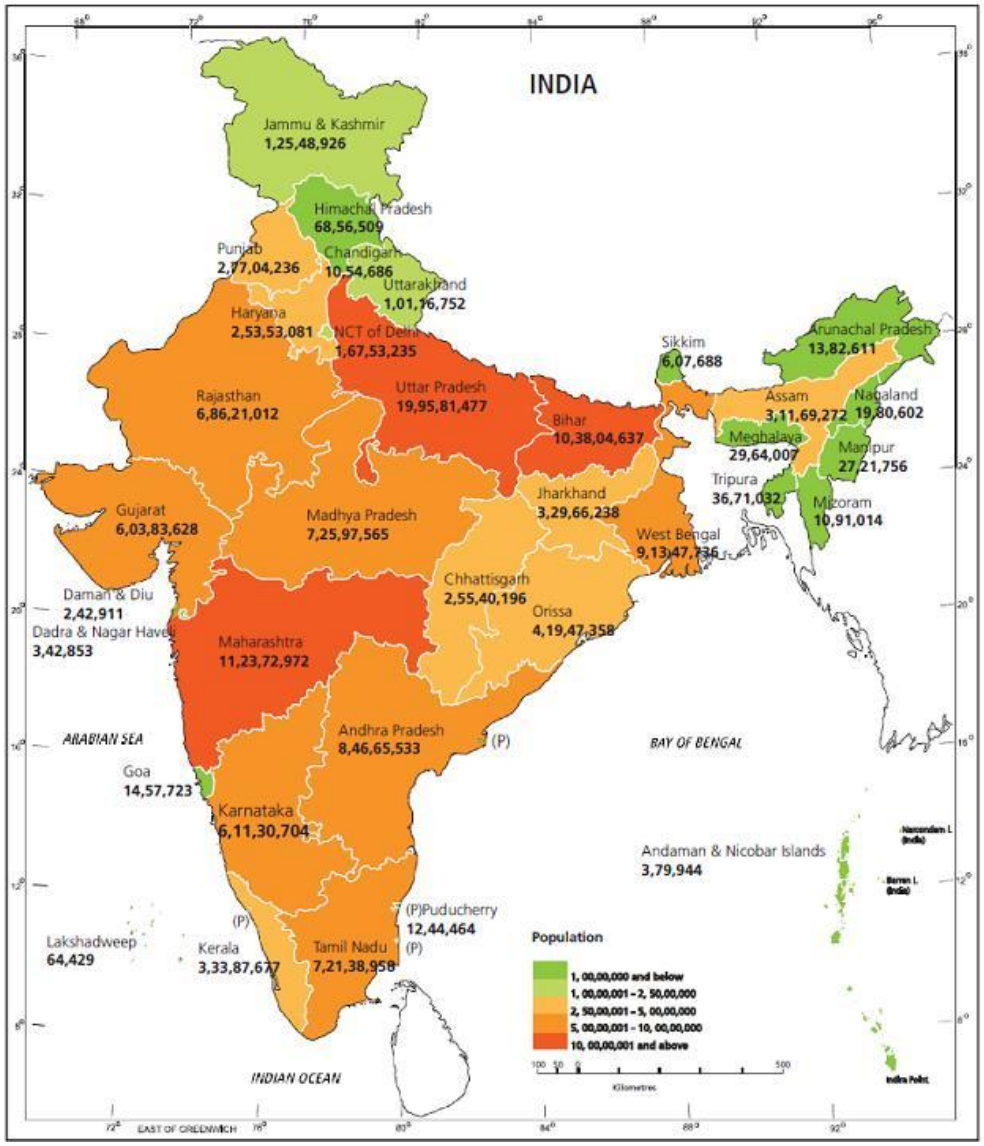
Source: Colombian Demographic and Health Surveys 1990-2010 (own calculations)

# APPENDIX CHAPTER 3: India

**Map III.I** : **Political map of India with its administrative divisions**: twenty-eight states and seven union territories (the latter including: Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Lakshadweep, National Capital Territory, and Puducherry).

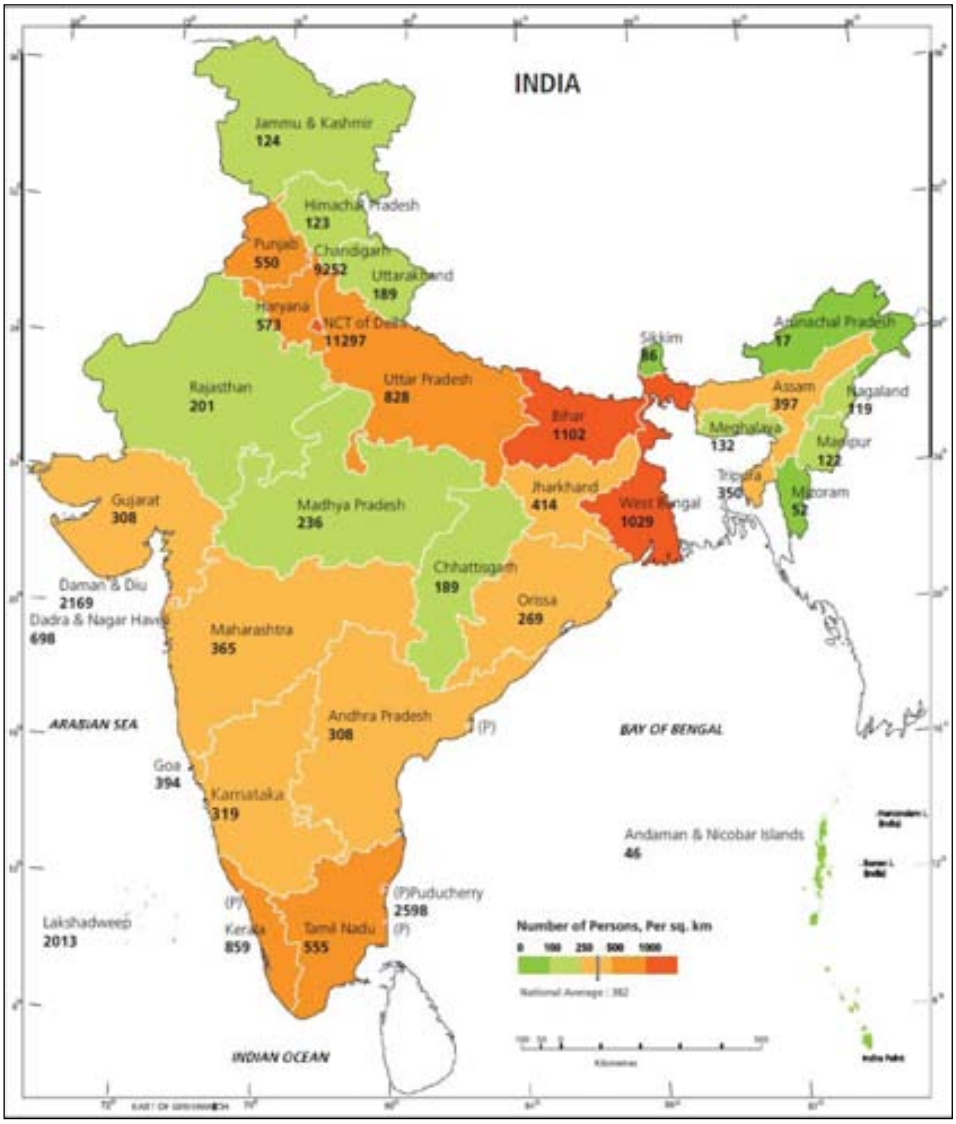

(Source: Nations Online Project, in http://www.nationsonline.org/oneworld/india_map.html)

**Map III.II : Population Map of India for 2011 (States/Union Territories)**




(Source: National Commission On Population ,Government of India; in http://populationcommission.nic.in/content/932_1_TablesMapsAndBarCharts.aspx)

**Map III.III : Indian Density of Population Map for 2011 (States/Union Territories)**




(Source: National Commission On Population ,Government of India; in http://populationcommission.nic.in/content/934_1_Densityofpopulation.aspx)

**Table III.I : Ever married proportions and number of cases by sex, age, educational attainment level, urban/rural, and year.**

| FEMALES: | | India 1983 | | India 1987 | | India 1993 | | India 1999 | | India 2004 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married |
| Rural | | 74381 | 82,21 | 83279 | 81,03 | 69925 | 78,02 | 72533 | 75,74 | 74242 | 72,96 |
| Urban | | 25011 | 68,58 | 25999 | 67,23 | 24573 | 65,05 | 26574 | 62,95 | 26939 | 61,84 |
| AGE GROUPS AND LEVEL OF EDUCATION: | Less primary | 17096 | 58,63 | 16727 | 55,77 | 11837 | 47,11 | 9812 | 41,88 | 7935 | 38,63 |
| | Primary | 8266 | 22,93 | 9354 | 21,27 | 8686 | 17,28 | 10596 | 16,98 | 11705 | 15,37 |
| 15-19 | Secondary | 2668 | 9,29 | 3608 | 10,55 | 4745 | 8,21 | 6088 | 8,79 | 7408 | 7,10 |
| | Universitary | 111 | 15,95 | 120 | 14,64 | 63 | 4,38 | 98 | 8,52 | 110 | 9,41 |
| | **Total 15-19** | **28141** | **43,30** | **29809** | **39,31** | **25332** | **29,49** | **26594** | **24,26** | **27158** | **19,88** |
| | Less primary | 18907 | 93,40 | 20569 | 93,26 | 15057 | 92,40 | 12847 | 91,79 | 11515 | 90,38 |
| | Primary | 5681 | 78,45 | 6271 | 77,64 | 5560 | 78,88 | 6463 | 79,19 | 7845 | 76,59 |
| 20-24 | Secondary | 2159 | 51,62 | 2949 | 52,55 | 3484 | 52,69 | 4681 | 54,00 | 5473 | 53,23 |
| | Universitary | 727 | 33,78 | 956 | 35,55 | 1176 | 31,00 | 1646 | 32,92 | 1909 | 31,90 |
| | **Total 20-24** | **27473** | **85,45** | **30744** | **84,37** | **25276** | **81,10** | **25637** | **77,94** | **26742** | **74,56** |
| | Less primary | 17608 | 98,44 | 19434 | 97,97 | 15769 | 98,02 | 14444 | 97,66 | 11807 | 97,75 |
| | Primary | 4571 | 94,26 | 4973 | 95,41 | 4708 | 95,54 | 5797 | 94,67 | 6540 | 95,62 |
| 25-29 | Secondary | 1453 | 86,23 | 1775 | 87,99 | 2058 | 87,70 | 3041 | 90,48 | 3477 | 89,99 |
| | Universitary | 665 | 74,26 | 829 | 75,58 | 1004 | 77,47 | 1397 | 78,91 | 1867 | 77,06 |
| | **Total 25-29** | **24297** | **96,26** | **27011** | **96,15** | **23539** | **95,75** | **24678** | **95,01** | **23691** | **94,39** |
| | Less primary | 15258 | 99,24 | 16284 | 99,08 | 14274 | 99,10 | 14666 | 98,94 | 14096 | 98,70 |
| | Primary | 3059 | 98,42 | 3645 | 97,10 | 3813 | 97,91 | 4376 | 97,69 | 5488 | 98,09 |
| 30-34 | Secondary | 805 | 94,43 | 1190 | 93,13 | 1578 | 96,08 | 2104 | 95,88 | 2738 | 96,96 |
| | Universitary | 359 | 93,94 | 594 | 92,01 | 687 | 93,40 | 1052 | 93,37 | 1267 | 92,75 |
| | **Total 30-34** | **19481** | **98,81** | **21714** | **98,23** | **20352** | **98,45** | **22199** | **98,14** | **23589** | **98,03** |
| Total general | | **99392** | **78,78** | **109277** | **77,74** | **94499** | **74,65** | **99108** | **72,31** | **101181** | **70,00** |

| MALES: | | India 1983 | | India 1987 | | India 1993 | | India 1999 | | India 2004 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married | nº cases | % ever married |
| Rural | | 73499 | 56,30 | 83450 | 55,39 | 71042 | 51,84 | 72168 | 49,61 | 72994 | 47,71 |
| Urban | | 28373 | 43,90 | 28721 | 42,69 | 27132 | 40,69 | 28897 | 38,47 | 30194 | 36,97 |
| AGE GROUPS AND LEVEL OF EDUCATION: | Less primary | 12327 | 16,17 | 12037 | 14,56 | 9014 | 9,70 | 7374 | 7,59 | 6212 | 5,79 |
| | Primary | 14535 | 8,87 | 16480 | 8,03 | 14164 | 5,18 | 15535 | 3,90 | 15935 | 2,93 |
| 15-19 | Secondary | 4647 | 8,06 | 5767 | 6,23 | 7305 | 4,18 | 8268 | 2,68 | 9543 | 1,61 |
| | Universitary | 119 | 15,07 | 158 | 7,76 | 83 | 2,93 | 120 | 5,36 | 91 | 6,64 |
| | **Total 15-19** | **31629** | **11,62** | **34442** | **10,01** | **30566** | **6,27** | **31298** | **4,45** | **31781** | **3,10** |
| | Less primary | 11053 | 57,68 | 11437 | 57,31 | 8222 | 54,61 | 6845 | 52,16 | 6343 | 51,05 |
| | Primary | 9221 | 44,39 | 9548 | 40,72 | 7873 | 38,23 | 8731 | 36,34 | 10098 | 35,10 |
| 20-24 | Secondary | 4642 | 27,68 | 6056 | 26,08 | 7067 | 25,17 | 7754 | 21,75 | 7920 | 18,69 |
| | Universitary | 1216 | 20,33 | 1562 | 20,13 | 1531 | 19,07 | 1838 | 14,95 | 2230 | 14,09 |
| | **Total 20-24** | **26131** | **45,92** | **28603** | **43,13** | **24694** | **38,76** | **25169** | **34,58** | **26591** | **32,25** |
| | Less primary | 11099 | 87,41 | 12800 | 88,93 | 9425 | 87,53 | 8381 | 85,04 | 6835 | 84,80 |
| | Primary | 8045 | 80,22 | 8238 | 79,59 | 6728 | 77,74 | 7379 | 75,28 | 8360 | 73,30 |
| 25-29 | Secondary | 3323 | 68,28 | 3790 | 68,24 | 4182 | 65,44 | 5574 | 66,19 | 5673 | 64,62 |
| | Universitary | 1562 | 56,48 | 1811 | 55,90 | 2047 | 48,00 | 2440 | 49,67 | 2583 | 48,99 |
| | **Total 25-29** | **24029** | **80,35** | **26639** | **80,85** | **22383** | **76,85** | **23774** | **73,96** | **23451** | **71,88** |
| | Less primary | 10049 | 94,66 | 11229 | 95,47 | 9511 | 95,45 | 8659 | 95,13 | 7099 | 94,36 |
| | Primary | 5992 | 95,09 | 6717 | 94,39 | 6060 | 93,68 | 5949 | 92,29 | 7126 | 93,48 |
| 30-34 | Secondary | 2807 | 90,46 | 3026 | 90,55 | 3229 | 90,80 | 4170 | 90,03 | 4797 | 88,73 |
| | Universitary | 1235 | 89,17 | 1515 | 89,74 | 1731 | 86,50 | 2046 | 85,79 | 2343 | 83,31 |
| | **Total 30-34** | **20083** | **93,86** | **22487** | **94,10** | **20531** | **93,44** | **20825** | **92,38** | **21366** | **91,59** |
| **Total general** | | **101872** | **52,84** | **112172** | **52,14** | **98174** | **48,76** | **101065** | **46,42** | **103188** | **44,57** |

Source: India National Survey. IPUMS-International (own calculations)

**Table III.II** : Ever married women ages 15-19 by region and year (%)

| *Region* | *Ever married women ages 15-19 by region and year (%)* | | | | | Decline from 1983 to 2004 (%) |
|---|---|---|---|---|---|---|
| **NORTH-EAST INDIA** | **1983** | **1987** | **1993** | **1999** | **2004** | |
| Arunachal Pradesh (Arunachal Pradesh) | 18,71 | 28,44 | 11,00 | 20,76 | 6,83 | -11,88 |
| Hills (Assam) | 26,46 | 30,27 | 21,96 | 0,42 | - | -26,04 |
| Plains Eastern (Assam) | 18,48 | 15,13 | 3,67 | 8,99 | 6,23 | -12,25 |
| Plains Western (Assam) | 21,10 | 19,09 | 10,96 | 14,84 | 15,62 | -5,48 |
| Central (Bihar) | 66,52 | 58,05 | 44,55 | 38,25 | 33,17 | -33,35 |
| Northern (Bihar) | 67,53 | 57,75 | 51,20 | 35,10 | 27,78 | -39,74 |
| Southern (Bihar) | 56,38 | 49,84 | 36,17 | 31,23 | - | -25,15 |
| Jharkhand (Jharkhand) | - | - | - | - | 29,70 | - |
| Meghalaya (Meghalaya) | 18,29 | 11,32 | 7,71 | 9,84 | 8,50 | -9,78 |
| Mizoram (Mizoram) | 10,73 | 7,21 | 2,99 | 3,95 | 4,52 | -6,21 |
| Nagaland (Nagaland) | 20,78 | 12,54 | 4,17 | 6,20 | - | -14,58 |
| Hills (Manipur) | 6,28 | 3,65 | 4,29 | 4,71 | 0,28 | -6,00 |
| Plains (Manipur) | 5,65 | 6,69 | 4,64 | 2,94 | 2,10 | -3,55 |
| Central Plains (West Bengal) | 30,19 | 32,69 | 25,68 | 28,28 | 21,70 | -8,49 |
| Eastern Plains (West Bengal) | 40,74 | 44,15 | 36,27 | 51,50 | 39,51 | -1,24 |
| Himalayan (West Bengal) | 26,82 | 36,05 | 17,06 | 19,05 | 19,35 | -7,47 |
| Western Plains (West Bengal) | 40,27 | 44,99 | 38,71 | 24,45 | 35,84 | -4,43 |
| Sikkim (Sikkim) | 16,47 | 16,38 | 10,56 | 9,69 | 9,69 | -6,78 |
| Tripura (Tripura) | 23,91 | 21,05 | 17,05 | 17,82 | 12,92 | -10,99 |
| **NORTH-WEST INDIA** | **1983** | **1987** | **1993** | **1999** | **2004** | |
| Eastern (Haryana) | 48,14 | 35,12 | 27,40 | 21,98 | 14,61 | -33,54 |
| Western (Haryana) | 61,21 | 52,33 | 42,15 | 31,81 | 23,03 | -38,19 |
| Himachal Pradesh (Himachal Pradesh) | 26,80 | 25,23 | 11,73 | 6,07 | 5,94 | -20,86 |
| Jhelam Valley (Jammu and Kashmir) | 22,19 | 15,39 | - | 3,57 | 1,10 | -21,09 |
| Mountainous (Jammu and Kashmir) | 19,25 | 9,36 | 7,74 | 4,44 | 3,07 | -16,18 |
| Outer Hills (Jammu and Kashmir) | 34,12 | 24,17 | 24,13 | 3,66 | 9,12 | -25,00 |
| Northern (Punjab) | 12,63 | 11,95 | 11,22 | 6,47 | 2,75 | -9,88 |
| Southern (Punjab) | 18,36 | 15,65 | 13,04 | 8,41 | 11,52 | -6,84 |
| North-Eastern (Rajasthan) | 73,35 | 64,29 | 51,99 | 41,71 | 39,61 | -33,73 |
| South-Eastern (Rajasthan) | 71,34 | 69,28 | 52,30 | 42,51 | 41,01 | -30,33 |
| Southern (Rajasthan) | 67,20 | 51,35 | 46,13 | 39,11 | 25,03 | -42,17 |
| Western (Rajasthan) | 52,24 | 55,37 | 45,22 | 29,86 | 32,69 | -19,55 |
| Uttarakhand (Formerly Uttaranchal) | - | - | - | - | 5,61 | - |
| Central (Uttar Pradesh) | 54,70 | 53,11 | 35,71 | 29,81 | 18,94 | -35,76 |
| Eastern (Uttar Pradesh) | 70,46 | 71,48 | 49,81 | 34,62 | 24,80 | -45,66 |
| Himalayan (Uttar Pradesh) | 37,02 | 26,12 | 16,00 | 11,07 | - | -25,95 |
| Southern (Uttar Pradesh) | 76,37 | 74,46 | 55,93 | 45,31 | 23,30 | -53,07 |
| Western (Uttar Pradesh) | 45,81 | 37,96 | 29,43 | 22,45 | 14,28 | -31,53 |
| **CENTRAL INDIA** | **1983** | **1987** | **1993** | **1999** | **2004** | |
| Chhattisgarh (Chhattisgarh) | - | - | - | - | 14,65 | - |
| Dry areas (Gujarat) | 37,19 | 18,11 | 12,67 | 16,01 | 26,00 | -11,18 |
| Eastern (Gujarat) | 34,22 | 17,67 | 19,65 | 21,41 | 17,05 | -17,17 |
| Plains Northern (Gujarat) | 39,84 | 27,06 | 22,84 | 17,76 | 13,76 | -26,08 |
| Plains Southern (Gujarat) | 18,13 | 18,82 | 18,01 | 10,55 | 10,28 | -7,85 |
| Saurashtra (Gujarat) | 10,33 | 8,14 | 9,03 | 5,61 | 7,30 | -3,03 |
| Central (Madhya Pradesh) | 63,64 | 48,17 | 38,75 | 36,44 | 27,57 | -36,07 |
| Chhattisgarh (Madhya Pradesh) | 55,99 | 52,86 | 34,81 | 23,14 | - | -32,86 |
| Malwa (Madhya Pradesh) | 68,76 | 55,85 | 44,37 | 35,64 | 34,95 | -33,81 |
| Northern (Madhya Pradesh) | 73,41 | 68,01 | 51,42 | 41,41 | 34,46 | -38,95 |
| South (Madhya Pradesh) | 53,34 | 47,53 | 31,21 | 21,69 | 26,10 | -27,24 |
| South-Western (Madhya Pradesh) | 55,49 | 43,73 | 35,81 | 25,37 | 21,50 | -33,99 |
| Vindhya (Madhya Pradesh) | 82,38 | 76,29 | 49,63 | 51,04 | 32,72 | -49,66 |
| Coastal (Maharashtra) | 23,50 | 14,31 | 10,71 | 7,54 | 7,42 | -16,08 |
| Eastern (Maharashtra) | 39,63 | 31,89 | 13,74 | 5,29 | 5,36 | -34,27 |
| Inland Central (Maharashtra) | 66,78 | 58,27 | 50,49 | 32,13 | 29,01 | -37,78 |
| Inland Eastern (Maharashtra) | 34,53 | 24,98 | 15,91 | 14,82 | 8,03 | -26,50 |
| Inland Northern (Maharashtra) | 52,86 | 43,39 | 26,41 | 25,78 | 22,34 | -30,51 |
| Inland Western (Maharashtra) | 44,40 | 41,59 | 22,72 | 20,23 | 19,23 | -25,17 |
| Coastal (Orissa) | 29,81 | 23,39 | 12,53 | 9,13 | 5,31 | -24,50 |
| Northern (Orissa) | 29,65 | 27,39 | 19,41 | 6,26 | 8,56 | -21,09 |
| Southern (Orissa) | 42,23 | 46,41 | 26,91 | 17,20 | 11,54 | -30,69 |

(Continues...)

(Cont.)

| *Region* | *Ever married women ages 15-19 by region and year (%)* | | | | | Decline from 1983 to 2004 (%) |
|---|---|---|---|---|---|---|
| **SOUTH INDIA** | **1983** | **1987** | **1993** | **1999** | **2004** | |
| Coastal (Andhra Pradesh) | 59,47 | 50,97 | 43,37 | 33,85 | 28,25 | -31,21 |
| Inland Northern (Andhra Pradesh) | 70,15 | 64,05 | 50,32 | 34,55 | 21,93 | -48,22 |
| Inland Southern (Andhra Pradesh) | 51,70 | 50,03 | 37,40 | 34,64 | 27,27 | -24,44 |
| South-Western (Andhra Pradesh) | 43,62 | 54,86 | 47,27 | 39,57 | 31,19 | -12,43 |
| Goa (Goa) | - | - | 5,23 | 2,32 | 12,28 | 7,05 |
| Coastal and Ghats (Karnataka) | 13,34 | 7,43 | 6,29 | 5,05 | 1,90 | -11,43 |
| Inland Eastern (Karnataka) | 18,37 | 17,13 | 11,65 | 12,03 | 5,00 | -13,37 |
| Inland Northern (Karnataka) | 51,96 | 41,79 | 28,58 | 30,33 | 23,70 | -28,26 |
| Inland Southern (Karnataka) | 35,86 | 30,89 | 22,85 | 22,59 | 15,34 | -20,51 |
| Northern (Kerala) | 23,12 | 24,30 | 9,75 | 21,93 | 14,98 | -8,14 |
| Southern (Kerala) | 6,29 | 7,22 | 4,65 | 3,46 | 7,35 | 1,06 |
| Coastal (Tamil Nadu) | 22,78 | 21,73 | 17,03 | 13,61 | 6,12 | -16,65 |
| Coastal Northern (Tamil Nadu) | 27,27 | 27,00 | 18,24 | 13,19 | 9,07 | -18,21 |
| Inland (Tamil Nadu) | 32,52 | 30,69 | 23,87 | 20,88 | 20,55 | -11,97 |
| Southern (Tamil Nadu) | 19,13 | 15,56 | 14,61 | 10,27 | 5,90 | -13,24 |
| **UNION TERRITORIES** | **1983** | **1987** | **1993** | **1999** | **2004** | |
| Chandigarh (Chandigarh) | 21,24 | 9,60 | 10,11 | 2,26 | 3,95 | -17,29 |
| Andaman and Nicobar Islands (Andaman and Nicobar Islands) | 29,14 | 20,15 | 11,09 | 14,04 | 8,34 | -20,80 |
| Pondicherry (Pondicherry) | 24,24 | 19,59 | 12,59 | 19,06 | 11,22 | -13,02 |
| Dadra and Nagar Haveli (Dadra and Nagar Haveli) | 40,99 | 30,75 | 20,66 | 13,44 | 24,91 | -16,08 |
| Daman and Diu (Daman and Diu) | - | - | 8,43 | 0,73 | - | - |
| Delhi (Delhi) | 19,20 | 15,57 | 17,86 | 8,35 | 3,87 | -15,33 |
| Lakshadweep (Lakshadweep) | 23,95 | 27,53 | 22,28 | 15,99 | 16,66 | -7,29 |

Source: India National Survey. IPUMS-International

**Table III.III : Logistic regression results (odds ratio); Bivariate and Multivariate analysis of Indian women who have had a first marriage before the ages of 16, 18, and 20, with data from the Indian National Family Health Survey (NFHS-3) of 2005-06**

| BIVARIATE ANALYSIS: Indian women who have experienced the transition to first marriage before the ages of 16, 18 and 20. | | | |
|---|---|---|---|
| **Variables** | **(before age 16):** | **(before age 18):** | **(before age 20):** |
| **Age in 5-year groups** | Exp(B)[a] | **Exp(B)[a]** | Exp(B)[a] |
| 20-24 | 0,571 *** | **0,551 ***** | 0,457 *** |
| 25-29 | 0,804 *** | **0,771 ***** | 0,697 *** |
| 30-34 | 0,984 | **0,949** | 0,850 *** |
| 35-39 | 1,056 * | **1,047** | 0,993 |
| 40-44 | 1,097 *** | **1,076 *** | 1,053 |
| 45-49 | *** | *** | *** |
| Constant | 0,866 *** | **2,198 ***** | 4,951 *** |
| *-2 Log likelihood* | *134519,2* | ***128069,4*** | *101915,8* |
| *Cox & Snell R Square* | *0,014* | ***0,015*** | *0,017* |
| *Chi-square* | *1396,6 **** | ***1472,1 ***** | *1691,0 **** |
| **Highest educational level** | Exp(B)[a] | **Exp(B)[a]** | Exp(B)[a] |
| No education | *** | *** | *** |
| Primary | 0,605 *** | **0,575 ***** | 0,482 *** |
| Secondary | 0,213 *** | **0,195 ***** | 0,157 *** |
| Higher | 0,016 *** | **0,018 ***** | 0,019 *** |
| Constant | 1,554 *** | **4,880 ***** | 13,991 *** |
| *-2 Log likelihood* | *117844,2* | ***106424,1*** | *81140,0* |
| *Cox & Snell R Square* | *0,166* | ***0,207*** | *0,202* |
| *Chi-square* | *18064,5 **** | ***23111,4 ***** | *22461,1 **** |
| **Urban/Rural** | Exp(B)[a] | **Exp(B)[a]** | Exp(B)[a] |
| Urban | | | |
| Rural | 2,375 *** | **2,603 ***** | 2,912 *** |
| Constant | 0,413 *** | **0,987** | 1,93 *** |
| *-2 Log likelihood* | *132093,4* | ***124797,6*** | *99049,7* |
| *Cox & Snell R Square* | *0,038* | ***0,047*** | *0,045* |
| *Chi-square* | *3822,4 **** | ***4743,9 ***** | *4557,0 **** |
| **Religion** | Exp(B)[a] | **Exp(B)[a]** | Exp(B)[a] |
| Hindu | 2,912 *** | **3,466 ***** | 3,902 *** |
| Muslim | 3,171 *** | **4,141 ***** | 4,837 *** |
| Christian | *** | *** | *** |
| Sikh | 0,872 | **1,072** | 1,418 *** |
| Buddhist/Neo-Buddhist | 2,987 *** | **3,284 ***** | 3,397 *** |
| Other/ no religion | 1,131 | **1,423 ***** | 1,640 *** |
| Constant | 0,266 *** | **0,546 ***** | 0,986 |
| *-2 Log likelihood* | *134566,7* | ***127654,1*** | *101828,5* |
| *Cox & Snell R Square* | *0,012* | ***0,017*** | *0,017* |
| *Chi-square* | *1197,7 **** | ***1752,8 ***** | *1671,9 **** |
| **Wealth index** | Exp(B)[a] | **Exp(B)[a]** | Exp(B)[a] |
| Poorest | 6,363 *** | **8,384 ***** | 10,329 *** |
| Poorer | 5,301 *** | **6,179 ***** | 6,997 *** |
| Middle | 3,750 *** | **3,947 ***** | 4,242 *** |
| Richer | 2,254 *** | **2,395 ***** | 2,493 *** |
| Richest | *** | *** | *** |
| Constant | 0,246 *** | **0,610 ***** | 1,270 *** |
| *-2 Log likelihood* | *126018,8* | ***117230,4*** | *92869,4* |
| *Cox & Snell R Square* | *0,095* | ***0,116*** | *0,102* |
| *Chi-square* | *9897,1 **** | ***12311,1 ***** | *10737,3 **** |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

(Continues...)

| BIVARIATE ANALYSIS: Indian women who have experienced the transition to first marriage before the ages of 16, 18 and 20. | | | |
|---|---|---|---|
| **Variables** | **(before age 16):** | **(before age 18):** | **(before age 20):** |
| **State** | Exp(B)[a] | **Exp(B)[a]** | Exp(B)[a] |
| [JM] Jammu and Kashmir | 1,562 *** | **1,373 *** ** | 1,220 ** |
| [HP] Himachal Pradesh | 1,220 | **1,510 *** ** | 1,763 *** |
| [PJ] Punjab | 1,420 *** | **1,490 *** ** | 1,664 *** |
| [UC] Uttaranchal | 2,450 *** | **2,713 *** ** | 2,551 *** |
| [HR] Haryana | 3,240 *** | **3,668 *** ** | 4,168 *** |
| [DL] Delhi | 1,688 *** | **1,621 *** ** | 1,512 *** |
| [RJ] Rajasthan | 6,082 *** | **6,900 *** ** | 7,700 *** |
| [UP] Uttar Pradesh | 4,949 *** | **6,054 *** ** | 6,733 *** |
| [BH] Bihar | 7,979 *** | **10,814 *** ** | 12,546 *** |
| [SK] Sikkim | 1,604 | **1,520** | 1,361 |
| [AR] Arunachal Pradesh | 3,211 *** | **2,791 *** ** | 2,044 *** |
| [NA] Nagaland | 1,443 | **1,239** | 1,042 |
| [MN] Manipur | 0,842 | **0,791** | 0,705 * |
| [MZ] Mizoram | 0,796 | **0,924** | 0,889 |
| [TR] Tripura | 3,134 *** | **2,828 *** ** | 2,532 *** |
| [MG] Meghalaya | 1,377 | **1,298** | 1,286 |
| [AS] Assam | 2,641 *** | **2,265 *** ** | 1,877 *** |
| [WB] West Bengal | 4,816 *** | **4,956 *** ** | 4,454 *** |
| [JH] Jharkhand | 5,865 *** | **6,232 *** ** | 5,772 *** |
| [OR] Orissa | 3,054 *** | **3,396 *** ** | 3,120 *** |
| [CH] Chhatisgarh | 5,180 *** | **7,029 *** ** | 6,737 *** |
| [MP] Madhya Pradesh | 5,736 *** | **6,491 *** ** | 6,562 *** |
| [GJ] Gujarat | 2,346 *** | **2,688 *** ** | 3,204 *** |
| [MH] Maharashtra | 3,292 *** | **3,349 *** ** | 3,159 *** |
| [AP] Andhra Pradesh | 7,202 *** | **6,677 *** ** | 6,377 *** |
| [KA] Karnataka | 3,498 *** | **3,051 *** ** | 2,613 *** |
| [GO] Goa | 0,622 | **0,489 *** ** | 0,410 *** |
| [KE] Kerala | *** | *** | *** |
| [TN] Tamil Nadu | 1,785 *** | **1,829 *** ** | 1,787 *** |
| Constant | 0,189 *** | **0,460 *** ** | 0,987 |
| *-2 Log likelihood* | *129671,4* | ***121772,6*** | *96893,6* |
| *Cox & Snell R Square* | *0,061* | ***0,075*** | *0,065* |
| *Chi-square* | *6244,5 **** | ***7768,9 **** ** | *6713,2 **** |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

(Continues...)

| MULTIVARIATE ANALYSIS: Indian women who have experienced the transition to first marriage before the ages of 16, 18 and 20. | | | |
|---|---|---|---|
| **Variables** | **(before age 16):** | **(before age 18):** | **(before age 20):** |
| **Age in 5-year groups** | Exp(B)[a] | **Exp(B)[a]** | Exp(B)[a] |
| 20-24 | 0,743 *** | **0,720 ***** | 0,602 *** |
| 25-29 | 0,965 | **0,956** | 0,911 * |
| 30-34 | 1,116 *** | **1,111 ***** | 1,028 |
| 35-39 | 1,132 *** | **1,147 ***** | 1,109 ** |
| 40-44 | 1,150 *** | **1,140 ***** | 1,127 ** |
| 45-49 | *** | *** | *** |
| **Highest educational level** | | | |
| No education | *** | *** | *** |
| Primary | 0,755 *** | **0,779 ***** | 0,681 *** |
| Secondary | 0,327 *** | **0,329 ***** | 0,283 *** |
| Higher | 0,030 *** | **0,036 ***** | 0,037 *** |
| **Wealth index** | | | |
| Poorest | 1,652 *** | **1,814 ***** | 1,692 *** |
| Poorer | 1,614 *** | **1,681 ***** | 1,569 *** |
| Middle | 1,430 *** | **1,431 ***** | 1,359 *** |
| Richer | 1,189 *** | **1,234 ***** | 1,198 *** |
| Richest | *** | *** | *** |
| **Urban/Rural** | | | |
| Urban | | | |
| Rural | 1,184 *** | **1,202 ***** | 1,309 *** |
| **State** | | | |
| [JM] Jammu and Kashmir | 0,761 ** | **0,646 ***** | 0,538 *** |
| [HP] Himachal Pradesh | 0,726 ** | **0,975** | 1,172 |
| [PJ] Punjab | 1,142 | **1,366 ***** | 1,656 *** |
| [UC] Uttaranchal | 1,415 *** | **1,868 ***** | 1,943 *** |
| [HR] Haryana | 1,750 *** | **2,308 ***** | 2,906 *** |
| [DL] Delhi | 1,858 *** | **2,143 ***** | 2,320 *** |
| [RJ] Rajasthan | 2,389 *** | **3,109 ***** | 3,869 *** |
| [UP] Uttar Pradesh | 1,975 *** | **2,775 ***** | 3,461 *** |
| [BH] Bihar | 2,963 *** | **4,443 ***** | 5,190 *** |
| [SK] Sikkim | 0,876 | **0,900** | 0,800 |
| [AR] Arunachal Pradesh | 2,060 ** | **1,863 **** | 1,258 |
| [NA] Nagaland | 1,288 | **1,215** | 1,063 |
| [MN] Manipur | 0,631 * | **0,606 **** | 0,526 *** |
| [MZ] Mizoram | 1,062 | **1,400** | 1,462 |
| [TR] Tripura | 1,535 *** | **1,410 **** | 1,230 |
| [MG] Meghalaya | 1,120 | **1,132** | 1,185 |
| [AS] Assam | 1,310 *** | **1,125** | 0,900 |
| [WB] West Bengal | 2,251 *** | **2,505 ***** | 2,321 *** |
| [JH] Jharkhand | 2,494 *** | **2,846 ***** | 2,666 *** |
| [OR] Orissa | 1,225 ** | **1,435 ***** | 1,313 *** |
| [CH] Chhatisgarh | 1,905 *** | **2,998 ***** | 3,055 *** |
| [MP] Madhya Pradesh | 2,275 *** | **2,920 ***** | 3,220 *** |
| [GJ] Gujarat | 1,305 *** | **1,675 ***** | 2,199 *** |
| [MH] Maharashtra | 2,254 *** | **2,653 ***** | 2,755 *** |
| [AP] Andhra Pradesh | 3,589 *** | **3,671 ***** | 3,654 *** |
| [KA] Karnataka | 1,930 *** | **1,817 ***** | 1,601 *** |
| [GO] Goa | 0,542 * | **0,426 ***** | 0,340 *** |
| [KE] Kerala | *** | *** | *** |
| [TN] Tamil Nadu | 1,009 | **1,120 *** | 1,173 ** |
| **Religion** | | | |
| Hindu | 1,861 *** | **2,054 ***** | 2,252 *** |
| Muslim | 1,826 *** | **2,248 ***** | 2,555 *** |
| Christian | *** | *** | *** |
| Sikh | 1,109 | **1,115** | 1,155 |
| Buddhist/Neo-Buddhist | 1,979 *** | **1,881 ***** | 1,768 *** |
| Other/ no religion | 0,773 * | **1,012** | 1,319 * |
| **Constant** | 0,243 *** | **0,561 ***** | 1,514 *** |
| *-2 Log likelihood* | *113536,9* | ***101234,1*** | *76421,9* |
| *Cox & Snell R Square* | *0,200* | ***0,247*** | *0,238* |
| *Chi-square* | *22220,3 **** | ***28166,9 ***** | *27072,8 **** |

(a) Signif.: *p<0,05; **p<0,01; ***p<0,001

# APPENDIX CHAPTER 4: Kenya

(All the following graphs are own calculations based on data from the Kenyan Demographic and Health Surveys from 1988 to 2008)

**Figure IV.I : Marital Status**

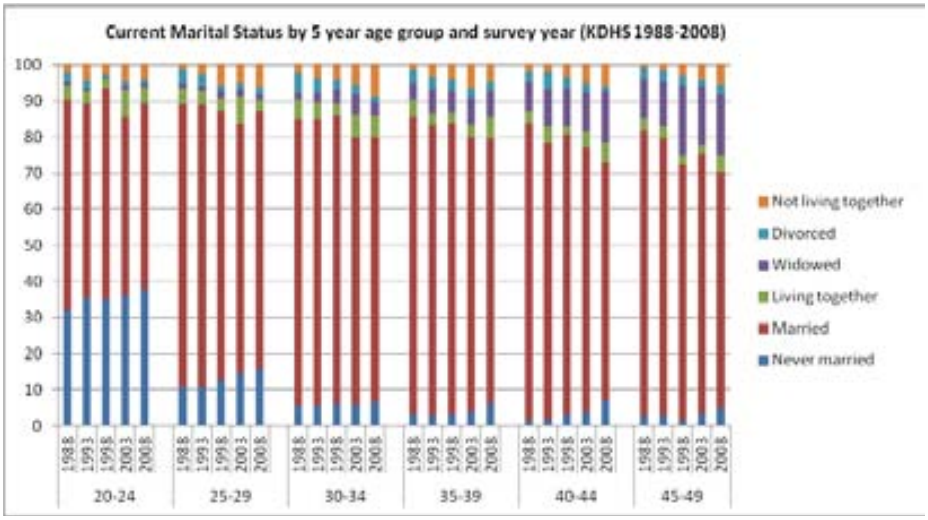
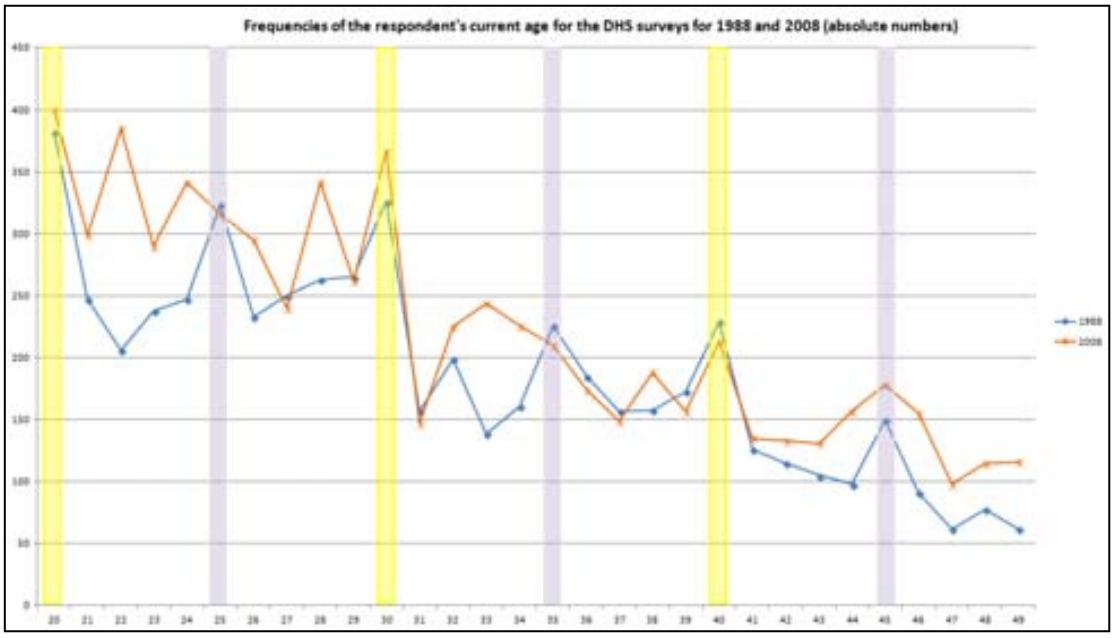
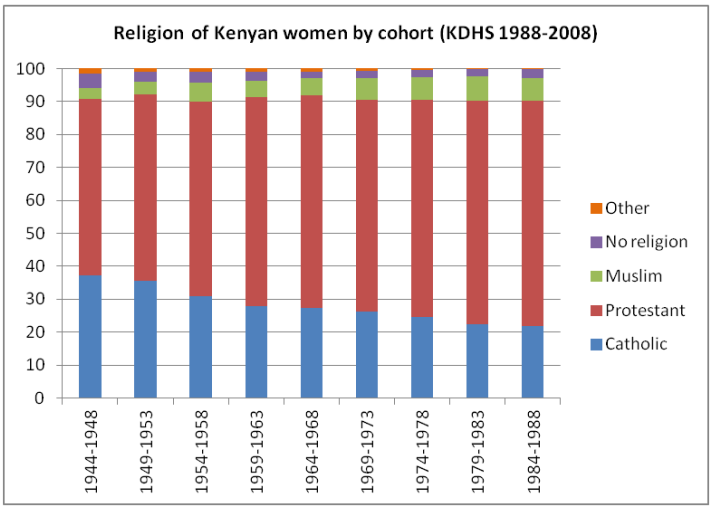
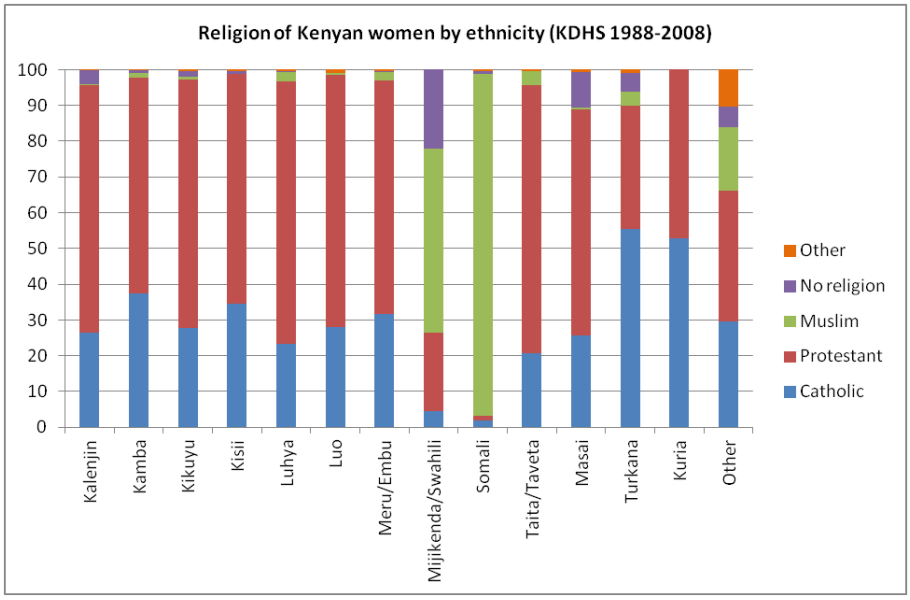


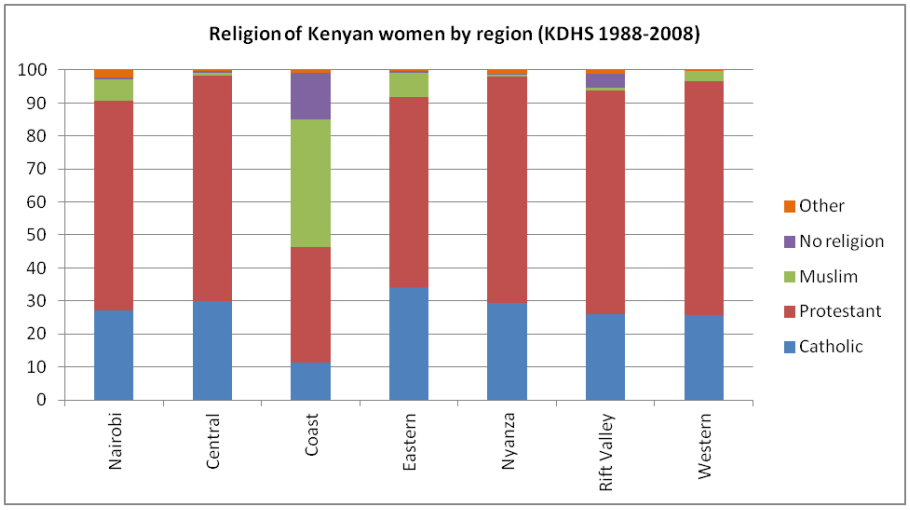

**Figure IV.II : Age frequency of respondents**

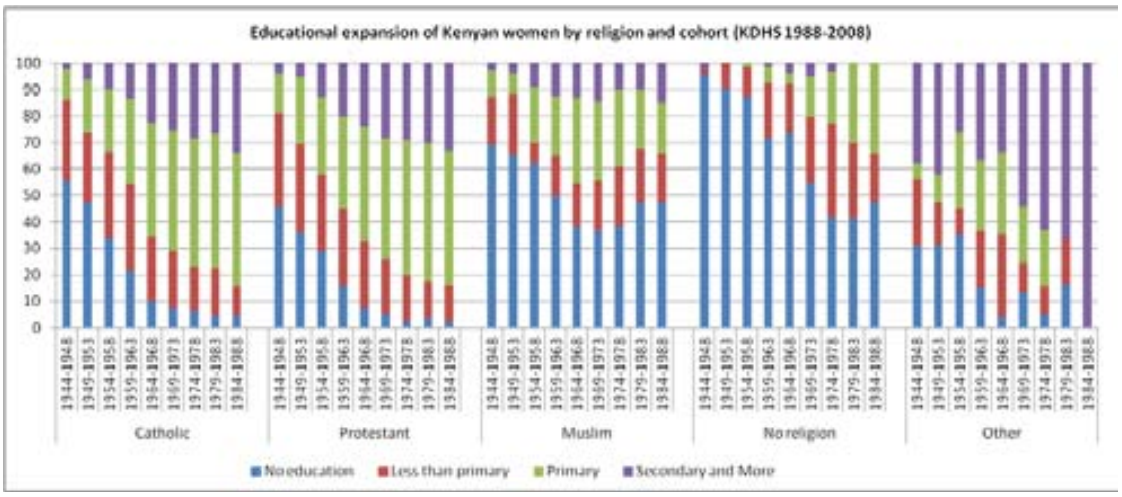


Figures IV.III : Religion in Kenya

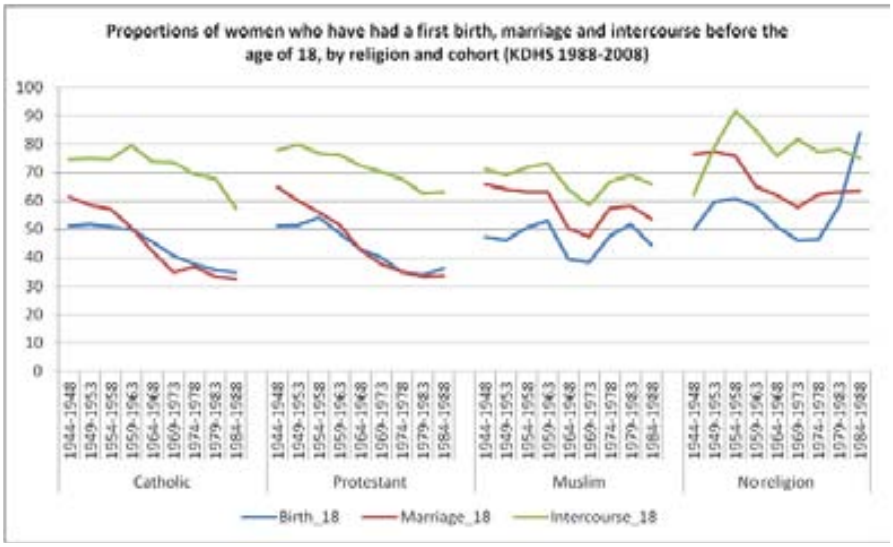


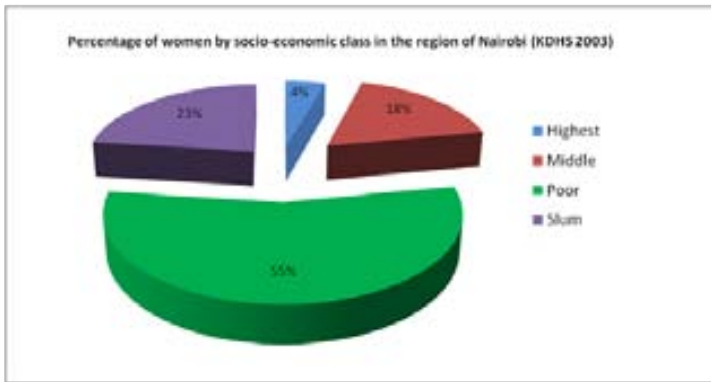


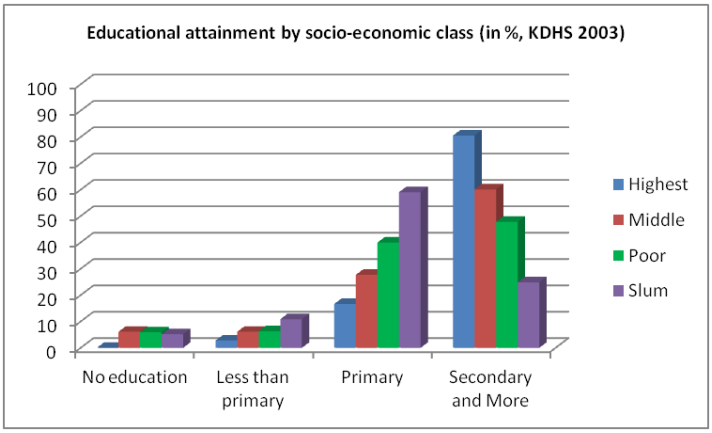

(The category "other" should be interpreted with caution due to the very low number of cases, when disaggregated by cohort)

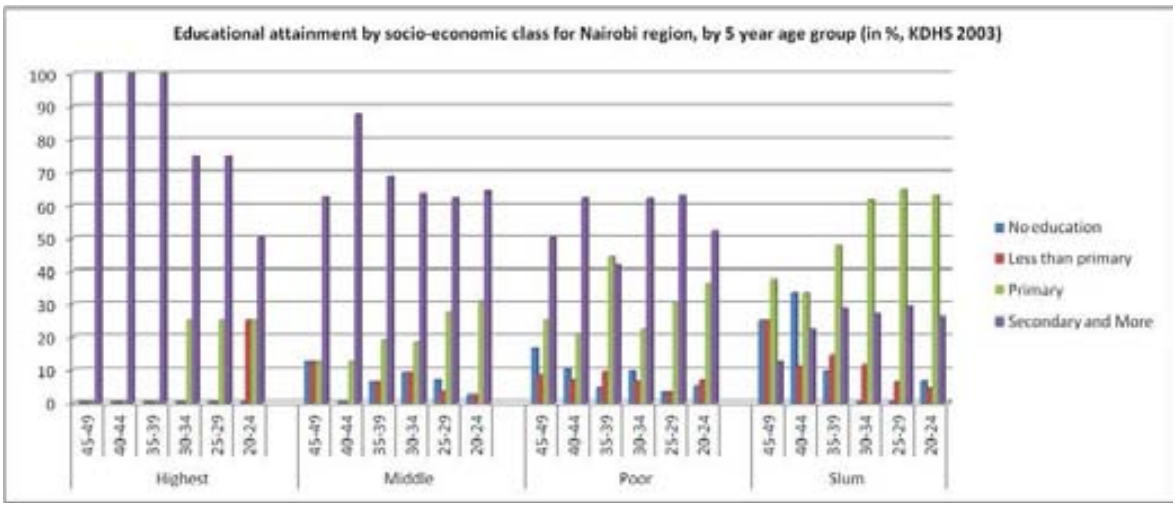


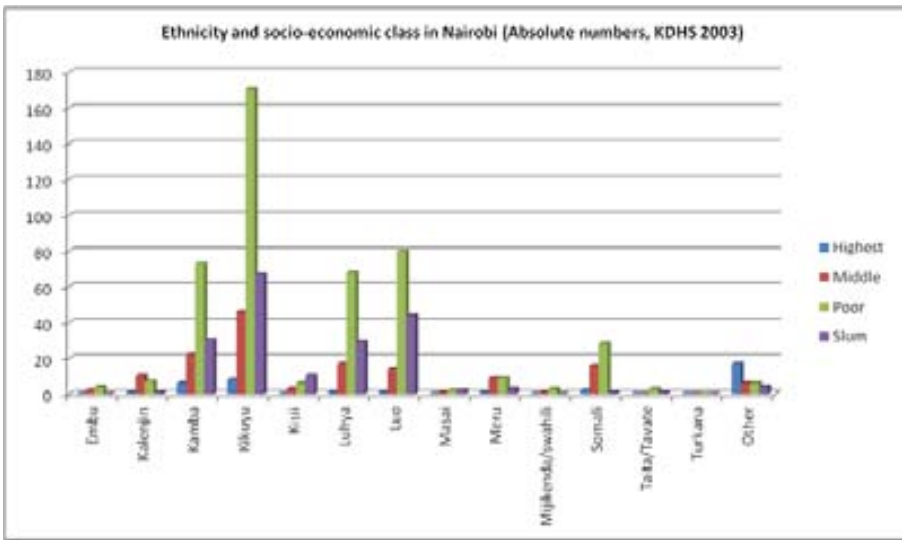
**Figures IV.IV : Socioeconomic Status for the city of Nairobi (Slum category included), from KDHS 2003**

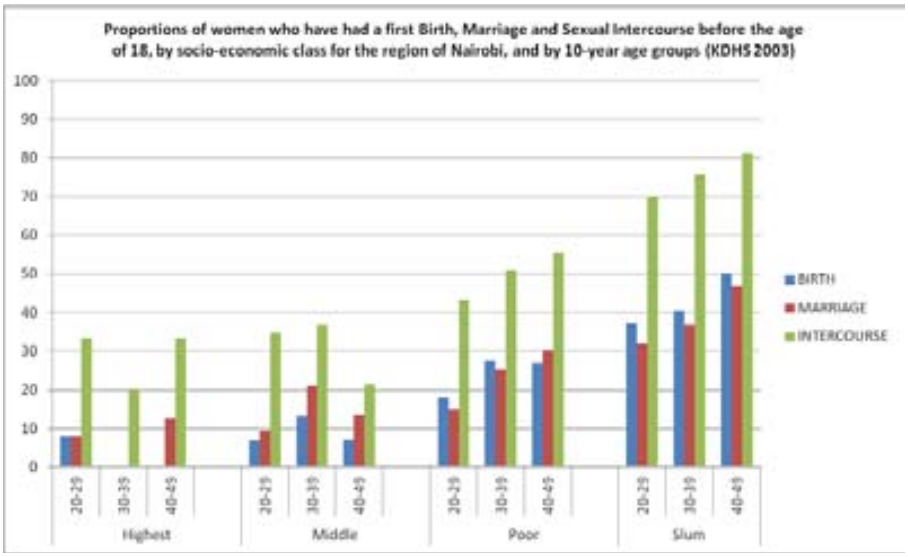
(Using the variable "Socio-economic class in Nairobi": number of cases for the region of Nairobi is of 835 women for the 2003 KDHS survey; and four categories: highest, middle, poor and slum)



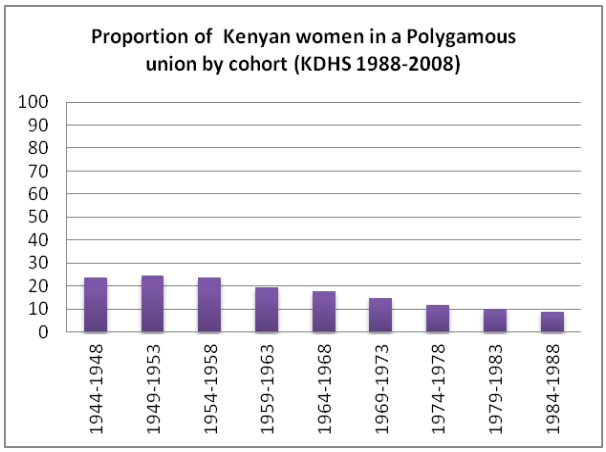



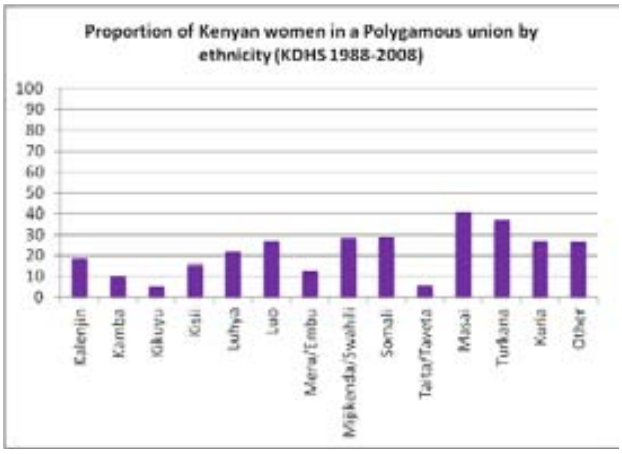



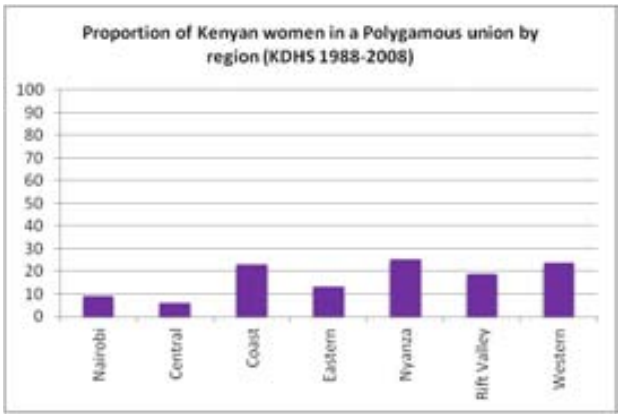

Ethnicity and socio-economic class in Nairobi (Absolute numbers, KDHS 2003)
180
160
140
120
100
80
60
40
20
0
Highest
Middle
Poor
Slum
Embu
Kalenjin
Kamba
Kikuyu
Kisii
Luhya
Luo
Maasai
Meru
Mijikenda/swahili
Somali
Taita/Tavate
Turkana
Other

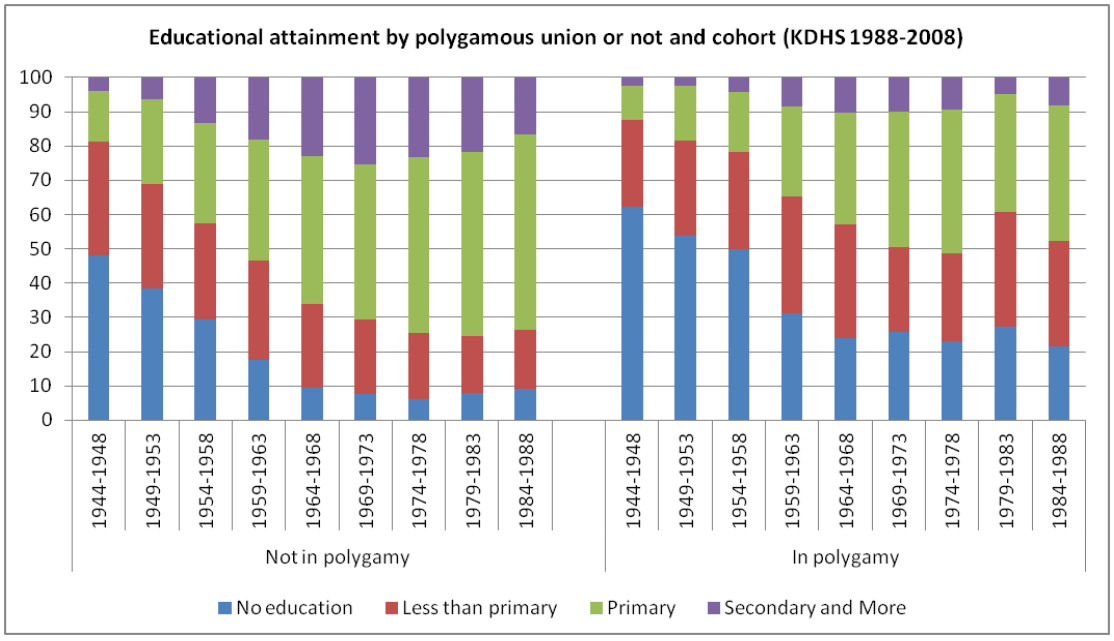

Proportions of women who have had a first Birth, Marriage and Sexual Intercourse before the age of 18, by socio-economic class for the region of Nairobi, and by 10-year age groups (KDHS 2003)
100
90
80
70
60
50
40
30
20
10
0
BIRTH
MARRIAGE
INTERCOURSE
20-29
30-39
40-49
Highest
Middle
Poor
Slum

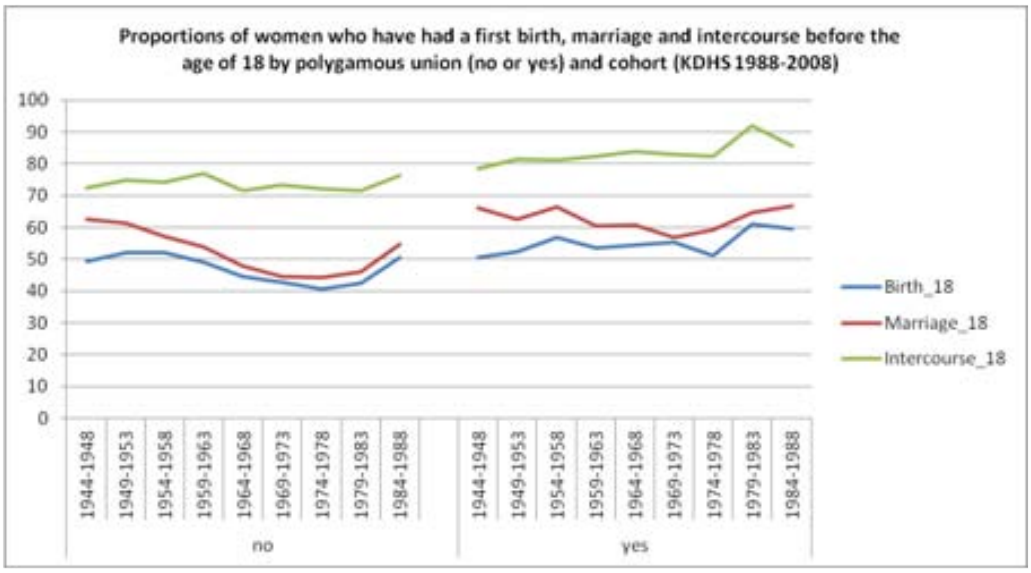
Figures IV.V : Polygamy in Kenya



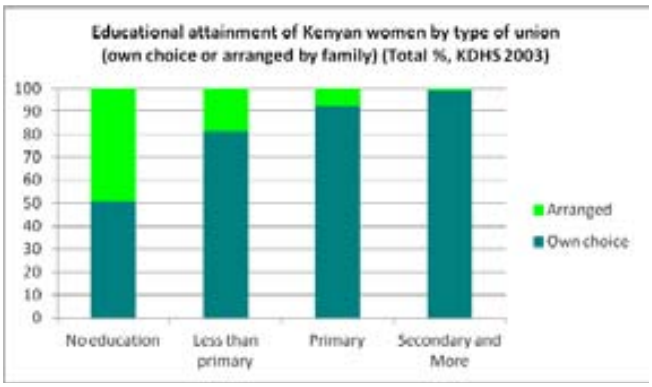



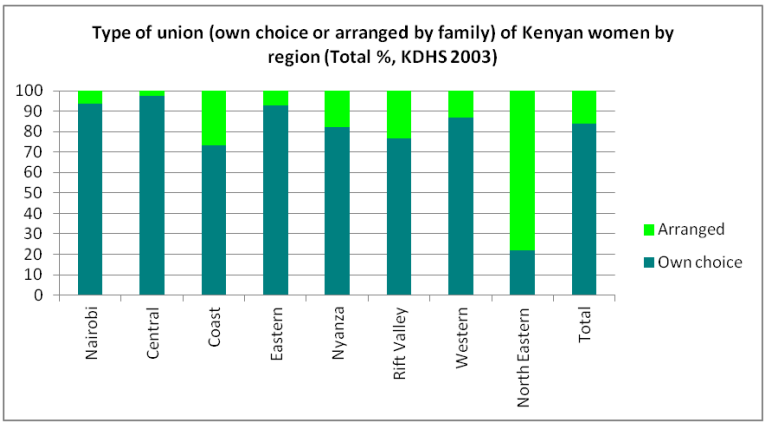



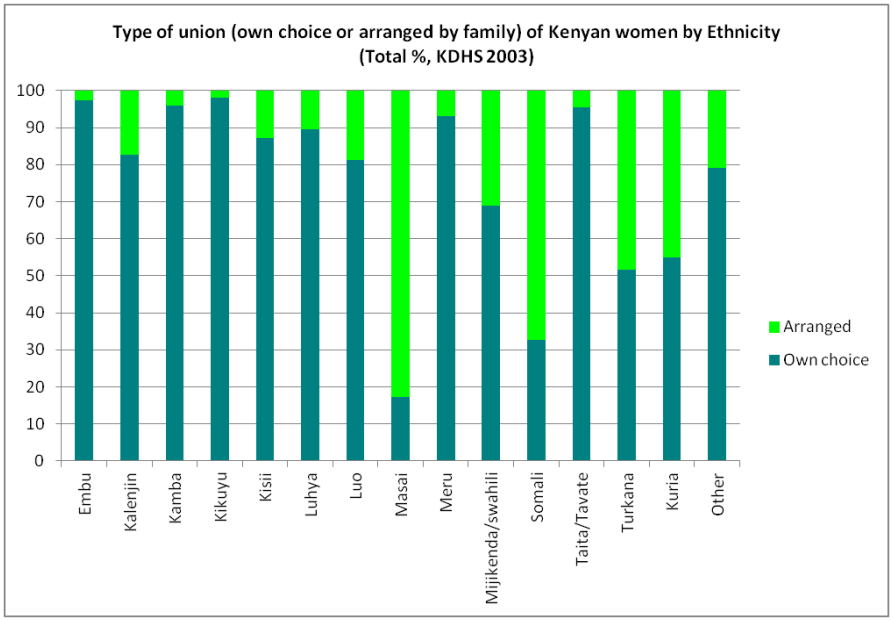


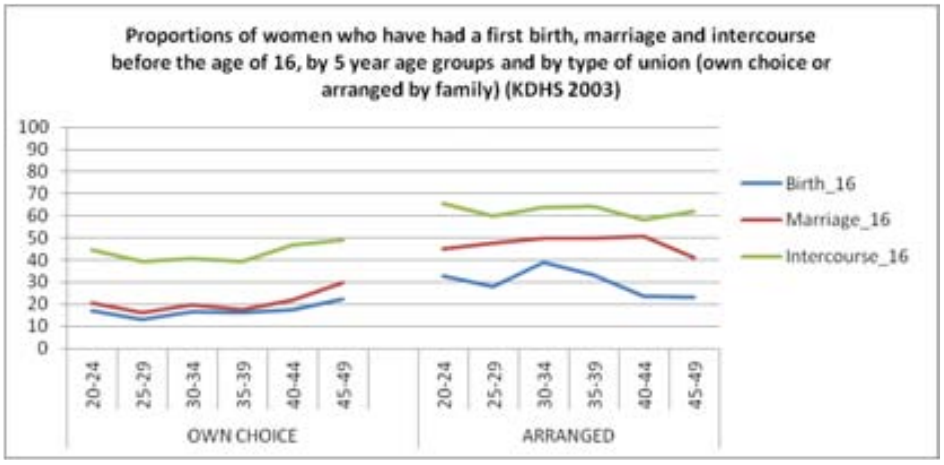

**Figures IV.VI : Marriage arranged versus own choice (KDHS 2003)**

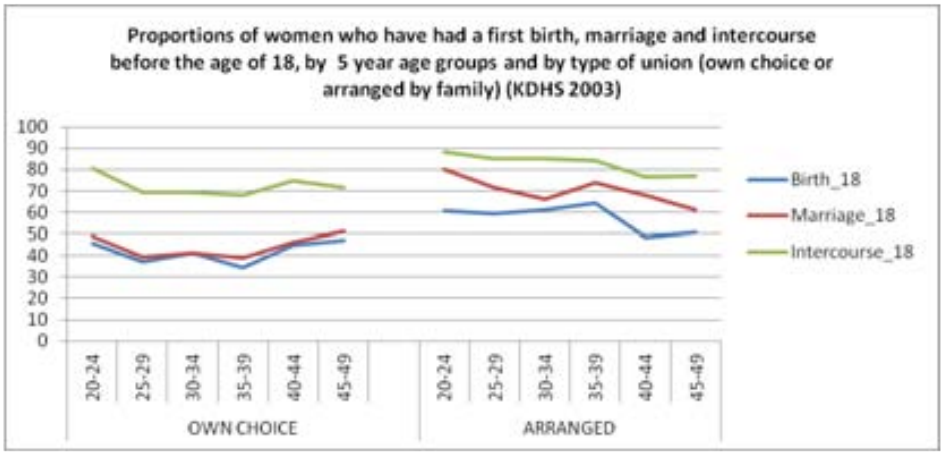
(With data from the 2003 KDHS, the percentage of arranged unions is 16% while the other 84% of unions are by own choice and not arranged by the families)



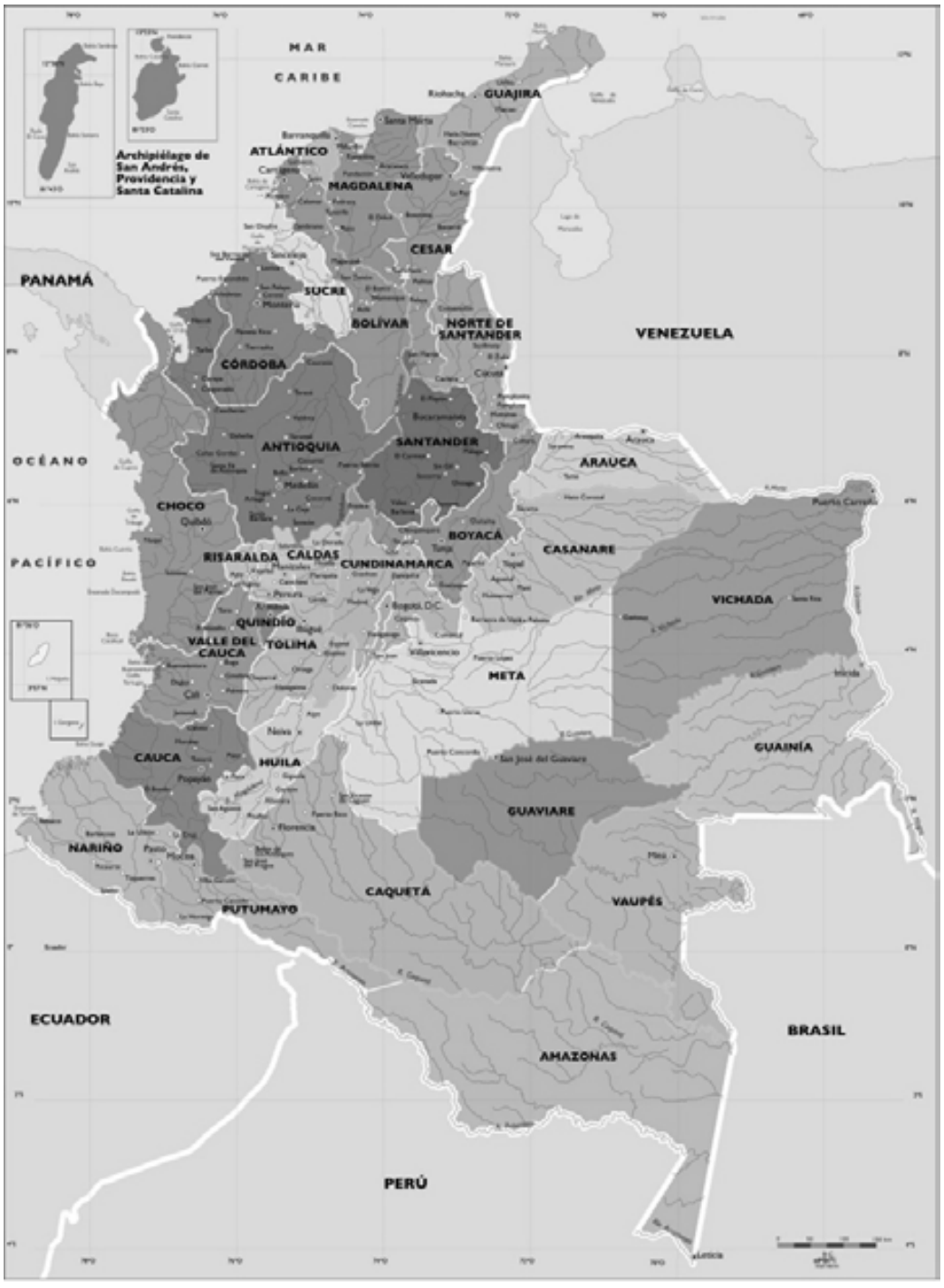

Type of union (own choice or arranged by family) of Kenyan women by Ethnicity
(Total %, KDHS 2003)
100
90
80
70
60
50
40
30
20
10
0
Embu
Kalenjin
Kamba
Kikuyu
Kisii
Luhya
Luo
Masai
Meru
Mijikenda/swahili
Somali
Taita/Tavate
Turkana
Kuria
Other
Arranged
Own choice


Proportions of women who have had a first birth, marriage and intercourse
before the age of 16, by 5 year age groups and by type of union (own choice or
arranged by family) (KDHS 2003)
100
90
80
70
60
50
40
30
20
10
0
20-24
25-29
30-34
35-39
40-44
45-49
OWN CHOICE
ARRANGED
Birth_16
Marriage_16
Intercourse_16


Proportions of women who have had a first birth, marriage and intercourse
before the age of 18, by 5 year age groups and by type of union (own choice or
arranged by family) (KDHS 2003)
100
90
80
70
60
50
40
30
20
10
0
20-24
25-29
30-34
35-39
40-44
45-49
OWN CHOICE
ARRANGED
Birth_18
Marriage_18
Intercourse_18

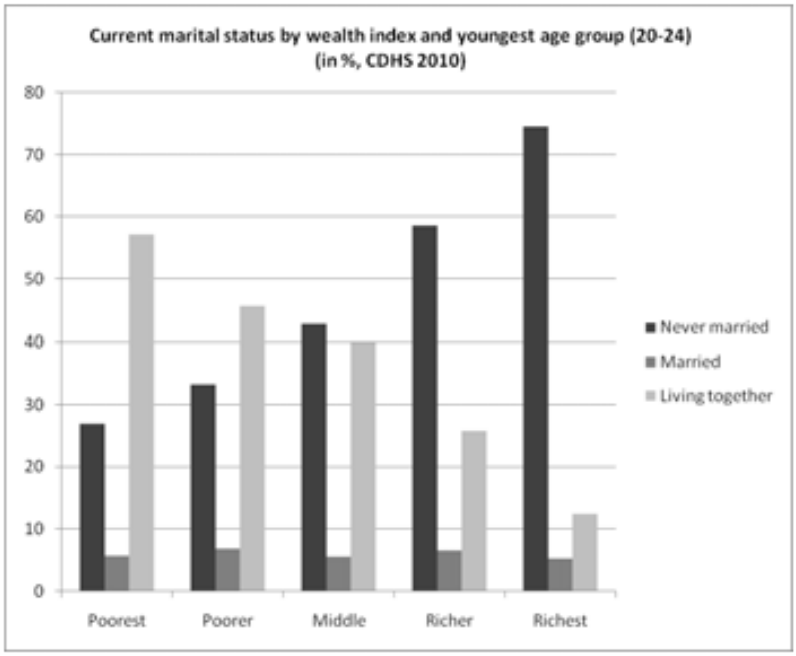
# APPENDIX CHAPTER 5: Colombia

**Map V.I : Political map of Colombia, with the different sub regions ('departamentos').**



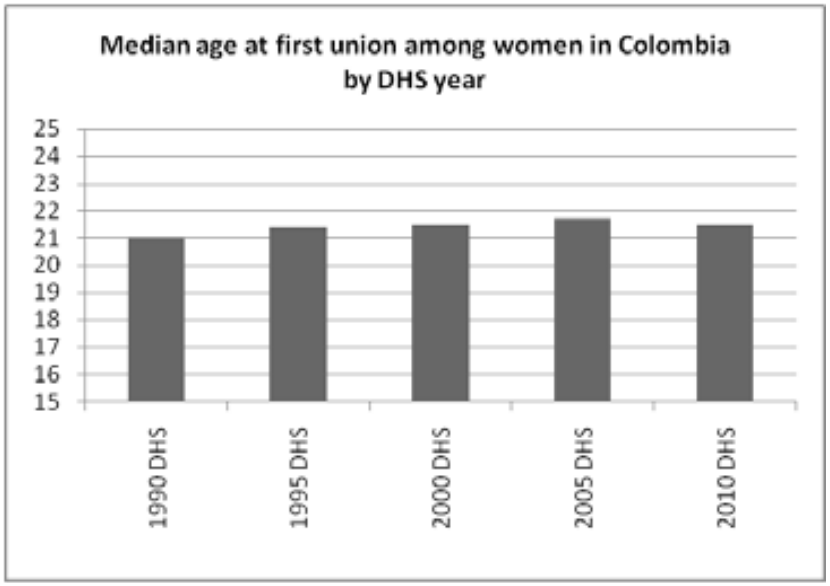

(Source: BC MAPS in http://www.bc-maps.com/mapa-vectorial-eps/vector-map-illustrator-colombia-politico/)

**Figure V.I : Current marital status for the youngest age group (20-24) by wealth index**



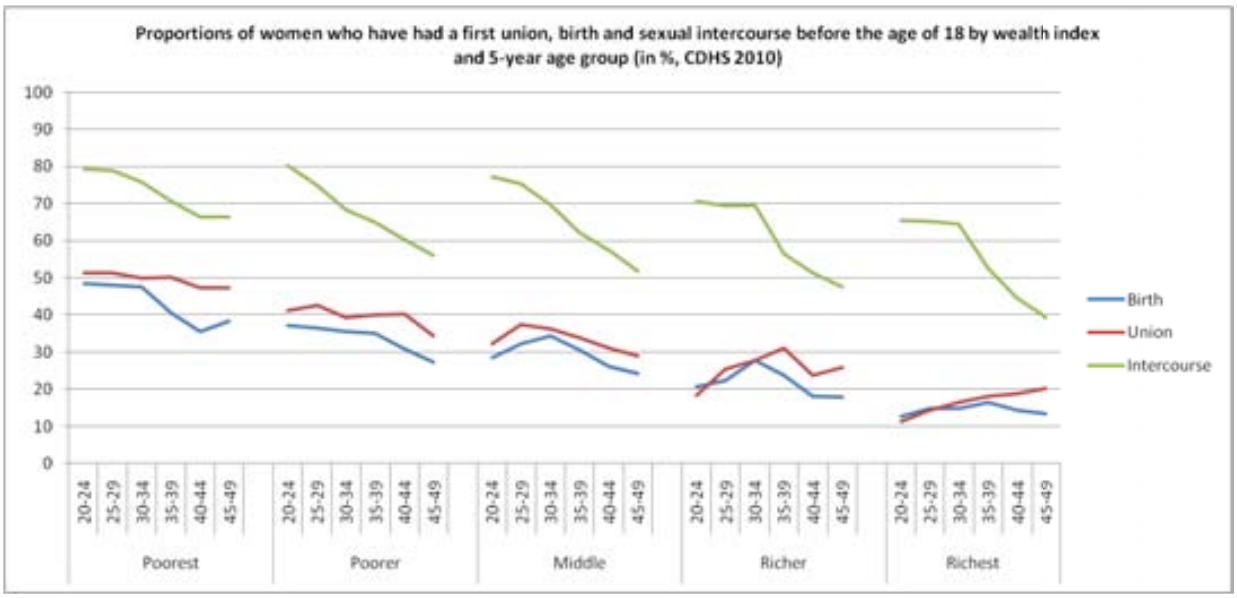

(Source: own calculations based on 2010 CDHS data)

**Figure V. II : Median age at first union of Colombian women by DHS survey year.**



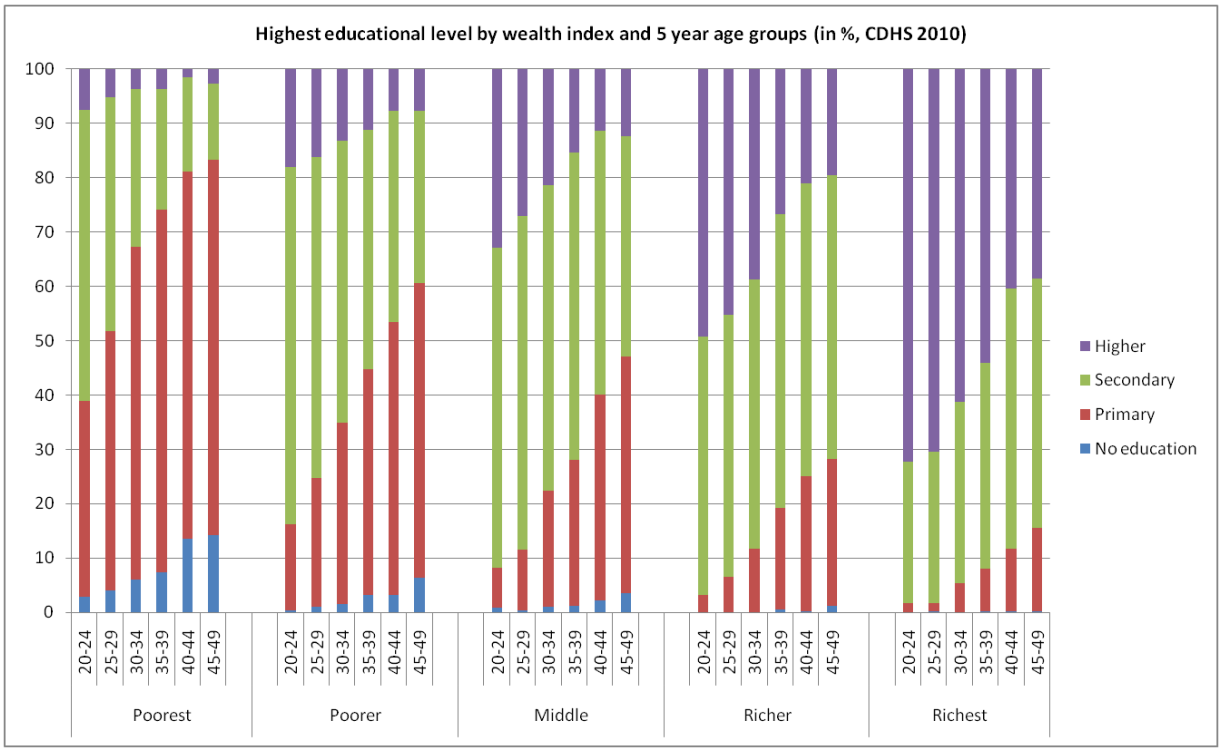

(Source: own calculations based on CDHS data)

Figure V.III : Proportions of women who have experienced the transitions towards first union, sexual intercourse and birth before the age of 18, by wealth index and 5-year age groups




(Source: own calculations based on 2010 CDHS data)

Figure V.IV : Educational expansion by wealth index




(Source: own calculations based on 2010 CDHS data)

**Source for back cover photography:** (*From Left to Right, and downwards)*


**1.** IMAGE SOURCE BLOG/ Photographer Philip Lee Harvey / The RM Signature Collection. By John O'Reilly (July 1, 2014): "The Research and Craft of Travel photography: Matt Dutile interviews Philip Lee Harvey", Young Maasai bride on her wedding day. Website accessed on September 20, 2014 at 'http://www.imagesource.com/blog/the-research-and-craft-of-travel-photography-matt-dutile-interviews-philip-lee-harvey/'

**2.** SWIDE/Art Culture Photo Gallery; Bruno Zanzottera (August 24, 2013): "Lake Turkana: Africa's smallest tribe". Website accessed on September 20, 2014 at 'http://www.swide.com/photo-gallery/lake-turkana-el-molo-tribe-reportage-by-bruno-zanzottera-for-parallelozero/2013/08/24/1-25'

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**6.** EL DIARIO.ES/Photo: Salva Campillo-AEA/Patricia Garcés - Programa Educativo (September 17, 2013): "La no vuelta al cole"; Website accessed on September 20, 2014 at 'http://www.eldiario.es/ayudaenaccion/vuelta_al_cole_6_176092397.html'

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**8.** The photo is courtesy of the ONGD Asociación Nuevos Caminos.

**9.** UJNEWS/Sylvia Hui (August 7, 2014): "Britain, UN Host 1st Summit To End Child Marriages". Website accessed on September 20, 2014 at ' http://www.ujnews.com/britain-un-host-1st-summit-end-child-marriages/'

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**12.** WEDDING CLOUDS, Post by Shruti Sharma (Saturday December 8, 2012): "Anand Karaj". Website accessed on September 20, 2014 at 'http://weddingclouds.blogspot.com.es/2012/12/anand-karaj.html'

**13.** WE TALK WOMEN (2014): "Robbed for Protection". Website accessed on September 20, 2014 at 'http://www.wetalkwomen.org/robbed-for-protection/'

**14.** The photo is courtesy of the ONGD Asociación Nuevos Caminos.

**15.** VERASTIC-Vera Ezimora (July 22, 2013): "Top 10 Reasons Why Marrying A Child Bride Should Be Legal In Nigeria"; Website accessed on September 20, 2014 at 'http://verastic.com/write-ups/top-10-reasons-why-marrying-a-child-bride-should-be-legal-in-nigeria.html'

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**17.** WILL FOTOGRAFÍA; Will & 'Jaz (June 24, 2013). Website accessed on September 20, 2014 at 'http://www.willfotografia.com/2013/06/boda-lauracesar-santander-de-quilichao-colombia-3/'

**18.** GLOBAL GIVING/Photo from Progress Report 'Child bride Meena says, "School comes first!"' The Child Brides: Send Them to School instead. Website accessed on September 20, 2014 at ' https://dpqe0zkrjo0ak.cloudfront.net/pfil/6311/champa_2.jpg'

**19.** The photo is courtesy of the ONGD Asociación Nuevos Caminos.

**20.** NATIONAL GEOGRAPHIC/ Photograph by Stephanie Sinclair, in "Explore Weddings": "*Priest Addisu Abebe, 23, and his new bride, Destaye Amare, 11, are married in a traditional Ethiopian Orthodox wedding outside the city of Gondar, Ethiopia. Since Abebe is a priest, it was necessary that he only marry a virgin.*". Website accessed on September 20, 2014 at 'http://www.nationalgeographic.com/125/photos/explore-weddings/'

## Source for back cover text and figures:

GIRLS NOT BRIDES: What is the impact. Website accessed on September 20, 2014 at "http://www.girlsnotbrides.org/what-is-the-impact/"


The right to 'free and full' consent to marry is recognised in the Universal Declaration of Human Rights, and the Convention on the Elimination of All Forms of Discrimination against Women prohibits child marriage.

Yet, **every year 14 million girls are married** before their 18th birthday, denied their rights to health, education and opportunity, and robbed of their childhood, with little or no say in the matter. In the developing world, one in seven girls is married before her 15th birthday and some child brides are as young as eight or nine. Several explanations behind this harmful practice have a common ground, with poverty and gender inequality, alongside tradition and beliefs, all contributing to giving away young daughters in marriage, often to much elder spouses. Hence, **can education be the answer?**

The present reaserch documents socio-cultural trends of early marriage prevalence in three very different contexts - India, Kenya and Colombia -, investigating the relationship between the educational expansion taking place in these countries and marriage timing, as well as other transitions to adulthood.

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Centre d'Estudis Demogràfics

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