The Effects of Migration and Family Support on Transitions to Adulthood in Urban Kenya

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Abstract

Adolescent migration is closely linked with key transitions to adulthood in sub-Saharan Africa. While urban migration offers adolescents many new opportunities, it typically coincides with considerable disruption of family support. Using detailed life history data from young men and women in Kisumu, Kenya, we examine differences in timing of five transitions (finishing secondary school, finding employment, sexual debut, marriage, and pregnancy) between migrants and non-migrants. We pay particular attention to whether changes in family support, associated with migration, account for different life trajectories of migrants and non-migrants. We find that, controlling for family structures and other transitions, migration has no significant effects on the likelihood of school dropout, having employment, sexual debut, pregnancy, and marriage for adolescent women. In addition, adolescents whose parents are alive and who are supported primarily by their mother or father are less likely to drop out of school than those with other types of family structures. These findings suggest that adolescents with strong family support are better able to successfully transition to adulthood.

INTRODUCTION

Adolescents represent a large, but almost invisible, fraction of migrants in sub-Saharan Africa, (McKenzie 2007; National Research Council and Institute of Medicine 2005). Worldwide, adolescents aged 12-24 make up approximately one third of the total migrant flow. In parts of sub-Saharan Africa, research has shown that 39% of male migrants in South Africa and 50% of female migrants in Cote D'Ivoire are between the ages of 12 and 24 years (McKenzie 2007). Researchers have recently focused considerable attention on the experiences of adult migrants as extensive migration from rural-to-urban areas has fueled the rapid urbanization occurring throughout much of sub-Saharan Africa. Yet, both the motives and experiences of adolescent migrations may differ substantially from those of adults. In particular, moves during adolescence and young adulthood (ages 14-24) are closely tied to important transitions to adulthood. For example, adolescents may specifically move to an urban area in the hopes of improving their chances of finishing secondary school, getting a job, or finding a spouse with better education and more wealth. Migration during adolescence, therefore, may play a critical role in determining the timing and success of these important transitions. Adolescent migration may also serve different purposes for boys and girls. Given that women typically marry at younger ages while men are more likely to work outside the household, adolescent migration may be more closely linked to the prospects of marriage and family formation for women, while migration experience may primarily affect men's educational and work outcomes.

For many adolescents, moving from a rural village to a large city can offer new opportunities with respect to their schooling, employment, sexual and romantic encounters, and even finding a suitable marriage partner. For both male and female adolescents, migration is potentially associated with increased educational opportunities since as higher quality secondary schools and universities tend to be located in larger cities (Beegle and Poulin under review). Youth are also drawn to urban areas in search of better employment opportunities, particularly employment outside of agriculture (McKenzie 2007; National Research Council and Institute of Medicine 2005; Rhoda 1980). Compared to rural areas, cities offer youth a much broader array of career paths and a wider choice of entry-level positions or self-employment opportunities with little up-front capital investment. Migration might be driven, particularly for women, by impending or recent marriage. A study in Ethiopia found that marriage was the main motivation behind migration in 10-29 year olds, with 79% of females and 64% of males reported as having migrated for marriage. Urban areas also afford youth with the opportunity to form more diverse social networks, including a far greater number of interactions with members of the opposite sex with less supervision. Norms around courtship, dating, and sexual behaviors in urban areas also tend to differ from those in more rural areas, providing youth with more freedom to explore dating, and romantic and sexual partnerships that may have been prohibited in rural areas. According to a study in Nigeria, adolescent migrants to urban areas are more likely than rural and urban non-migrants to have experienced premarital sexual initiation (Mberu & White 2011). A study in Kenya found that for both males and females, moves in early adolescence (before age 13) were associated with increased likelihood of sexual debut, while moves in later adolescence (age 14-18) were less likely to have initiated sexual activity that non-migrants (Luke *et al.* under review). Furthermore, female adolescents in urban areas, for example, not only tend to marry at

an older age, but they are also expected to be more involved in the process of choosing their partners (Takyi, Miller, Kitson, and Oheneba-Sakyi 2003). Thus, to the extent that adolescents who move to urban areas are better able to fulfill their educational, careers, sexual, and marital goals, we would expect that these youths would make these transitions earlier relative to youths who remain in less urban areas.

Of course, moving to an urban area may also come with some risks and some of the expectations of the advantages of city life may not be fulfilled. For example, Erulkar and colleagues (2006) finds that although many young girls were sent to live with relatives in Addis Ababa with the promise of attending better quality schools, in reality aunts, uncles, and cousins rarely found the resources to send these girls to school and instead they spent their days working as domestic helpers. Thus, compared to non-migrant girls, migrant adolescent girls were less likely to have received schooling and were more likely to report a low socioeconomic status (Ferede and Erulkar 2009). Similarly, although jobs may be relatively more plentiful in urban areas, securing a new job is often dependent on informal references and contacts. If migrants have weaker social and kin networks than non-migrants, finding their first jobs in the new city may prove especially challenging and they may be compelled to take more hazardous and lower paying jobs or risk unemployment. Lastly, new found sexual freedoms and greater responsibility for choosing one's spouse may, unfortunately, coincide with higher risks of STIS, unwanted pregnancy or sexual exploitation (Clark, Poulin, and Kohler 2009) . Research among both male and female migrants in a number of sub-Saharan African countries generally finds increased vulnerability to HIV and other sexually transmitted infections (Anarfi 1993; Brockerhoff and Biddlecom 1999; Mmabaga, Leyna, Hussain, Mnyika, Sam, and Klepp 2008; Ondimu 2010; Zuma, Gouws, Williams, and Lurie 2003). Thus, adolescent migration may be associated with earlier transitions into sexual activity, higher rates of school dropout, and lower rates of employment.

Regardless of their reasons for moving to an urban area, migration is associated with substantial disruption in the social and kin networks for both adolescents and adults (Brockerhoff and Biddlecom 1999). Even for adolescent migrants who move with one or both of their parents, the transition to a new city often means leaving behind friends, extended family, and neighbors. Many adolescents, however, will move without their parents. For these individuals, migration will coincide with dramatic changes in their family structures and support from family members. Although they may still rely on their parents for financial support and guidance, their daily contact is likely to be limited and the support available to them from their parents is likely to differ substantially from those living with one or both parents. Previous research on fostering, which is common throughout sub-Saharan Africa and tends to increase dramatically with the child's age, is often broken into different types or reasons for fostering. "Crisis" fostering, which generally results from parental death or divorce or severe economic hardship, could cause some adolescents to move in with their urban relatives. Crisis fostering, and the associated migration, may be becoming more common in the wake of the AIDS epidemic in parts of sub-Saharan Africa (Goody 1976; Madhavan 2004; Parikh, DeSilva, Cakwe, Quinlan, Simon, Skalicky, and Zhuwau 2007). Most often, however, adolescents are likely to more in with their urban relatives because the better educational and employment opportunities available in cities. This is often referred to as "educational" or "apprentice" fostering (Goody 1976). In addition to children who are fostered by other relatives or, sometimes, non-relatives, a growing number of wealthier rural

families are sending their adolescent children to boarding schools, vocational schools, and post-secondary educational programs in urban areas. These youths tend to live with groups of peers (often in the same educational program) in dorms or apartments. While some of these youths may report that their parents are still primarily responsible for them, they generally experience substantial autonomy and independence from any adult control or supervision. As a result of these family disruptions, migrant youth are likely to receive less direct support from their mothers and fathers relative to non-migrant youth.

A growing literature documents the importance of family structures and living arrangements on adolescents' development, particularly with respect to their sexual behaviors, marriage prospects, and educational attainment. Multiple studies, often using measures of current household structure, have demonstrated that family structure affects the sexual behaviors of both adolescent boys and girls. Youth living with both parents are significantly less likely to have engaged in sexual activity than youth living with neither parent or with only one parent (Kabiru and Ezeh 2007; Kabiru and Orpinas 2009; Kumi-Kyereme, Awusabo-Asare, Biddlecom, and Tanle 2007; Ngom, Magadi, and Owuor 2003; Speizer, Mullen, Vignikin, and Kouwonou 2002). More youth who reported ever experiencing an unwanted pregnancy or who reported a current pregnancy lived with neither parent, in non-nuclear families, or without a father present (Ngom, Magadi, and Owuor 2003; Vundule, Maforah, Jewkes, and Jordaan 2001). Living with both parents appears to be protective for youth with regard to their sexual activity. An interesting finding in two studies in sub-Saharan Africa is that the presence of a biological father in the household (as a single parent or as part of both parents), either in childhood or currently, is highly protective for adolescent girls when it comes to a variety of sexual outcomes (Babalola, Tambashe, and Vondrasek 2005; Ngom, Magadi, and Owuor 2003). Preliminary research using longitudinal data from South Africa finds that the risks of school drop-out and sexual debut are increased among youth who are separated from their mothers (Martleto *et al.* 2011). Another longitudinal study has shown that the death of a father is associated with an early age of first marriage for girls in Tanzania (Beegle and Krutikova 2008). Lastly, a study of parental death and child outcomes in 10 sub-Saharan African countries found that children who were more closely biologically related to the head of the household were more likely to be enrolled in school than were those who were unrelated (Case, Paxson, and Ableidinger 2004). These findings suggest that although migration to an urban area offers the *possibility* of increased schooling, greater job opportunities, and higher quality and better matched marital partners, in so far as it is also associated with less stable living arrangements and less contact with either or both parents, migration may be associated with greater vulnerability, risk, and less successful transitions to adulthood.

In our paper, we examine the effects of migration during adolescence and family support on five key transitions to adulthood, namely completing secondary school, finding a job, becoming sexually active, becoming pregnant (females) or getting a partner pregnant (males), and getting married (females). Using exceptionally rich life history data from adolescents and young adults in Kisumu, Kenya, we begin by documenting how family support structures differ between migrants and non-migrants in this urban area. We then use event history analysis to explore differences in the timing of each of these five main transitions for migrants and non-migrants. While we control for a host of socio-economic characteristics, we are particularly interested in the effects of family support on these key transitions and whether differences in the type of family support can partially or wholly explain differences in outcomes for migrants and non-

migrants. These analyses provide a rare glimpse into how migration and family support influence each of these transitions, and ultimately shape the life trajectories of Africa's urban youth.

METHODS

Data

The data for this paper are drawn from an innovative life history calendar, which was specifically designed to capture key adolescent transitions, including the development of romantic and sexual partnerships, transitions in and out of school, and engagement with income generating activities. This ten-year retrospective calendar gathered monthly data on the respondents' educational attainment, employment status, sexual activity, pregnancies, and marriages. It also gathered data on residential location and family relationships, including whether the respondent's biological mother and father were still alive and information on the person who was primarily responsible for the care of the respondent.

Our study was conducted in June and July of 2007. The sample was drawn by contacting every other household in 45 randomly selected urban enumeration areas within Kisumu. Men and women aged 18 to 24 in the selected households were eligible to be interviewed. One respondent was randomly chosen per household and he or she was randomly assigned to receive either the life history calendar or a more standard demographic survey. In the present study, we use data from the respondents who received the life history calendar only, which includes a total of 608 respondents (286 women and 322 men).

Samples

Since we are interested in five distinct transitions relating to schooling, work, sexual debut, pregnancy, and marriage, we created distinct samples for each transition. Separate samples were also created for men and women, with the exception of marital transitions which were assessed only for women. In our analysis of four of the transitions (schooling, work, pregnancy, and marriage), we begin our period of observation at age 14 and remove the few respondents who made these transitions before the age of 14. (Thus, we dropped 51 respondents in our schooling sample, 11 respondents in the job sample, 33 in our pregnancy sample, and 1 female in the marriage sample). In our analysis of the transition into sexual activity, we begin our period of observation at age 10 as sexual debut tends to occur early in this population. Even then, we remove 8 respondents who report their first sexual experience before the age of 10. Our final sample sizes are presented in Table 1.

(Insert Table 1 about here)

Models and Outcome Measures

To assess these five transitions into adulthood, we use piecewise exponential survival analysis. Piecewise constant exponential models are a generalization of the standard exponential model in which the time axis is split into discrete periods (Blossfeld, Golsch, and Rohwer 2007). Within each of these time periods the transition rates are assumed to be constant, but the transition rates can differ between time periods. One advantage of this modeling method is that it allows us to treat time as a continuous variable, which is more appropriate than discrete time methods for

events measured in months. Another advantage is that since we do not know the shape of the underlying hazard function for either school dropout or for marriage, we can incorporate a flexible hazard function that changes over specific time-periods. Since we analyze the outcomes for men and women separately, we create separate piecewise exponential models that best fit their specific survival functions.

Our first set of survival analysis models examines covariates associated with a higher risk of dropping out of school before completing secondary school. Men and women are considered to have "dropped out" if they are no longer enrolled in school and did not complete at least nine months of Form 4.[1] By the time of the survey, more women than men (46% vs. 34%) had dropped out of school before completing secondary school (Table 1). Students who are still enrolled in school (7%) or who have completed at least nine months of Form 4 (54%) are treated as censored. In all other analyses, respondents who have not made the transition of interest by the time of the survey are censored. With respect to employment, we find that more men than women (56% vs. 36%) had found a job, which we define as being employed and earning more than 2,000 Kenyan shillings per month (Table 1). A large majority (over 80%) of both men and women had become sexually active, and over half of all women had become pregnant while nearly a quarter of men had impregnated their partners. One-third of women had married by the time of the survey.

Independent Variables

In our analyses, we are primarily interested in how migration during adolescence and family support structures are related to the timing of adolescent transitions. As such, we focus on two key independent variables: 1) migration since the age of 14 and 2) family support. The migration status of youths is measured as a time-varying variable, which equals "0" if the respondent has not migrated and "1" if the respondent has migrated since the age of 14. Respondents who migrated before the age of 14 are not considered migrants as the impact of migration during childhood is likely to differ from the effects of migration during adolescence and young adulthood. In total, roughly 60% of both our male and female respondents migrated after the age of 14 (Table 1).

To measure support from family members, we combine information gathered from two sets of questions. First, for each month of the life history calendar, respondents were asked to indicate "who, if anyone, was the primary person responsible for you in the household?" The concept of the person who bears primary responsibility for a child or youth is somewhat foreign in western cultures, but it is well defined and understood locally. In Luo the term is "ng'a manepidhi" and in Swahili it is "mlezi ama mtu aliyekusaidia kwa mahitaji yako." These terms refer to the primary caregiver, who may or may not be the household head, but who is responsible for making sure that the basic daily needs of the child or youth are met including their food, clothing, and lodging. This person often plays a central role in making decisions about schooling, even if the funds for schooling are provided by other non-resident family members. They also generally know the whereabouts and activities of the respondent and are the first person contacted if the youth experiences any problems or difficulties. Because this concept is better understood in the local languages, interviewers were specifically instructed to always use

[1] Students who were temporarily not enrolled in school because of school holidays or absences between grades are not considered to have dropped out.

the expression in Luo or Swahili. Respondents gave their specific relationship to this person (e.g. father, stepmother, paternal grandmother, maternal aunt, sister, employer, etc) and we collapsed these relationships into five categories of primary responsible person: 1) father, 2) mother, 3) relative,4) non-relative, and 5) self or spouse. The category of non-relative includes youth who are cared for by 1) their employer (1.8%) and 2) others, which primarily consists of youths in boarding school or living in a hostel (12.5%). Second, whether or not a respondent is a single or double orphan can also significantly affect their living arrangements and the amount of support from family members. For example, a respondent may indicate that their mother is the person primarily responsible for them as she may take care of their daily needs, but the amount of financial support this respondent receives may be highly dependent on whether or not their father is alive. Similarly, respondents whose parents are alive may choose to live with relatives because of the greater educational and employment opportunities in Kisumu (i.e. "educational or vocational fostering"), while adolescents whose parents have died may be compelled to move with relatives (i.e. crisis fostering). Consequently, we combine our measure of "responsible person" with "orphanhood status" to create our measure of family support. This measure consists of seven categories: 1) parent responsible, both parents alive; 2) father responsible, mother is dead; 3) mother is responsible, father is dead; 4) a relative is responsible, at least one parent is alive; 5) a relative is responsible, both parents are dead; 6) a non-relative is responsible (regardless of whether or not parents are alive), and 6) the respondent or the respondent's spouse or partner is responsible (no men reported a spouse or partner as their person responsible). Of respondents reporting others as person responsible, the vast majority (approximately 90%) are not orphans; these are likely to be children sent to Kisumu by one or more living parent to pursue educational opportunities. Of respondents in the final category, roughly half (51%) are single or double orphans. Respondents in category 1, who are cared for by a parent and both parents are alive are likely to receive the highest level of family support and comprise over a third of our sample. In contrast, double orphans living with relatives are likely to be the worst off. Like our measure of migration status, our measure of family support also varies over time to reflect the changes in living arrangements and parental survival of these adolescents and young adults.

In addition to our two key measures of family support and migration status, we control for other important social and demographic characteristics, which are known to be associated with transitions to adulthood, such as the respondent's ethnicity and religion. Moreover, since the timing of some transitions may have a strong effect on the timing of subsequent transitions, we also include time-varying measures of our five transitions: 1) educational enrolment and performance (measured as being the right age for grade and having either dropped out of school, completed secondary school, or currently in school, either behind age-for-grade or on-track), 2) employment, 3) sexual debut , 4) sexual debut, and 5) marriage and marital aspirations. As some events may occur in the same month, we lagged all of our independent variables by one month to ensure that changes in the independent variables occurred *before* the outcome transitions.

RESULTS

Descriptive Characteristics

Table 2 presents the probability of making our five transitions to adulthood by the time of the survey by whether or not the respondent migrated since the age of 14. Non-migrant women are significantly more likely to have dropped out of school than their migrant counterparts (49.3% versus 32.8%). Slightly more non-migrant males drop out of school than migrants (35% compared to 32.6%), but the difference is not significant. Migrant men are significantly more likely to have had a job in comparison to non-migrant men (62.2% versus 47.6%). However, there is no relationship between adolescent migration and holding a job for women. Among females, we find that slightly more migrants report ever having had sex (85.5% of migrants versus 78.1% of non-migrants), although this difference is not significant. Female migrants are, however, significantly more likely to be married (39.1% versus 23.6%) and to have ever been pregnant (57.0% versus 44.9%) than non-migrants. Among men, migrants tend to be more likely to make the transition into sexual activity, marriage, and fatherhoodcompared to non-migrants, but none of these differences are significant. We note, however, that none of these bivariate associations account for age differences between migrants and non-migrants nor do they account for the order of migration with respect to these transitions.

Table 2 also shows the significant relationship between migration status and family support. As we expected, migrants have different types of family support than non-migrants. For both men and women, migrants are much more likely to support themselves or to be supported by a spouse (in the case of women). In contrast, non-migrants are more likely to name their mother and father as the person primarily responsible for them compared to migrants, significantly more often in the case of choosing mothers are the person responsible when their father is alive (for both males and females). Interestingly, there is little difference in relying on a non-relative for primary support between migrants and non-migrants if at least one parent is alive.

(Insert Table 2 about here)

Schooling

Tables 3 and 4 explore the factors associated with dropping out of school for both women and men, respectively. Model 1 presents the effect of migration on dropping out of school controlling for social and demographic characteristics. In Model 2, we control for adolescents' family support. Lastly, Model 3 adds the occurrence of other adolescent transitions.

In Model 1 of Table 3, we find that, consistent with our bivariate results, female adolescent migrants are somewhat less likely than non-migrants to drop out of school, although the effect is not significant. Even after we control for our family support measure and our other characteristics and transitions, the relationship between migration and education for females is not significant. We also find no significant relationship between ethnicity and schooling outcomes for girls, while girls who practice a traditional or African religion were significantly more likely to drop out of school than Catholic respondents. In Model 2, we find a strong relationship between family support and girls' schooling. Among respondents whose fathers bear primary responsibility for their well-being, the risk of dropping out of school is over three times higher if their mother has died than if their mother is alive. Similarly, among respondents who name their mothers as their primary caregivers, those whose fathers have died are over twice as likely to drop out of school than those whose father are living. If both parents are alive, there appears to be no effect on whether the respondent names her mother or father as her

primary source of support. All female respondents who name a relative as their primary caregivers are more likely to drop out of school compared to those who name a parent. However, double orphans who live with relatives are the least likely to complete secondary school (odds ratio > 4). Women who are under the care of non-relative are not significantly more likely to drop out of school, perhaps reflecting that many of these young women were sent to Kisumu to complete their schooling and, hence, live in dorms or student apartments.[2]

Adding measures of other transitions to adulthood in Model 3 strengthens the effects of family support slightly in some cases and weakens the effect in others. As expected, there are also important relationships between making these other transitions and finishing secondary school. Not surprisingly, we find that school performance, specifically being in the right grade for age, substantially reduces the risk of dropping out of school. In addition, while girls who are sexually active are not more likely to drop out of school, girls who become pregnant and those who find a partner they wish to marry (which are both strongly associated with sexual activity) are significantly more likely to drop out of school.

(Insert Table 3 about here)

Adolescent migration appears to have an opposite effect on schooling for men than for women, perhaps indicating that more women than men move to Kisumu for the purpose of continuing their education (Table 4). For our male respondents, adolescent migration is associated an increased risk of dropping out of school, although this effect is not significant in any of our models. In Model 1, we find that compared to Luo men, men of other ethnic groups (excluding Luhyas) are less likely to drop out of school while men who belong to a traditional African religion (compared to Catholics) are more likely to drop out of school. Similar to our findings for women, we find that family support has an effect on men's educational attainment (Model 2). In contrast to our findings for girls, we find that boys who report being cared for primarily by their mothers are less likely to remain in school when their fathers are dead. Boys who live with another relative, both those who have at least one surviving parent and those who are double orphans are more likely to drop out of school than the reference group (significantly so only in the case of single orphans). Interestingly, double orphans who live with relatives are more likely to finish secondary school compared to non-orphans who live with relatives. Those who report they are supported by a non-relative are significantly less likely to drop out of school than those supported by one or both of their living parents; this likely reflects the fact that these young men may be living in some form of student housing. Finally, men who report that they support themselves are over 3 times more likely to drop out of school than men who are supported by either parent and whose parents are both alive, though the effect is insignificant.

(Insert Table 4 about here)

In our final model (Model 3), we include other transitions to adulthood. We find that, like with female adolescents, male adolescents who are "on-track" in school are significantly far less likely to drop out. Moreover, while being sexually active and wanting to get married have no effect on men's schooling, getting their partner pregnant appears to substantially increase the

[2] Because very few girls still in school reported being responsible for themselves, we included this category in the category of "non-relative responsible."

likelihood of quitting school. Interestingly, young men who find a well-paying job are also less likely to complete secondary school, suggesting that this may present incompatible activities for some young men.

Employment

Bivariate results presented in Table 2 suggest that female migrants and non-migrants are roughly equally as likely to have entered into employment. Table 6 indicates that migrant women are more likely to have a job than non-migrant women, but the effect is not significant in any of our three models. When controlling for socio-demographic characteristics in Model 1, we find that, compared to Catholic respondents, Protestant women are significantly less likely to have a job. Unlike with education, we find no significant effects of family structures on the likelihood of having a job for women. However, we find that women who have successfully completed secondary school are over 2 times more likely to have a job than those who have dropped out of school. Interestingly, girls who were still enrolled in school were only slightly, and not significantly, less likely to have a job compared to girls who dropped out of school. None of the other measures of transitions relating to marriage and pregnancy had any effect on women's employment prospects.

(Insert Table 5 about here)

While Table 2 reports that male migrants are significantly more likely to have entered into employment than non-migrant men, we do not see significant effects in our analyses on employment. In Model 1, which demonstrates the effect of having migrated controlling for socio-demographic characteristics, we see that migrant men are more likely to have a job than non-migrants, though the difference is not significant. We find no significant effects of ethnicity or religion for employment among men. In Model 2, which controls for family structure, only those men who report that they support themselves are significantly more likely to have a job compared to those who are supported by either fathers or mothers and whose parents are both alive.

In Model 3, we find that schooling has a large effect on men's chances of being employed. However, in contrast to our findings for women, we find that men who dropped out of school are far more likely to be employed than those who are in school. Moreover, there is no difference in employment rates for those who completed secondary school and those who dropped out. These results suggest that men who are not in school are likely to hold a job regardless of whether they received a diploma, although the quality of the jobs held by secondary school graduates may be higher than those who dropped out. With respect to the other transitions, Table 6 shows the intriguing finding that men whose partners become pregnant are more likely to seek employment.

(Insert Table 6 about here)

Sexual Debut

In Model 1 (Table 7), we find that, controlling for socio-demographic characteristics, migrant girls are significantly more likely to have ever had sex than non-migrant girls. The odds of having sex are 34% higher for girls who move to Kisumu than for girls who have lived in

Kisumu since the age of 14. However, once we control for types of family support, the effect of migration becomes insignificant (Model 2). Instead, we find that girls who are double orphans and who live with relatives are significantly become sexually active at significantly younger ages than girls receiving some support from their fathers and mothers. In Model 3, all effects of family structure disappear after controlling for key transitions. Specifically, we find that girls' schooling is strong related to their chances of becoming sexually active. In comparison to girls who have dropped out of school, we find that girls who are in school regardless of whether they are on track for their grade are significantly less likely to have had sex. Moreover, girls who have successfully completed Form 4 are also less likely to be sexually active, even after they have left school. Lastly, we find that having a partner who is viewed as a potential spouse increases the odds of becoming sexually active more than four-fold. These results suggest that while neither migration status nor family support has a direct impact on the timing of sexual debut for girls, they have an indirect effect on girls' schooling and marital aspirations, which in turn affects her likelihood of engaging in sex at a relatively young age.

(Insert Table 7 about here)

Table 8 shows the relationship between sexual debut and other factors for adolescent males. In all three models, we find no significant effect of migration on sexual debut, meaning male migrants are roughly equally as likely to have had sex as non-migrants. Controlling for ethnicity and religion, we find Luhya males are less likely to report sexual activity than Luo males. When we control for family support in Model 2 and 3, we find that in comparison to males supported by fathers or mothers with both parents alive, males who report a non-relative responsible for their care are significantly less likely to have had sex. This finding is puzzling as we would expect that many of these young males would have little parental supervision and potentially are enrolled in school, where they would have opportunities to meet members of the opposite sex. Finally, we find other adolescent transitions are associated with sexual debut (Model 3). In contrast to girls, educational attainment has a much weaker effect on the timing of sexual debut for boys. Men who reported having a partner they wanted to marry were more than 2 times as likely to have had sex than those who did not. In addition, males who had ever had a job were significantly more likely to have had sex than those who had never had a job.

(Insert Table 8 about here)

Pregnancy

Tables 9 and 10 explore the factors affecting likelihood of pregnancy among young women and men. The descriptive findings in Table 2 suggest that migrant women are significantly more likely to report having had at least one pregnancy than non-migrant women. Model 1 in Table 9 shows that female migrants are significantly more likely to have ever been pregnant than female non-migrants when we control for social and demographic characteristics. In Model 2, when we control for family support, we find that the effect of family support is strongest in the case of girls who are responsible for themselves or who have a partner caring for them. In comparison to girls whose parents are alive and support them, girls living alone or with partners are over 7 times more likely to have ever been pregnant. Interestingly, when we control for other adolescent transitions in Model 3, this effect is reduced and becomes insignificant. Effects of religion are seen in Model 3, where we note that in comparison to Catholics, both Protestants, Muslims, and those practicing other or no religions are less likely to have ever been pregnant. We find that girls

currently enrolled in school are significantly less likely to have ever been pregnant than girls who have dropped out. While having ever been married was not significantly associated with ever having been pregnant, girls who currently want to marry their partners are more than 4 times as likely to have experienced a pregnancy as those who do not.

(Insert Table 9 about here)

Table 10 demonstrates that migration does not appear to significantly increase the likelihood of young men impregnating a partner. In Model 1, migrant males are slightly more likely to have had a partner become pregnant, though the effect is not significant; as we control for other characteristics and transitions, migrant men appear to be less likely than non-migrants to impregnate partners. Similarly to our findings for girls, Protestant males are less likely to have had a partner become pregnant in comparison to Catholic respondents. In Model 2, when we introduce our measure of family support, we find that in comparison to males who are supported by either of their living parents, boys who are responsible for themselves are 4 times as likely to have had a partner become pregnant. Finally, in Model 3, we find a number of adolescent transitions are associated with males impregnating partners. Relative to boys who have dropped out of school, those in school at the correct grade for age, those in school and behind, and those who have successfully completed secondary school are all significantly less likely to have had a partner become pregnant. Differing from the results for girls, we find that boys who have ever been married are more than 5 times as likely to have had a partner become pregnant. Additionally, current marital aspirations of young men also significantly increase the likelihood of having a pregnant partner.

(Insert Table 10 about here)

Marriage

Although Table 2 shows that girls who have migrated are more likely to be married, the results from the event history analyses suggest that migration does not lead to a higher probability of marriage. Rather it appears that young girls often migrate at the same time as they marry. In Appendix A, we do not lag the time of migration, thereby assuming that any migration that occurred in the same month of marriage preceded the marriage. In these analyses, migration is strongly associated with marriage across all models. In Table 11, migration is significant only when we do not control for other transitions and family structures.

In comparison, school enrolment is strongly associated with the timing of marriage. Girls who are in school (in the previous month) are significantly less likely to get married than girls who are permanently out of school. These results suggest that girls' school enrolment and performance both have a strong effect on their marital plans. Adolescent girls who are sexually active are also more likely to get married. Interestingly, we do not find many effects of family support on the timing of marriage for young women. In Model 2, we find that girls whose fathers support them and whose mothers are dead are nearly 3 times as likely to marry as those with both parents alive, but the effect becomes insignificant in Model 3 when we control for education and other transitions. Somewhat unsurprisingly, in comparison to those who are supported by either of their living parents, women who support themselves or who are supported by a partner are over 4 times more likely to marry.

(Insert Table 11 about here)

DISCUSSION AND CONCLUSIONS

Our results suggest that although migration is associated with several key transitions to adulthood including leaving school, work, sexual debut, pregnancy, and marriage,, migration is more often a *consequence* of these transitions rather than a cause. For example, we find evidence that young women more often migrate because they got married rather than migration *per se* increasing the probability that women will marry at a young age.

The protective effect of migration in lowering the likelihood of school dropout for young women may suggest that some of these adolescents are migrating to urban centers in order to pursue educational opportunities. These kinds of motivations often go unrecognized in typical characterizations of women's migration. While we are not able to fully explore motivations for migration among our respondents, these findings suggest that adolescents migrating for specific opportunities such as schooling may be better able protected from the risk of dropping out. It does appear that young migrant women undergo faster transitions with respect to several of transitions related to family formation and relationships. Migrant women are more likely to have had sex than non-migrants, as well as more likely to have reported a pregnancy and to become married. The trajectories toward family formation for these migrant adolescents seem to be occurring more rapidly than for non-migrant girls in Kisumu.

Regardless of possible motivations for migrating to Kisumu, migration does not appear to matter for young men's transitions to adulthood. Migrant boys experience their transitions to finishing school, gaining employment, having first sex, impregnating a partner, and getting married in similar ways to non-migrant boys. Previous research has suggested that motivations for migration among young men tend to be largely related to their search for employment or for educational opportunities. Our findings show that migrant boys are more likely to drop out of school, although not significantly so, and they are slightly less likely as non-migrant males to find employment. In terms of employment, this might suggest that while boys may migrate to Kisumu in order to work, they may not have the same opportunities as non-migrant boys who may have more access to resources and to social networks. Our results show, however, that migrant males in this community are neither disadvantaged by migration nor do they gain particular advantage from their migration.

Types of family support have a strong effect on the educational attainment of both young men and women. Adolescents with both parents living and primarily responsible for their well-being are the least likely to drop out of school. In contrast, adolescents with at least one parent who has died and those living with relatives are more likely to leave the educational system before completing secondary school. Since migrants are more likely to reside in these types of family structures, it suggests that although migration may be accompanied by new opportunities for work and schooling, migrants may find it to be more difficult to take advantage of these opportunities because they receive less family support.

As has been suggested, migration during adolescence and young adulthood has the possibility to provide migrants with opportunities and advantages with regard to their educational and employment outcomes which were not available to them in their rural homelands. However, because migrants are more likely to live in family structures where they are either independent and primarily responsible for their own care, or with relatives or non-relatives who may or may not have the resources, energy, and desire to provide full guidance and support, young migrants do not always have the ability to take advantage of the new urban opportunities they have sought in the cities. This work adds to the existing body of work on migration in sub-Saharan Africa, on the effects of family structure on youth behaviors and outcomes, and on adolescent transitions to adulthood by using an event history perspective and exceptionally detailed life history data which captures changes in family support, migrant status, and outcomes over the course of a 10 year period. Because we use exceptionally rich monthly life history data, we are better able to capture the timing of these pivotal life transitions among migrant and non-migrant youth and to understand the relationship between migration and transitions to adulthood.

Finally, the important relationship between the five transitions to adulthood is demonstrated in these findings. In particular, it appears that transitions related to family formation, especially pregnancy, have significant effects on transitions related to education and employment. For both boys and girls, we see that a pregnancy significantly increases likelihood of school drop-out. Those experiencing a pregnancy prior to the completion of Form 4 may not have the support and resources available to allow them to continue their education. Girls may drop out in order to care for children resulting from their pregnancies, while boys made be dropping out for a different reason. For boys, having a partner become pregnant also increases the chance of entering the workforce, suggesting that young men may be gaining employment to help provide for their partners and children. Interestingly, marital aspirations also appear to affect transitions to adulthood for both boys and girls. Currently wanting to marry one's partner also increases the likelihood of having had sex and having a partner become pregnant. In the case of young women, wanting to marry one's current partner increases risk of school drop-out, of sexual debut, and of becoming pregnant, which may suggest that marriage opportunities are sought after among adolescent girls and that these aspirations may increase the speed of transitions.

Our findings suggest that some migrants, namely those who have surviving parents and maintain close relationships with and support from relatives, are better able to successfully make the transition to adulthood than other migrants or non-migrants. Given rapid urbanization and the substantial numbers of young people migrating from rural villages to urban centers, particularly in sub-Saharan Africa, the findings of this paper have direct relevance to researchers and policy analysts interested in migration, family structures, and transitions to adulthood in the developing world.

REFERENCES

Babalola, S., B.O. Tambashe, and C. Vondrasek. 2005. "Parental factors and sexual risk-taking among young people in Cote D'Ivoire." *African Journal of Reproductive Health* 9:49-65.

Beegle, Kathleen and Sofya Krutikova. 2008. "Adult mortality and children's transition into marriage." *Demographic Research* 19:1551-1574.

Beegle, Kathleen and Michelle Poulin. under review. "Migration and the transition to adulthood in contemporary Malawi."

Blossfeld, Hans-Peter, Katrin Golsch, and Götz Rohwer. 2007. *Event History Analysis with Stata*. London: Lawrence Erlbaum Associates, Publishers.

Brockerhoff, M. and A. Biddlecom. 1999. "Migration, sexual behavior and risk of HIV in Kenya." *International Migration Review* 33:833-856.

Case, Anne, Christina Paxson, and Joseph Ableidinger. 2004. "Orphans in Africa: Parental death, poverty, and school enrollment." *Demography* 41:483-508.

Clark, S., M. Poulin, and H. P. Kohler. 2009. "Marital aspirations, sexual behaviors, and HIV/AIDS in rural Malawi." *Journal of Marriage and Family* 71:396-416.

Erulkar, Annabel, Tekle-Ab Mekbib, Negussie Simie, and Tsehai Gulema. 2006. "Migration and vulnerability among adolescents in slum areas of Addis Ababa, Ethiopia." *Journal of Youth Studies* 9:361-374.

Ezra, M. & G.-E. Kiros. 2001. "Rural out-migration in the drought-prone areas of Ethiopia: A multilevel analysis." *International Migration Review 35(3)*: 749-777.

Ferede, A. and A. Erulkar. 2009. "Adolescent girls in urban Ethiopia: Vulnerability and opportunity." Population Council, New York, NY.

Goody, J. 1976. *Production and reproduction: A comparative study of the domestic domain*. Cambridge: Cambridge University Press.

Kabiru, C. and A. Ezeh. 2007. "Factors associated with sexual abstinence among adolescents in four sub-Saharan African countries." *African Journal of Reproductive Health* 11:111-132.

Kabiru, C. and P. Orpinas. 2009. "Factors associated with sexual activity among high-school students in Nairobi, Kenya." *Journal of Adolescence* 32:1023-1039.

Kumi-Kyereme, A., K. Awusabo-Asare, A. Biddlecom, and A. Tanle. 2007. "Influences of social connectedness, communication and monitoring on adolescent sexual activity in Ghana." *African Journal of Reproductive Health* 11:133-136.

Luke, N., H. Xu, B. Mberu & R. Goldberg. Under Review. "Migration experience and sexual debut in urban Kenya: An event history analysis."

Madhavan, S. 2004. "Fosterage patterns in the age of AIDS: Continuity and change." *Social Science & Medicine* 58:1443-1454.

Mberu, Blessing & Michael J. White. 2011. "Internal migration and health: Premarital sexual initiation in Nigeria." *Social Science & Medicine72(8)*: 1284-1293.

McKenzie, David. 2007. "A Profile of the World's Young Developing Country Migrants."

National Research Council and Institute of Medicine. 2005. *Growing up global: The changing transitions to adulthood in developing countries*, Edited by C. B. Lloyd. Washington, DC: The National Academies Press.

Ngom, Pierre, Monica A. Magadi, and Tom Owuor. 2003. "Parental presence and adolescent reproductive health among the Nairobi urban poor." *Journal of Adolescent Health* 33:369-377.

Parikh, A., M. DeSilva, M. Cakwe, T. Quinlan, J. Simon, A. Skalicky, and T. Zhuwau. 2007. "Exploring the Cinderella myth: Intrahousehold differences in child wellbeing between orphans and non-orphans in Amajuba District, South Africa." *AIDS* 21:S95-S103.

Rhoda, Richard. 1980. "Migration and employment of educated youth in Ghana." *International Migration Review 14(1)*: 53-76.

Speizer, I., S. Mullen, E. Vignikin, and K. Kouwonou. 2002. "Gender differences in cues that affect condom use among adolescents in Lome, Togo." *African Journal of Reproductive Health* 6:70-81.

Takyi, Baffour K., Nancy B. Miller, Gay C. Kitson, and Yaw Oheneba-Sakyi. 2003. "Marital choice in sub-Saharan Africa: Comparing structural and cultural influences in contemporary Ghana." *Comparative Sociology* 2:375-391.

Vundule, C., F. Maforah, R. Jewkes, and E. Jordaan. 2001. "Risk factors for teenage pregnancy among sexually active black adolescents in Cape Town." *South African Medical Journal* 91:73-80.

Table 1: Characteristics of Youth in Percentages

	Females	Males	Sig.	Total	N
Dependent Variables					
Dropped Out Of School	45.6	34.1	**	39.5	555
Ever Had A Job	36.0	55.6	***	46.4	592
Ever Had Sex	83.1	86.0		84.7	595
Ever Pregnant	52.5	24.5	***	37.7	600
Ever Married	33.3	9.9	***	20.9	607
Socio-Demographic Characteristics					
Religion					608
Catholics	25.5	23.3		24.3	
Protestants	38.8	45.0		42.1	
Pentecostal	21.3	14.9		17.9	
African/Traditional	9.1	8.7		8.9	
Muslim/Other/None	5.2	8.1		6.7	
Ethnicity			*		608
Luo	71.3	75.8		73.7	
Luhya	18.9	11.2		14.8	
Other	9.8	13.0		11.5	
Key Independent Variables					
Ever Migrated After Age 14	62.6	55.0		58.6	608
Family Support					608
Father responsible, mother alive	8.5	11.9		10.3	
Father responsible, mother dead	2.1	2.2		2.2	
Mother responsible, father alive	10.0	13.8		12.0	
Mother responsible, father dead	8.5	9.7		9.2	
Relative responsible, not double orphan	13.5	14.7		14.1	
Relative responsible, double orphan	7.5	6.9		7.2	
Non-relative responsible	17.1	11.9		14.3	
Self or partner responsible	32.7	29.1		30.8	
Other Independent Variables					
Right Age for Grade	0.4	1.9		1.2	
Currently Want to Marry	57.3	51.6		54.3	

$p < 0.05$ (*), 0.01 (**), 0.001 (***)

Statistical significance denotes difference between females and males.

Measures taken at time of survey

Table 2: Characteristics of Migrants and Non-Migrants by Gender.

	Females			Males		
	Non-Migrants	**Migrants**	**sig**	**Non-Migrants**	**Migrants**	**sig.**
	(n=106)	**(n=179)**		**(n=145)**	**(n=177)**	
Dependent Variables						
Dropped Out Of School	49.3	32.8	*	35.0	31.6	
Ever Had A Job	34.6	36.9		47.6	62.2	**
Ever Had Sex	78.1	85.5		82.2	88.2	
Ever Pregnant	44.9	57.0	*	20.0	28.3	
Ever Married	23.6	39.1	**	8.3	11.3	
Key Independent Variable						
Family Support						
Father responsible, mother alive	10.4	7.4		14.6	9.7	
Father responsible, mother dead	2.8	1.7		2.8	1.7	
Mother responsible, father alive	16.0	6.3	**	18.1	10.2	*
Mother responsible, father dead	12.3	6.3		11.8	8.0	
orphan	13.2	13.7		11.8	17.1	
Relative responsible, double orphan	8.5	6.9		9.7	4.6	
Non-relative responsible	13.2	19.4		12.5	11.4	
Self or partner responsible	23.6	38.7	*	18.8	37.5	***

$p < 0.05$ (*), 0.01 (**), 0.001 (***)

Statistical significance denotes difference between migrants and non-migrants.

Measures taken at time of survey

Table 3: Risk of School Dropout (Women)

Variables	Model 1 n=261			Model 2 n=260			Model 3 n=260		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	0.77	0.22		0.64	0.19		0.62	0.19	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.88	0.21		1.08	0.27		0.88	0.22	
Other	0.77	0.19		0.85	0.29		0.83	0.29	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.79	0.19		0.85	0.21		0.76	0.19	
Pentecostal	1.19	0.32		1.32	0.36		1.25	0.35	
African/Traditional	2.30	0.75	*	2.14	0.71	*	2.05	0.69	*
Muslim/Other/None	1.79	0.69		1.81	0.72		1.69	0.67	
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				3.27	1.61	*	3.60	1.80	**
Mother responsible, father dead				2.18	0.59	**	1.84	0.51	*
Relative responsible, not double orphan				2.24	0.60	**	1.87	0.52	*
Relative responsible, double orphan				4.01	1.29	***	4.31	1.36	***
Non-relative responsible				0.98	0.30		1.13	0.36	
Right Age for Grade							0.26	0.06	***
Ever Had Sex							1.48	0.34	
Ever Been Pregnant							2.64	0.82	**
Currently Want to Marry							1.96	0.50	**
Ever Had a Job							2.97	2.23	

* p<0.05, ** p<0.01, *** p<0.001

Table 4: Risk of School Dropout (Men)

Variables	Model 1 n=296			Model 2 n=296			Model 3 n=295		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.41	0.35		1.44	0.37		1.38	0.36	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.69	0.24		0.67	0.24		0.75	0.27	
Other	0.45	0.18	*	0.41	0.17	*	0.40	0.18	*
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.61	0.16		0.66	0.17		0.74	0.20	
Pentecostal	1.08	0.35		1.17	0.39		1.53	0.52	
African/Traditional	2.25	0.73	*	2.14	0.71	*	2.15	0.73	*
Muslim/Other/None	1.59	0.63		1.53	0.64		1.34	0.57	
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				1.47	0.71		1.52	0.74	
Mother responsible, father dead				1.72	0.46	*	1.83	0.50	*
Relative responsible, not double				2.02	0.59	*	1.88	0.56	*
Relative responsible, double				1.35	0.49		1.28	0.46	
Non-relative responsible				0.31	0.15	*	0.35	0.17	*
Self responsible				3.65	2.72		3.66	2.76	
Right Age for Grade							0.40	0.11	***
Ever Had Sex							1.47	0.33	
Ever Had a Partner Become Pregnant							2.85	1.16	**
Currently Want to Marry							0.60	0.21	
Ever Had a Job							4.37	2.14	**

* p<0.05, ** p<0.01, *** p<0.001

Table 5: Risk of Employment (Women)

Variables	Model 1 n=284			Model 2 n=284			Model 3 n=284		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.31	0.28		1.25	0.28		1.21	0.27	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	1.17	0.30		1.22	0.31		1.03	0.28	
Other	1.00	0.36		1.04	0.37		1.03	0.38	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.48	0.13	**	0.45	0.12	**	0.45	0.12	**
Pentecostal	0.90	0.24		0.83	0.23		0.84	0.23	
African/Traditional	0.48	0.21		0.45	0.20		0.49	0.22	
Muslim/Other/None	1.76	0.67		1.63	0.63		1.99	0.79	
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				0.43	0.44		0.34	0.35	
Mother responsible, father dead				1.81	0.63		1.79	0.63	
Relative responsible, not double orphan				1.28	0.40		1.28	0.40	
Relative responsible, double orphan				0.97	0.42		0.94	0.41	
Non-relative responsible				0.73	0.27		0.74	0.28	
Self or partner responsible				1.04	0.31		2.15	0.95	
Schooling									
Dropped out							1.00		
In school (behind)							0.77	0.25	
In school (on-track)							0.79	0.30	
Completed Form 4							2.25	0.62	**
Ever Married							0.44	0.21	
Ever Been Pregnant							0.75	0.22	
Currently Want to Marry							1.06	0.26	

* p<0.05, ** p<0.01, *** p<0.001

Table 6: Risk of Employment (Men)

Variables	Model 1 n=309			Model 2 n=308			Model 3 n=308		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.30	0.22		1.13	0.20		0.97	0.17	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.92	0.25		0.83	0.23		0.92	0.26	
Other	1.38	0.31		1.37	0.32		1.42	0.34	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.72	0.14		0.82	0.17		0.84	0.18	
Pentecostal	0.89	0.23		1.00	0.26		0.92	0.25	
African/Traditional	1.10	0.36		1.13	0.37		0.87	0.30	
Muslim/Other/None	1.17	0.36		1.31	0.43		1.21	0.39	
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				0.81	0.39		0.75	0.36	
Mother responsible, father dead				1.33	0.34		1.14	0.30	
Relative responsible, not double orphan				1.39	0.34		1.16	0.29	
Relative responsible, double orphan				1.45	0.42		1.15	0.33	
Non-relative responsible				0.79	0.22		0.84	0.24	
Self responsible				2.69	0.72	***	1.93	0.55	*
Schooling									
Dropped Out							1.00		
In School (behind)							0.39	0.08	***
In School (on-track)							0.19	0.06	***
Completed Form 4							1.18	0.29	
Ever Married							0.37	0.22	
Ever Had A Partner Become Pregnant							1.84	0.48	*
Currently Want to Marry							1.23	0.24	

* p<0.05, ** p<0.01, *** p<0.001

Table 7: Risk of Sexual Debut (Women)

Variables	Model 1 n=284			Model 2 n=284			Model 3 n=284		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.34	0.20	*	1.26	0.19		1.08	0.17	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.75	0.13		0.76	0.14		0.68	0.12	*
Other	0.58	0.14	*	0.56	0.13	*	0.61	0.15	*
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.94	0.16		0.98	0.17		0.93	0.16	
Pentecostal	1.26	0.24		1.27	0.25		1.20	0.24	
African/Traditional	1.08	0.27		0.98	0.25		0.74	0.19	
Muslim/Other/None	1.17	0.38		1.14	0.37		1.25	0.40	
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				1.63	0.69		1.28	0.55	
Mother responsible, father dead				0.99	0.21		0.88	0.19	
Relative responsible, not double orphan				1.14	0.22		0.96	0.20	
Relative responsible, double orphan				1.87	0.45	**	1.31	0.32	
Non-relative responsible				0.86	0.17		0.84	0.17	
Self or partner responsible				1.87	0.73		1.11	0.44	
Schooling									
Dropped out							1.00		
In school (behind)							0.47	0.09	***
In school (on-track)							0.30	0.06	***
Completed Form 4							0.46	0.12	**
Currently Want to Marry							4.31	0.71	***
Ever had a job							1.35	0.39	

* p<0.05, ** p<0.01, *** p<0.001

Table 8: Risk of Sexual Debut (Men)

Variables	Model 1 n=312			Model 2 n=311			Model 3 n=311		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.16	0.17		1.06	0.16		1.09	0.17	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.65	0.14	*	0.61	0.13	*	0.59	0.13	*
Other	0.73	0.15		0.71	0.15		0.71	0.15	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.93	0.14		0.92	0.14		0.90	0.14	
Pentecostal	0.94	0.19		0.93	0.19		0.89	0.19	
African/Traditional	1.26	0.31		1.19	0.29		1.15	0.29	
Muslim/Other/None	0.80	0.22		0.75	0.21		0.73	0.21	
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				1.40	0.49		1.41	0.50	
Mother responsible, father dead				1.07	0.22		1.04	0.22	
Relative responsible, not double orphan				1.29	0.23		1.23	0.23	
Relative responsible, double orphan				1.05	0.27		0.96	0.26	
Non-relative responsible				0.70	0.13	*	0.70	0.13	*
Self or spouse responsible				1.47	0.50		1.11	0.40	
Schooling									
Dropped out							1.00		
In school (behind)							0.74	0.16	
In school (on-track)							0.85	0.19	
Completed Form 4							0.51	0.19	
Currently Want to Marry							2.44	0.44	***
Ever had a job							1.70	0.41	*

* p<0.05, ** p<0.01, *** p<0.001

Table 9: Risk of Pregnancy (Women)

Variables	Model 1 n=279			Model 2 n=279			Model 3 n=279		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.77	0.32	***	1.32	0.25		1.00	0.20	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	1.01	0.22		0.69	0.16		0.91	0.20	
Other	0.72	0.24		0.62	0.21		0.89	0.30	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.68	0.15		0.68	0.16		0.61	0.14	*
Pentecostal	1.23	0.29		1.07	0.26		0.88	0.22	
African/Traditional	1.44	0.42		1.35	0.40		0.86	0.26	
Muslim/Other/None	1.11	0.44		0.80	0.32		0.40	0.17	*
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				2.18	1.15		1.87	1.00	
Mother responsible, father dead				0.47	0.20		0.47	0.19	
Relative responsible, not double orphan				0.89	0.30		0.77	0.23	
Relative responsible, double orphan				1.05	0.42		0.73	0.27	
Non-relative responsible				1.20	0.39		1.04	0.28	
Self or spouse responsible				7.28	2.24	***	1.27	0.55	
Schooling									
Dropped out							1.00		
In school (behind)							0.51	0.12	**
In school (on-track)							0.20	0.06	***
Completed Form 4							0.72	0.19	
Ever married							2.09	0.89	
Currently Want to Marry							4.44	0.91	***
Ever had a job							0.89	0.27	

* p<0.05, ** p<0.01, *** p<0.001

Table 10: Risk of Pregnancy (Men)

Variables	Model 1 n=322			Model 2 n=322			Model 3 n=321		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.26	0.31		1.09	0.29		0.84	0.24	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.94	0.36		0.90	0.35		1.01	0.39	
Other	0.47	0.23		0.44	0.21		0.40	0.19	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.49	0.14	**	0.56	0.16	*	0.86	0.25	
Pentecostal	0.67	0.23		0.71	0.24		0.98	0.34	
African/Traditional	1.07	0.42		0.96	0.38		0.80	0.33	
Muslim/Other/None	0.52	0.29		0.59	0.33		0.61	0.34	
Family Support									
Father responsible, mother alive				1.00			1.00		
Father responsible, mother dead				1.66	1.33		1.34	1.11	
Mother responsible, father alive				1.54	0.73		1.18	0.56	
Mother responsible, father dead				2.04	0.99		1.62	0.80	
Relative responsible, not double orphan				1.15	0.63		0.63	0.36	
Relative responsible, double orphan				2.49	1.26		1.37	0.72	
Non-relative responsible				0.47	0.32		0.45	0.31	
Self or spouse responsible				4.02	1.82	**	1.35	0.68	
Schooling									
Dropped out							1.00		
In school (behind)							0.41	0.14	**
In school (on-track)							0.19	0.10	**
Completed Form 4							0.43	0.16	*
Ever married							5.73	2.08	***
Currently Want to Marry							4.00	1.05	***
Ever had a job							1.34	0.39	

* p<0.05, ** p<0.01, *** p<0.001

Table 11: Risk of Marriage (Women)

Variables	Model 1 n=285			Model 2 n=285			Model 3 n=285		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	1.72	0.38	*	1.39	0.32		1.08	0.25	
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.72	0.21		0.56	0.17	*	0.74	0.22	
Other	0.85	0.32		0.72	0.28		1.18	0.47	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.75	0.21		0.76	0.22		0.78	0.23	
Pentecostal	1.56	0.46		1.55	0.47		1.50	0.46	
African/Traditional	2.04	0.71	*	2.16	0.76	*	1.69	0.61	
Muslim/Other/None	2.40	1.07	*	2.68	1.20	*	2.16	0.98	
Family Support									
Parent responsible, both alive				1.00			1.00		
Father responsible, mother dead				2.96	1.64	*	2.04	1.12	
Mother responsible, father dead				0.64	0.29		0.67	0.31	
Relative responsible, not double orphan				1.58	0.49		1.15	0.36	
Relative responsible, double orphan				1.71	0.65		1.12	0.42	
Non-relative responsible				1.42	0.47		1.24	0.41	
Self or partner responsible				7.36	2.69	***	4.17	1.56	***
Schooling									
Permanently out of school							1.00		
In school							0.16	0.05	***
Ever Had Sex							4.13	1.45	***
Ever Been Pregnant							1.29	0.30	
Ever Had a Job							0.59	0.24	

* p<0.05, ** p<0.01, *** p<0.001

Appendix A: Risk of Marriage (Women)

Variables	Model 1 n=285			Model 2 n=285			Model 3 n=285		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Ever Migrated	3.47	0.80	***	3.02	0.72	***	2.35	0.57	***
Socio-Demographic Characteristics									
Ethnicity									
Luo	1.00			1.00			1.00		
Luhya	0.71	0.21		0.57	0.17		0.72	0.22	
Other	0.82	0.31		0.68	0.26		1.12	0.45	
Religion									
Catholic	1.00			1.00			1.00		
Protestant	0.72	0.21		0.73	0.21		0.73	0.22	
Pentecostal	1.56	0.46		1.58	0.49		1.60	0.50	
African/Traditional	2.02	0.70	*	2.08	0.74		1.78	0.64	
Muslim/Other/None	2.54	1.15	*	2.77	1.26		2.22	1.03	
Family Support									
Father responsible, mother alive				1.00			1.00		
Father responsible, mother dead				3.45	2.16	*	2.19	1.37	
Mother responsible, father alive				1.45	0.64		1.22	0.54	
Mother responsible, father dead				0.77	0.42		0.74	0.40	
Relative responsible, not double orphan				1.67	0.71		1.17	0.50	
Relative responsible, double orphan				1.87	0.90		1.28	0.62	
Non-relative responsible				1.74	0.76		1.46	0.65	
Self or partner responsible				7.28	3.36	***	3.67	1.72	**
Schooling									
Permanently out of school							1		
In school							0.18	0.06	***
Ever Had Sex							3.98	1.39	***
Ever Been Pregnant							1.35	0.31	
Ever Had a Job							0.58	0.24	

* p<0.05, ** p<0.01, *** p<0.001