Transitions to Adulthood in Urban Kenya: A Focus on Adolescent Migrants

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ABSTRACT

BACKGROUND
Adolescent migration is closely linked with key transitions to adulthood in sub-Saharan Africa. While migration to an urban area offers adolescents many new opportunities, it also coincides with new challenges and considerable disruption of family support.
OBJECTIVE
This paper seeks to better understand how the timing of migration is related to youth's prospects of finishing secondary school, finding employment, getting married, and initiating child-bearing. We pay particular attention to whether changes in family support, associated with migration, account for the different life trajectories of migrants and non-migrants.
METHODS
Drawing on detailed life history data from young men and women in Kisumu, Kenya, we use piecewise exponential survival analysis to examine how the timing of migration is related to key transitions to adulthood and how variation in family support moderates these relationships. All analyses are run separately for young men and women.
RESULTS
Migration is associated with a sharp decline in parental support and a rise in dependence on relatives, partners, or on one's self. For both men and women, migration also frequently coincides with a permanent exodus from school, which cannot be fully explained by changes in family support or transitions into marriage or work. Female migrants not only often get married and migrate at the same time, but they also get married and become pregnant at younger ages even after they have moved.
CONCLUSIONS
The potential vulnerability of adolescent migrants warrants greater attention as they experience significantly lower levels of parental support and make earlier transitions to adult roles.

1. INTRODUCTION

Our understanding of the complex causes and consequences of internal migration in sub-Saharan Africa has grown substantially over the last two decades, reflecting both improvements in data quality and a sustained interest in its relationship to the process of urbanization (Tienda et al. 2006). Most of this previous research focuses on adult migration, particularly male-dominated, labor-related migration to large urban centers or mega-cities. Adolescents and young adults are often included in these studies, but they generally fail to receive special attention, despite that fact that rates of migration for men rise steadily between the ages of 15 to 19 and are highest between the ages of 20 to 24 (Collinson, Tollman and Kahn 2007; National Research Council and Institute of Medicine 2005). Migration rates for women often peak at slightly younger ages (Beguy, Bocquier and Zulu 2010; National Research Council and Institute of Medicine 2005). Consequently, youth make up a sizeable fraction of migrants. For example, 12-24 year olds make up 33% of the share of regional migrants into Kenya, 41% of the share of regional migrants into Cote D'Ivoire and 45% of the share of regional migrants into South Africa, with slight variation by gender (McKenzie 2008). The proportion of youth engaged in internal migration is likely to be even higher given the shorter distances and the lack of age restrictions, which are sometimes applied to international migration.

In addition, researchers and policy makers are becoming increasingly aware that women comprise a large and growing proportion of both international and internal migrants (Brockerhoff and Eu 1993; Gugler 1989). In the slum settlements of Nairobi, for example, the frequency of female circular migration is greater than male migration (Beguy, Bocquier and Zulu 2010). Nonetheless, the incorporation of gender into quantitative sociological studies has been surprisingly slow (Curran et al. 2006). Part of the challenge has been how to study the migration of women, as both their motives for moving and the implications of migration differ from those of men. Studies typically conclude that women's mobility is more closely tied to considerations of family formation and fertility rather than to educational and employment opportunities, which are critical factors in men's mobility (Beguy, Bocquier and Zulu 2010; Smith and Thomas 1998). Yet, researchers are quick to point out that many women also move in search of employment and better schooling (Brockerhoff and Eu 1993; National Research Council and Institute of Medicine 2005) and that demographic factors such as pregnancy, marriage, and childbearing, often play an important role for men as well as women, at least in industrialized societies (Kulu and Milewski 2007).[1]

Lastly, studies of internal migration in sub-Saharan Africa have been almost exclusively conducted in large cities (generally exceeding two million inhabitants), which are usually the nation's capital (Beauchemin and Bocquier 2004; Beguy, Bocquier and Zulu 2010). However, the bulk of internal migration is not unidirectional movement from the rural hinterlands to one or two large cities. Rather, migration patterns in sub-Saharan Africa are characterized by circular migration (where migrants regularly return to their rural homelands), step-migration (where migrants first move to smaller urban areas before moving to larger urban areas), and local migration (where migrants move the closest urban town regardless of its size) (Adepoju 2006;

[1] Kulu and Milewski (2007) provide an excellent summary of the literature on migration and demographic factors in industrialized countries.

Collinson et al. 2006). In fact, most of the urban growth in Eastern Africa, including Kenya, is occurring in intermediate cities with less than 500,000 people (UN-HABITAT 2010).

In this paper, we seek to expand our understanding of internal migration in sub-Saharan Africa by focusing exclusively on moves occurring during adolescence and young adulthood (ages 14 to 24). We use detailed retrospective life history data from young men and women living in an intermediate-sized city in Kenya to examine how the timing of migration shapes transitions to adulthood, specifically those transitions relating to education, work, marriage, and pregnancy. Our analyses pay particular attention to how migration, and the associated changes in family support, plays a different role in these key transitions for men and women. By more closely examining these relationships, we offer new insights into both the potentially beneficial and detrimental effects of migration for Africa's youth.

1.1 Migration and Transitions to Adulthood

Both the motives and experiences of adolescent migrants are likely to differ substantially from those of adults. In particular, moves during adolescence and young adulthood are closely tied to important transitions to adulthood, including finishing school, finding a job, getting married, and beginning childbearing. When examining the relationship between transitions to adulthood and migration, however, it is imperative to identify whether these transitions occur before migration, at the same time as migration, or after migration. First, it is well-known that migration is a highly selective process. Thus, youth who have already completed certain transitions may be more or less likely to move to an urban area. For example, youth who have completed secondary school may be more likely to move to an urban area, while those who got married or have children may be less likely to move. Second, migration may be so closely tied to transitions to adulthood that these two events may be perfectly "synchronized" or occur at nearly the same time (Mulder and Wagner 1993). Examples of synchronized events include moving as part of the marriage process or leaving school as a result of moving to another town. Finally, moving to an urban area may have a longer-term effect on the timing of adolescent transitions by offering youth both increased opportunities (more schools, more jobs, and more potential sexual and marital partners) and greater challenges (less support from family and kin and possible discrimination based on ethnic or regional differences). The relationship between the timing of migration relative to the timing of these transitions may differ substantially between not only young men and women, but also between migrants from rural areas and those from other urban areas.

Most cross-sectional surveys show an association between migration and indicators of transitions (using for example, highest level of education, age of first marriage, or age of first birth), but they cannot identify the sequential order of migration with respect to these events. For example, most Demographic and Health Surveys (DHS) ask respondents how long they have been living in their current place residence and their highest level of education completed (KNBS and ICF-Macro 2010). Yet, since it is unknown when they finished their schooling, it is impossible to determine whether they completed their schooling before or after moving. Other measures such as age of first birth and age of first marriage are recorded in yearly increments, which make teasing out the exact order difficult given the close temporal ordering of migration and other major events during adolescence and young adulthood (Brockerhoff and Eu 1993).Consequently,

most of what we know about internal migration in sub-Saharan Africa comes from the handful of life history studies (Agwanda et al. 2004; Beauchemin and Bocquier 2004; Reed, Andrzejewski and White 2010; White et al. 2008) and a small number of longitudinal studies (Anglewicz 2012; Beegle and Poulin 2011).

These studies have shown that, for both male and female adolescents, migration is associated with increased educational opportunities since higher quality secondary schools and universities tend to be located in larger cities (Beegle and Poulin 2011) . 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. Moreover, it has long been noted that the extensive fostering system prevalent throughout sub-Saharan Africa has often been used to further the schooling of older children and adolescents. For example, children may be sent to live with urban relatives, where they would be eligible to attend better schools. Of course, some of the expectations of the advantages of city life may not be fulfilled. Erulkar and colleagues (2006) find 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). In other cases, the process of moving may be disruptive, as migrants are forced to leave one school and enroll in another. If migration is in response to an impending marriage or job opportunity, the move may coincide with a permanent transition out of school.

Youth are also drawn to urban areas in search of better employment opportunities, particularly employment outside of agriculture (McKenzie 2008; National Research Council and Institute of Medicine 2005). 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. Nonetheless, although jobs may be relatively more plentiful in urban areas, 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. Youth, in general, face increased vulnerability in urban labor markets, particularly during times of economic crisis (Calves and Schoumaker 2004). Yet, some studies suggest that migrants do not face any greater disadvantage in the labor market than non-migrants (Zourkaleini and Piche 2007). These studies, however, primarily apply to men, and a series of studies focused on Kenya's formal urban labor market found that discrimination and lower levels of education make it significantly harder for migrant women to find jobs relative to migrant men (Agesa and Agesa 1999; Agesa and Agesa 2005; Agwanda et al. 2004). Furthermore, in many parts of sub-Saharan Africa, young girls and women move to urban areas to assume positions as "les petites bonnes" (domestic servants) (Jacquemin 2009). These positions are often associated with mistreatment and limited opportunities for schooling or job advancement.

Marriage and union formation are generally very closely associated with migration, particularly for women. Although research from industrialized countries consistently shows that unmarried men and women are more likely to move (Kulu and Milewski 2007), the evidence from sub-Saharan Africa is more mixed (Brockerhoff and Eu 1993; Reed, Andrzejewski and White 2010).

Nonetheless, an impending marriage is often the reason young women move. A study in Ethiopia found that getting married was the main motivation for migrating among 10-29 year olds, with 79% of females and 64% of males reported as having migrated for marriage (Ezra & Kiros 2001). In other cases, girls may flee to an urban area in order to escape from an undesired arranged marriage (Erulkar et al. 2006). Moving to an urban area may also shape young men's and women's views about marriage. 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 et al. 2003).

Lastly, a handful of studies in sub-Saharan Africa have examined the relationship between migration and fertility. Since women living in urban areas generally have lower fertility rates than rural women, much of this work has been concerned with determining whether rural to urban migration lowers women's fertility rates. Most studies also show a pronounced decline in fertility rates of migrant women, particularly shortly after they have moved (Brockerhoff 1995; Brockerhoff and Yang 1994; White et al. 2008) (for an exception see Lee (1992)). However, there is also a potentially strong selection effect, where women with higher fertility are less likely to move (Brockerhoff and Eu 1993; Reed, Andrzejewski and White 2010).

1.2 Migration and Changes in Family Structures

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). The move to a new city often means leaving behind friends, extended family, and neighbors, even for adolescent migrants who move with one or both of their parents. The majority of adolescents who move after the age of 14, however, will move without their parents (McKenzie 2008). For these individuals, migration will coincide with dramatic changes in their family structures and support from family members. In some instances, changes in family structure may actually precipitate a move. Historically, both parental death and divorce have led to younger children being fostered by other family members and to older children setting out on their own (Goody 1976). In the wake of the AIDS epidemic in parts of sub-Saharan Africa, there has been a rising number of orphans and a subsequent increase in fostering and independent adolescents (Madhavan 2004; Parikh et al. 2007).

A growing literature documents the importance of family structures, orphanhood, and living arrangements on adolescents' development. 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 et al. 2007; Ngom, Magadi and Owuor 2003; Speizer et al. 2002). More young women 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 et al. 2003; Vundule et al. 2001). In addition, a careful longitudinal study found that the death of a father is associated with an early age of first marriage for adolescent girls in Tanzania (Beegle and Krutikova 2008). However, another study using DHS data from 11 countries found a consistent association between

orphanhood status and first sex, but no clear relationship between being an orphan and either early marriage or pregnancy for women (Palermo and Peterman 2009).

In terms of educational achievement, studies regularly find that being an orphan, especially a double or maternal orphan, is associated with more grade repetition and higher rates of school dropout (Birdthistle et al. 2009; Campbell et al. 2008; Case and Ardington 2006; Evans and Miguel 2007). In one study, the authors specifically found that schooling outcomes were inversely related to how closely the child was related to the household head (Case, Paxson and Ableidinger 2004). Interestingly, the effects of family structures or orphanhood on the employment opportunities of youth have received surprisingly little attention. Nonetheless, since securing a new job is often dependent on informal references and contacts, one may speculate that if migrants have weaker social and kin networks than non-migrants they may find it more difficult to find gainful employment. In sum, family structures and orphanhood are often closely related to migration and can have an impact on adolescent development, particularly with respect to schooling and sexual debut. Thus, it is plausible that some of the alleged effects of migration on adolescent outcomes are driven by these changes in family support.

In this paper, we explore how transitions to adulthood differ between migrants and non-migrants paying particular attention to differences between men and women and between rural and urban migrants. By relying on detailed retrospective data, we are able to examine whether differences between migrants and non-migrants primarily occur before migration, in conjunction with migration, or after migration. Lastly, we assess whether changes in family support associated with migration partially or fully account for the effects of migration on the timing of leaving school, finding work, getting married, and becoming pregnant. 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 youth.

2. METHODS

2.1 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. Studies in West Africa have used similar types of retrospective history data to assess both the causes and consequences of migration (Beauchemin and Bocquier 2004; Reed, Andrzejewski and White 2010; White et al. 2008), but there have been few similar studies in East Africa.

Migration, however, is common in East Africa, with over 10% of Kenyan men and women between the ages of 15 and 24 moving across district boundaries each year (National Research Council and Institute of Medicine 2005). Our study was conducted in the summer of 2007 in

Kisumu, Kenya, which is the third largest city in Kenya with slightly over 350,000 residents. Located on the shores of Lake Victoria, it is an important migration destination for Kenyans living in the central and western part of the country. Although Luo comprise the dominant ethnic group (representing roughly 70% of Kisumu's population), Kisumu attracts adolescents and young adults from a wide range of ethnic groups by its three universities, multiple secondary schools, and numerous vocational training programs. It is also remains a local economic hub, despite the decline of the fishing industry in the 1990s. Like many countries in sub-Saharan Africa, there are pronounced differences between urban and rural areas in Kenya with respect to the timing of family formation and educational attainment. Compared to women living in urban areas, women in rural areas marry at younger ages (mean age of first marriage: 19.5 vs. 22.7) and have fewer children (total fertility rate: 5.2 vs. 2.9) (KNBS and ICF-Macro 2010). Educational attainment is also lower for both men and women living in rural areas, with only 10.5% of rural women and 16.5% of rural men completing secondary school compared to 27.2% and 31.5% of their respective urban counterparts (KNBS and ICF-Macro 2010). Levels of current employment do not differ between rural and urban areas (55.5% vs. 59.5% for women and 86.7% vs. 85.8% for men), although there are clear differences in the dominant type of work in each area (KNBS and ICF-Macro 2010).

2.2 Samples

Our sample was drawn by contacting every other household in 45 randomly selected urban enumeration areas within Kisumu. Young 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 respondents who received the life history calendar only, which includes a total of 608 respondents (286 women and 322 men).

Since we are interested in four transitions relating to schooling, work, marriage, and pregnancy, we create distinct samples for each transition for young women. For young men, we create analogous samples with respect to schooling, work, and whether they reported that their partner became pregnant. However, we do not assess transitions into marriage for men, as too few male adolescents in our sample (less than 10%) made this transition by the time of the survey. To ensure that all transitions are captured in the 10-year life history calendar, we begin our period of observation at age 14 and remove respondents who made the transition before the age of 14. For the female samples, we remove 25 individuals from our schooling sample, 2 from the job sample, 1 from the marriage sample, and 7 from the pregnancy sample. For the male sample, the corresponding numbers of respondents dropped are 26 for schooling, 10 for work, and 0 for pregnancy. Our final number of respondents for each outcome is reported in Table 1.

(Insert Table 1 about here)

2.3 Models and Outcome Measures

To assess these four transitions into adulthood, we use piecewise exponential survival analysis. Piecewise constant exponential models are well-suited for these data, which are recorded on a

monthly basis. This approach not only treats time as a continuous variable, but also offers considerable flexibility in the shape of the hazard function. Specifically, the time axis is split into discrete periods. The transition rates within these time periods are assumed to be constant, but the rates can differ between time periods (Blossfeld, Golsch and Rohwer 2007). Thus, even if the underlying hazard function is unknown, we can identify the shape that best fits the data.

Our first set of survival analysis models examines covariates associated with a higher risk of dropping out of school before completing secondary school. Respondents 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.[2] By the time of the survey, nearly half of the women (45%) and almost a third of men (30%) had dropped out of school before completing secondary school (Table 1). Students who are still enrolled in school or who have completed at least nine months of Form 4 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 only slightly more than one third of women (36%), but over half of men (54%) had found a job, which we define as being employed and earning more than 2,000 Kenyan shillings per month (Table 1). Over half of all women had become pregnant and a quarter of men report getting their partner pregnant by the time of the survey. In comparison, only one-third of women and less than 10% of men had married by the time of the survey.

2.4 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 variable focuses on the timing of the respondent's move to Kisumu. Respondents who lived in Kisumu at the age of 14 are classified as "non-migrants" and serve as our reference group. Respondents who migrated to Kisumu before the age of 14 are not considered migrants for the purposes of our analysis, as other research suggests the majority of children who move before the age of 14 are moving with their parents (McKenzie 2008). The migration histories of respondents who moved to Kisumu after the age of 14 are broken down into three distinct time periods: 1) before they moved to Kisumu, 2) at the same time as their move (which includes a four-month window around the month of their reported move), and 3) after they moved to Kisumu. For each of these three time periods, we further distinguish between respondents who lived in an urban or rural area before moving to Kisumu. Thus, our "migrant" respondents are classified into six different categories that change over time (before, during, and after migration) and reflect whether their place of origin was urban or rural. At the time of the survey, 53.7% of respondents were considered migrants, with greater numbers of young women (57.0%) having migrated than young men (50.6%). A majority of these migrants came from rural areas. Of the 21.7% of young women and 20.8% of young men who came from other urban areas, most came from smaller urban towns with only a small percentage moving from Nairobi or Mombasa.

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

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

"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 likely to be 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 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) biological father, 2) biological mother, 3) relative,4) non-relative or self, and 5) partner/spouse. Since only one male respondent ever reported his spouse as the primary person responsible for him, his responses were reclassified as "non-relative or self."

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, while adolescents whose parents have died may be compelled to move with relatives. 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 or the respondent is responsible (regardless of whether or not parents are alive), and 7) the respondent's spouse or partner is responsible. Of respondents reporting themselves or a non-relative as the person responsible, the majority (over 60%) are not orphans; these are likely to be children sent to Kisumu by one or more living parent to pursue educational opportunities. 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.

Third, since the timing of some transitions may have a strong effect on subsequent transitions, we also include what Billari (2005) refers to as "internal covariates" in life course analyses in our third models. Specifically, we include time-varying measures of our four transitions: 1) educational enrolment and performance (measured as being on-track or behind with respect to their age-for-grade), 2) employment, 3) pregnancy, and 4) marriage or marital aspirations.

All of our models also include the external covariates indicating ethnicity and religion as these may differ considerably between migrants and non-migrants. Unfortunately, our survey does not include retrospective measures of household assets or wealth. Including measures of current household wealth are likely to be highly endogenous. For example, not only are adolescent girls from poorer households more likely to drop out of school, but also young women who do not complete secondary school may be more likely to currently live in poorer households. To assess the overall potential for bias in excluding measures of household economic status, we include a composite measure of household wealth and present these results in Appendices A and B. We create our measure of household wealth using principle component analysis of ownership of key household assets, including communication devices (radios, televisions, and mobile phones), transportation (bicycle, motorcycle, or car), and household items such as refridgerators, bedmats, and mosquito nets, as well as access to electricity and type of toilet. We then divide this measure into thirds, categorizing the lowest third as "poor", the middle third as "middle" and the upper third as "rich".

3. RESULTS

3.1 Descriptive Characteristics

Table 1 presents the probability of making our four transitions to adulthood for migrants and non-migrants by the time of the survey. For young women, we find striking and significant differences between non-migrants and migrants from rural areas. For example, compared to non-migrants, rural migrants are twice as likely to drop out of school and to get married, and only half as likely to have a job. Migrants from other urban areas tend to fall in between migrants from rural areas and non-migrants, but often their profiles more closely resemble non-migrants, particularly with respect to their education and employment. For young men, we also find that migrants from rural areas are more likely to drop out of school and to have had a pregnant partner, but they are also more likely to have a job compared to non-migrants. Interestingly, the schooling and pregnancy patterns for male migrants from urban areas are similar to non-migrants, although their employment histories more closely resemble migrants from rural areas. We note, however, that none of these bivariate associations account for age differences between migrants and non-migrants or the order of migration with respect to these transitions. For example, the strong association between marriage and migration reflects both women who get married and then move as well as women who migrate and then marry. In our event-history multivariate analyses below, we account for age differences and pay close attention to the timing of migration to Kisumu relative to each transition.

3.2 Family Support

Table 1 also shows a strong relationship between migration status and family support. At the time of the survey, mere 7% of rural female migrants and 11% of urban female migrants compared to 31% of non-migrants have two living parents and are supported by at least one of them. Rural female migrants are more likely than non-migrants to be in the care of relatives (even if they are not double orphans), non-relatives, themselves, or their partners. We find a

similar pattern for male adolescents, although the differences in family support between migrants and non-migrants are somewhat less pronounced.

Figures 1 and 2 take a closer look at changes in family structures by examining differences in family support for both rural and urban migrants one month before and one month after their move to Kisumu. These figures demonstrate that the changes in family support around the time of a move are quite dramatic for both male and female adolescents and that these changes tend to be greater for migrants from rural areas. For female rural migrants, we find that in the span of two months there is a sharp decline in the percentage who are supported by a parent (with two living parents) or by their mothers (if their fathers have died) and corresponding rise in the percent supported by a relative (among non-orphans) or a partner. For male rural migrants, we also find that the proportion supported by a parent (with two living parents) falls by half the month after they move, while the proportion of non-orphans who are living with relatives doubles and the proportion living with non-relatives or on their own rises by almost 15 percentage points.

(Insert Figures 1 and 2 about here)

3.3 Schooling

Tables 2 and 3 explore the factors associated with dropping out of school for young women and men, respectively. Model 1 presents the effect of migration on dropping out of school controlling for social and demographic characteristics. Model 1 of Table 2 examines the risk of dropping out of school for adolescent women with respect to when they moved to Kisumu. Not surprisingly, we find that females from rural areas are significantly more likely than non-migrants living in Kisumu to drop out of school before moving to Kisumu. Yet, we also find that female adolescent from rural areas face an exceedingly high risk of leaving school permanently in the four month interval around their move to Kisumu relative to non-migrants. In fact, for young women from rural areas, the risk of dropping out at the time of migration (hazard ratio 12.3) is significantly higher than the risk before (hazard ratio 2.6; p-value<=0.000) or after (hazard ratio 3.5; p-value<=0.000) moving to Kisumu. In contrast, migrants living in urban areas are no more likely than adolescents living in Kisumu to drop out of school before their move, but the short interval around migration is associated with an over three-fold increase in the risk of dropping out of school for urban migrants. Once migrants move to Kisumu, we continue to see differences between rural and urban migrants with rural migrants facing a greater risk of leaving school even if they initially enrolled in school in Kisumu. These differences, however, are not statistically significant. In Model 2, we include our measures of family support. Compared to female adolescents supported by two living parents, adolescents who are supported only by their mothers and whose fathers have died are almost twice as likely to drop out of school. Female adolescents supported by relatives who are double orphans experience a 4.7-fold increase in their risk of leaving school.[3] Taking into account differences in family structures between non-migrants and migrants, we find that the effects of migration from a rural area are only slightly weakened, while the association between leaving school at the same time as migrating from an urban area becomes insignificant. Lastly, in Model 3, we control for

[3] In Model 2, we do not include a category for women supported by a partner or spouse as none of these women were still in school.

differences in the timing of employment, pregnancy, and wanting to get married.[4] Not surprisingly, young women who become pregnant or find a partner they want to marry are significantly more likely to leave school. The effects of having a job, however, are not significant. Including these measures further diminishes the effect of moving from a rural area, reducing the hazard rate from 10.4 in Model 2 to 7.9 in Model 3, although this association remains highly significant. These results indicate that neither marriage- nor work-related migration fully explains the high dropout rate of young rural women at the time of migration. Interestingly, however, we find that after taking into account differences in marital aspirations and pregnancy rates, female migrants from other urban areas are actually less likely to drop out of school than non-migrants from Kisumu, suggesting that urban adolescent women may deliberately move to Kisumu to further their education.

(Insert Table 3 about here)

The association between migration and schooling is surprisingly similar for young men and women. Male adolescents living in rural areas are also more likely to leave school prior to migration compared to those living in Kisumu (Model 1). Young men also experience a very sharp decrease in school attendance at the time of the move and this relationship is much stronger for moves from rural areas than from urban areas (hazard rate of 11.6 vs. 5.3; not significant). Accounting for differences in family structures (Model 2) and the timing of other transitions (Model 3) reduces the magnitude of these hazard rates slightly, but they remain significant, indicating that these effects of migration on schooling are not primarily driven by changes in family structure or coterminous transitions into marriage or work. In fact, the effects of family support on educational attainment are notably weaker for male adolescents than for females, particularly for young men who are primarily cared for by relatives. Nonetheless, adolescent males whose fathers have died and who are cared for by their mothers are significantly less likely to remain in school than those who are supported by two living parents. Similar to our findings for young women, we find that partner's pregnancy is strongly positively associated with leaving school for young men. However, unlike female adolescents, young men who wish to marry their partners not more likely to drop out, but those who have found gainful employment are more likely to leave school.

(Insert Table 3 about here)

3.4 Employment

Model 1 of Table 4 examines the relationship between migration and employment for young women. As one might expect, female adolescents living in rural areas are significantly less likely to be employed before their move relative to those living in Kisumu. Interestingly, however, young women from rural areas are equally likely to find gainful employment at the time of their move, but their chances of getting a job fall substantially shortly after arriving in Kisumu. Unlike our findings with respect to education, there are no significant relationships between family support and young women's employment. In Model 3, we find that female adolescents who have completed secondary school are significantly more likely than those who

[4] In Model 3, we examine adolescent women's desire to marry their partner rather than their actual marital status as no married women were still in school in our sample.

dropped out of school to have paid employment. However, accounting for differences in educational attainment between migrants and non-migrants has no effect on the relationship between migration and employment.

(Insert Table 4 about here)

The associations between migration and work are quite different for young men. Model 1 of Table 5 shows that before moving to Kisumu migrants are slightly, but not significantly, less likely to get a job than non-migrants. However, at the time of their move, male migrants are much more likely than non-migrants to find a first job, suggesting that gainful employment is an important motive to move to Kisumu for young men. This apparent "migrant advantage," however, wears off quickly. Four months after moving to Kisumu, young men from either urban or rural areas are no longer more likely to be employed compared to young men from Kisumu. We find no effects of variation in family support on young men's employment (Model 2), although there is a strong correlation between male adolescents' educational status and employment (Model 3). Unlike for adolescent women, however, there is no difference between the employment rates of men who have a secondary school diploma and those who do not. Instead, there is a clear distinction between young men who are still enrolled in school and those who have finished their schooling, regardless of whether they completed secondary school. In Model 3, we also find that young men whose partners have become pregnant are more likely to find a job, although those married men are not more likely than unmarried men to begin their first jobs. The hazard rates at the time of migration are also substantially lower in Model 3 than in Model 2, suggesting that the higher rates of employment experienced by recent migrants is partially attributable to differences in education and fertility rates between migrants and non-migrants.

(Insert Table 5 about here)

3.5 Pregnancy

Table 6 explores the factors affecting the likelihood of first pregnancy among young women. In Model 1, we find no significant differences between the risks of pregnancy for migrants before moving to Kisumu and non-migrants. However, rural migrants are significantly more likely to get pregnant at the time of their move to Kisumu and both rural and urban migrants are more likely than non-migrants to become pregnant after they move to Kisumu. These associations between migration and pregnancy almost entirely disappear once we control for changes in family support (Model 2), since young migrant women are more likely to be supported by a partner/spouse and living with a partner/spouse is highly correlated with getting pregnant. These results are reinforced in Model 3, which shows a very strong association between marital status and pregnancy risks. Yet, even accounting for differences in marital status and support from partners, we find that young women who are in school-- and especially those who are on-track in school-- are less likely than those who are out of school to become pregnant.

(Insert Table 6 about here)

Table 7 indicates that the relationships between getting a partner pregnant and migration status are quite weak for young men (Model 1). Model 2 also shows that there are also no significant associations between family support and fertility for male adolescents. Young men's educational attainment, however, is directly related to their fertility (Model 3). Not only are young men who are currently in school less likely to get their partners pregnant, but among young men who are out of school, those who finished secondary school are less likely than those who dropped out to get their partner pregnant.

(Insert Table 7 about here)

3.6 Marriage

In our final models in Table 8, we examine the associations between migration and marriage for young women. Not surprisingly these associations are strong, especially at the time of the move to Kisumu. While female adolescent from rural areas are not significantly more likely to marry before moving, at the time of their move their risk of getting married is nearly 14 times higher compared to adolescent females living in Kisumu. For female migrants from other urban areas, moving to Kiusmu is associated with a much lower risk of marriage relative to rural female migrants, but a significantly higher risk relative to female non-migrants. Perhaps more interestingly, migrants continue to face an elevated risk of getting married compared to non-migrants even after remaining in Kisumu for more than four months. Indeed, after moving to Kisumu the risk of marriage is slightly (but not significantly) higher for urban than for rural migrants. In Model 2, we find that the associations between migration and marriage are weakened, but do not vanish, even after controlling for whether young women are living with their partners before marriage. Adolescents who dropped out of school are significantly more likely than those who are still in school to get married, but they are not significantly more likely than young women who finished secondary school to marry early (Model 3). Among female adolescents who are still in school, those who are on-track are significantly less likely than those who are behind to get married (p-value<=0.05). Adding controls for young women's education and whether they have ever been pregnant reduces the relationship between migration and marriage considerably. For example the hazard rate for rural adolescent women at the time of the move falls by half from Model 1 to Model 3.

(Insert Table 8 about here)

4. DATA LIMITATIONS

Modeling the migration process is notoriously difficult and virtually all study designs face serious limitations. Our study is no exception. First, since our data was collected in Kisumu, all migrants eventually moved to Kisumu and were living there during the survey. As a consequence, we can compare the life histories of migrants before, during and after their move to Kisumu to non-migrants living in Kisumu, but we cannot compare them to non-migrants living in their place of origin. This limitation is particularly important to keep in mind as Kisumu may differ from other main destination cities in Kenya and other countries in sub-Saharan Africa. Although Kisumu is the third largest city in Kenya, its size is dwarfed in comparison to either Nairobi or Mombasa. Kisumu is also unique in the high number of elite secondary schools and opportunities for college and vocational training. Thus, the association between migration and

education may be stronger in Kisumu than in other studies. Kisumu is also characterized by high regional migration, especially with its neighbor Uganda, and by the highest rates of HIV/AIDS found in Kenya, making it a particularly dangerous location to make transitions into sexual activity.

Second, any migrants who moved to Kisumu after the age of 14, but who left before the time of our study are "missing." The omission of these migrants could bias our findings if, for example, migrants could not find work, enroll in school, or get married were more likely to leave. Fortunately, although circular migration is very common in Kenya, "in-migration" (to larger urban centers) far exceeds "out-migration" in the age group of our sample (ages 18-24) (Beguy, Bocquier and Zulu 2010).

Third, although longitudinal studies which follow young men and women as they move can overcome both of these limitations, such studies are usually quite expensive and difficult to implement, often resulting in rates of attrition and a biased sample of migrants who were followed. One of the advantages of using retrospective data is that it does not suffer from attrition bias. However, there are several disadvantages of retrospective data which need to be considered. First, because respondents are asked to remember events that occurred in the past, they may misreport the timing of these events. Our relationship history calendar survey instrument was specifically designed to minimize recall bias by first identifying the timing of salient public and private events and then by placing the timing of other key events relating to residential location, family support, schooling, work, and relationships in the context of each other (Elder, Johnson and Crosnoe 2003). This process triggers respondents' autobiographic memories and has been shown to significantly improve the quality of reporting (Belli and Callegaro 2009; Freedman et al. 1988; Goldman, Moreno and Westoff 1989; Smith 2009). Nonetheless, even though this instrument may improve the accuracy of reported dates and particularly the sequencing of important events, respondents may still have inadvertently misplaced some of these events. In other instances respondents may deliberately misreport these events, revising their life histories to create a more favorable or coherent depiction of their lives.

Fourth, although this life history calendar included many important retrospective measures, a few important ones were omitted. Most notably, we did not collect retrospective data on household economic status. Thus, while we use orphanhood status as a rough proxy for "crisis" fostering, we cannot account for crisis fostering which occurred as a result of economic hardship nor can we explore poverty as an important causal mechanism linking migration to the timing of transitions to adulthood. Fortunately, however, we find that including measures of household wealth at the time of the survey does not significantly alter our major findings (see Appendices A and B), suggesting perhaps that after controlling for education, income, and family support, household wealth may not be an independently significant predictor. In addition, our calendar did not collect retrospective information of co-residence or living arrangements, rather it used the more locally relevant concept of "family support". Although measures of family structure based entirely on co-residence are often criticized as failing to adequately capture care from family members not residing with the respondent, better measures of the living arrangements would have been useful. Although living arrangements and family support may capture two different concepts, it would have been interesting to have compared the relative effects of these different measures.

Lastly, and perhaps most importantly, our results should be interpreted in light of our relatively small sample size. Given that only 608 young men and women received the life history calendar, we often found weak or insignificant associations even when the magnitude of the effect appeared to be relatively large. Consequently, our findings need to be validated in larger studies and in different settings.

5. DISCUSSION

Despite these limitations, this study offers some new insights into the relationship between migration and transitions to adulthood for young women living in sub-Saharan Africa. We find that migration is associated with swift and striking changes in support from family members and often coincides with key transitions to adulthood for both male and female adolescents. These changes associated with migration are generally much more dramatic for rural migrants than for urban migrants. At the time of the move, both young men and women experience a sharp decline in the support from their parents and an increased reliance on relatives (among migrants who are not double orphans). Rural male migrants are also more likely to support themselves or be cared for by non-relatives, while rural female migrants are more likely to depend on a partner or spouse.

Migration also coincides with critical life transitions. For young women moving from rural areas, migration is often coterminous with dropping out of school, getting married, and becoming pregnant. Migration is also associated with slight, but not significant ($p=0.06$) temporary boost in the employment rates of rural female migrants. The strong associations between moving and marrying and between moving and dropping out of school persist even after taking into account changes in family support and differences in marital status, educational attainment, and fertility between migrants and non-migrants. Although it is exceptionally difficult to sort out causal influences in synchronized events, one could plausibly argue that the majority of these young women are moving because they are getting married and that they have dropped out of school because they planned to move. However, causality may run in the other direction as well. One ethnographic study of the aspirations of adolescent girls in Burkina Faso found that girls often express the desire to marry a migrant man in order to be able to move (Thorsten 2010). Similarly, wishing to leave school may serve as an important impetus to move.

For young men, we find that moving to Kisumu was strongly associated with dropping out of school and securing a first job. These associations were significant for all migrants, but much stronger for rural migrants than for urban migrants. Moreover, the risks associated with dropping out of school at the time of migration were considerably larger than those associated with finding a job. Unlike for female adolescents, differences in migrant males' family structures, marital status, fertility, employment status, or educational attainment had little effect on the relationship between moving and dropping out of school, but it did weaken the association between moving and finding a job. We found no significant changes in young men's fertility rates associated with moving to Kisumu.

Four months after moving to Kisumu, migrant adolescents exhibit very similar trajectories compared to non-migrants with respect to staying in school and finding work. These results

indicate that migrants to Kisumu generally do not experience either a significant "advantage" or "disadvantage" with respect to schooling and work opportunities, although there is some evidence that young migrant women from urban areas are slightly less likely to drop out of school and migrant women from rural areas are less likely to find a job. In contrast, there is strong evidence that both the marriage rates and the fertility rates of both rural and urban female migrants remain elevated after they arrive in Kisumu. Much of the elevated pregnancy rates can be accounted for by the higher rates of marriage, but these findings indicate that female migrants have not adopted the marital and fertility patterns of this mid-sized urban center.

In sum, for both young men and women migration is marked by a sudden decrease in the support from parents and a sharp decline in school enrollment. For young men, this decline in school participation is partially, but not completely, offset by higher rates of employment, while for young women changes in marital status partially, but not completely, account for the lower rate of school attendance. In the longer-term, we find little evidence of discrimination against migrants in terms of their schooling or work opportunities. In fact, female migrant from urban areas are more likely to remain in school, after controlling for differences in family structure and marital status. However, compared to non-migrants, young migrant women continue to marry and to initial childbearing at younger ages even after they move to Kisumu. Differences in family support have an important effect on young women's schooling, but less of an effect on men's. Family support is not significantly related to young men's or women' prospects of finding a job or of forming a family, with the obvious exception that female adolescents supported by their partners are more likely to get married and become pregnant. Lastly, since we often find significant differences in the effects of migration from rural versus urban areas, it is important to distinguish between these different types of migrants.

Given the large numbers of young men and women moving to intermediate-sized cities throughout sub-Saharan Africa, our findings allow us to identify some of the major causes and consequences of migration by exploring both the challenges and opportunities that greet these young men and women when they arrive. The concurrent high rates of school dropout and the decline in parental support reveal the potential vulnerabilities of young migrants. Similarly, the low age of first marriage and of first pregnancy among migrant women (even excluding women who moved in order to marry) indicate that young migrant women do not adopt the marital and fertility behaviors of urban women. Moreover, their significantly earlier transitions into marriage and motherhood may come at the expense of their educational and employment opportunities.

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Table 1: ***Descriptive Characteristics of Young Men and Women by Migration Status at Time of Survey.***

	Women						Men					
	Non-Migrants	Migrants		All	Sig.	N	Non-Migrants	Migrants		All	Sig.	N
		Rural	Urban					Rural	Urban			
Dependent Variables												
Dropped Out of School	33.93	62.92	38.33	44.83	***	261	22.92	46.59	25.00	30.41	***	296
Ever Had a Job	43.44	23.00	40.32	35.56	**	284	49.34	58.95	58.46	54.17		312
Ever Pregnant	42.98	62.24	50.00	51.25	*	279	20.75	30.21	25.37	24.53		322
Ever Married	20.49	46.53	37.10	33.33	***	285						
Family Support					***	281					***	320
Parent responsible, both alive	31.40	7.07	11.48	18.51			34.18	14.58	21.21	25.62		
Father responsible, mother dead	1.65	2.02	3.28	2.14			3.80	0.00	1.52	2.19		
Mother responsible, father dead	14.88	3.03	4.92	8.54			11.39	5.21	12.12	9.69		
Relative responsible, not double orphan	9.09	17.17	16.39	13.52			6.33	21.88	24.24	14.69		
Relative responsible, double orphan	7.44	5.05	11.48	7.47			7.59	9.38	1.52	6.88		
Non-relative/Self responsible	18.18	27.27	21.31	22.06			36.71	48.96	39.39	40.94		
Partner/Spouse responsible	17.36	38.38	31.15	27.76								
Socio-Demographic Characteristics												
Religion						286						322
Catholics	29.27	18.81	29.03	25.52			22.64	20.83	28.36	28.36		
Protestants	34.15	43.56	40.32	38.81			43.40	50.00	41.79	41.79		
Pentecostal	24.39	19.80	17.74	21.33			15.72	13.54	14.93	14.93		
African/Traditional	4.88	14.85	8.06	9.09			8.18	11.46	5.97	8.70		
Muslim/Other/None	7.32	2.97	4.84	5.24			10.06	4.17	8.96	8.07		
Ethnicity					**	286						322
Luo	77.24	69.31	62.90	71.33			78.62	80.21	62.69	75.78		
Luhya	13.01	25.74	19.35	18.88			10.69	9.38	14.93	11.18		
Other	9.76	4.95	17.74	9.79			10.69	10.42	22.39	13.04		

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

Table 2. ***Predictors of Dropping-out of School (Women).***

Variables	Model 1			Model 2			Model 3		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	2.56	0.59	***	2.32	0.53	***	2.57	0.60	***
Before move -urban	0.99	0.36		0.82	0.30		0.99	0.37	
Same time - rural	12.34	4.06	***	10.44	3.51	***	7.87	2.78	***
Same time - urban	3.47	1.84	*	2.57	1.39		2.43	1.32	
After move -rural	2.36	1.43		2.20	1.34		1.61	1.01	
After move - urban	0.84	0.51		0.38	0.24		0.27	0.17	*
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	0.74	0.18		0.89	0.23		0.81	0.21	
Other	0.89	0.31		1.02	0.35		1.11	0.39	
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.61	0.15	*	0.70	0.18		0.71	0.18	
Pentecostal	1.06	0.29		1.25	0.35		1.17	0.33	
African/Traditional	1.69	0.57		1.84	0.62		2.15	0.73	*
Muslim/Other/None	2.09	0.82		2.13	0.86		2.53	1.02	*
Family Support									
Parent responsible, both alive (ref)				1.00			1.00		
Father responsible, mother dead				2.64	1.35		2.16	1.12	
Mother responsible, father dead				1.95	0.54	*	2.06	0.58	**
orphan				2.03	0.55	**	1.71	0.48	*
Relative responsible, double orphan				4.71	1.55	***	4.90	1.61	***
Non-relative or self responsible				0.92	0.29		0.91	0.29	
Transitions									
Ever Been Pregnant							3.33	1.06	***
Want to Marry							1.95	0.44	**
Ever Had a Job							2.82	2.18	
Wald Chi-squared	2216.23			2127.50			2050.05		
Log Likelihood	-264.99			-251.10			-236.84		
Person-months	10,993			10,938			10,938		
(N)	261			260			260		

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

Table 3. ***Predictors of Dropping-out of School (Men).***

Variables	Model 1			Model 2			Model 3		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	2.26	0.56	***	2.26	0.56	***	2.13	0.53	**
Before move -urban	0.79	0.35		0.76	0.34		0.79	0.36	
Same time - rural	11.57	4.03	***	10.68	3.82	***	11.01	3.96	***
Same time - urban	5.31	2.35	***	4.71	2.11	***	4.82	2.16	***
After move -rural	2.21	1.00		1.89	0.87		1.77	0.84	
After move - urban	1.22	0.65		1.20	0.65		1.06	0.58	
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	0.65	0.23		0.62	0.22		0.65	0.24	
Other	0.45	0.19		0.46	0.19		0.42	0.18	*
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.54	0.14	*	0.54	0.14	*	0.56	0.15	*
Pentecostal	1.08	0.35		1.10	0.36		1.26	0.42	
African/Traditional	1.93	0.63	*	1.78	0.59		1.97	0.67	*
Muslim/Other/None	1.70	0.66		1.52	0.61		1.26	0.53	
Family Support									
Parent responsible, both alive (ref)				1.00			1.00		
Father responsible, mother dead				1.49	0.73		1.57	0.77	
Mother responsible, father dead				1.69	0.46	*	1.88	0.52	*
Relative responsible, not double				1.70	0.51		1.76	0.54	
Relative responsible, double orphan				1.21	0.44		1.17	0.43	
Non-relative or self responsible				0.42	0.17	*	0.47	0.20	
Transitions									
Ever Been Pregnant							3.81	1.53	***
Want to Marry							0.69	0.18	
Ever Had a Job							4.29	2.14	**
Wald Chi-squared	2239.12			2170.82			2119.94		
Log Likelihood	-214.12			-205.12			-197.65		
Person-months	15,493			15,423			15,423		
(N)	296			295			295		

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

Table 4. ***Predictors of Getting a Job (Women).***

Variables	Model 1			Model 2			Model 3		
	Hazard Ratio	**Std. Error**	**Sig.**	**Iazard Rati**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	0.34	0.15	*	0.33	0.15	*	0.33	0.15	*
Before move -urban	1.02	0.36		1.07	0.39		0.92	0.34	
Same time - rural	1.06	0.51		1.02	0.49		0.95	0.47	
Same time - urban	1.67	0.78		1.69	0.80		1.31	0.63	
After move -rural	0.44	0.16	*	0.42	0.16	*	0.43	0.17	*
After move - urban	0.96	0.30		0.92	0.30		0.90	0.30	
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	1.26	0.33		1.31	0.35		1.23	0.34	
Other	0.85	0.31		0.88	0.32		0.91	0.33	
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.57	0.15	*	0.55	0.15	*	0.58	0.16	*
Pentecostal	0.99	0.27		0.91	0.25		0.93	0.26	
African/Traditional	0.64	0.29		0.58	0.27		0.60	0.28	
Muslim/Other/None	1.71	0.66		1.62	0.63		1.91	0.77	
Family Support									
Parent responsible, both alive (ref)				1.00			1.00		
Father responsible, mother dead				0.41	0.43		0.37	0.38	
Mother responsible, father dead				1.93	0.66		1.89	0.66	
Relative responsible, not double orphan				1.51	0.46		1.48	0.46	
Relative responsible, double orphan				1.13	0.49		1.06	0.47	
Non-relative responsible or self				0.94	0.31		0.92	0.31	
Partner responsible				1.26	0.41		2.41	1.23	
Transitions									
Schooling									
Dropped out of school (ref)							1.00		
Finished secondary school							2.12	0.59	**
In-school, behind							0.71	0.23	
In-school, on-track							0.67	0.26	
Ever Married							0.49	0.27	
Ever Been Pregnant							0.78	0.22	
Wald Chi-squared	2433.48			2405.42			2330.93		
Log Likelihood	-186.12			-182.63			-171.95		
Person-months	20,630			20,575			20,515		
(N)	284			284			284		

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

Table 5. ***Predictors of Getting a Job (Men).***

Variables	Model 1			Model 2			Model 3		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	0.74	0.19		0.72	0.19		0.73	0.19	
Before move -urban	0.77	0.25		0.75	0.25		0.73	0.25	
Same time - rural	4.19	1.07	***	3.93	1.02	***	2.89	0.76	***
Same time - urban	2.34	0.84	*	2.28	0.82	*	1.94	0.70	
After move -rural	1.05	0.29		0.96	0.27		0.71	0.22	
After move - urban	1.15	0.30		1.03	0.29		0.96	0.28	
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	0.97	0.26		0.97	0.26		1.07	0.30	
Other	1.38	0.32		1.47	0.34		1.52	0.36	
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.68	0.14		0.70	0.14		0.79	0.17	
Pentecostal	0.92	0.23		0.91	0.23		0.90	0.24	
African/Traditional	1.08	0.35		1.11	0.36		0.96	0.32	
Muslim/Other/None	1.13	0.35		1.08	0.34		1.07	0.34	
Family Support									
Parent responsible, both alive (ref)				1.00			1.00		
Father responsible, mother dead				0.76	0.36		0.76	0.36	
Mother responsible, father dead				1.30	0.34		1.09	0.29	
Relative responsible, not double				1.26	0.31		0.99	0.25	
Relative responsible, double orphan				1.37	0.40		1.12	0.33	
Non-relative responsible or self				1.29	0.27		1.17	0.25	
Transitions									
Schooling									
Dropped out of school (ref)							1.00		
Finished secondary school							1.02	0.24	
In-school, behind							0.36	0.07	***
In-school, on-track							0.17	0.05	***
Ever Married							0.66	0.39	
Ever Been Pregnant							1.82	0.47	*
Wald Chi-squared	3456.32			3429.86			3209.13		
Log Likelihood	-258.04			-255.96			-225.37		
Person-months	20,050			19,979			19,924		
(N)	312			311			311		

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

Table 6. ***Predictors of Getting Pregant (Women).***

Variables	Model 1			Model 2			Model 3		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	0.93	0.25		1.02	0.28		0.75	0.21	
Before move -urban	1.10	0.33		1.08	0.33		0.93	0.29	
Same time - rural	2.30	0.84	*	1.33	0.50		0.73	0.28	
Same time - urban	1.32	0.69		1.07	0.56		0.74	0.40	
After move -rural	2.78	0.72	***	1.73	0.48	*	1.02	0.29	
After move - urban	2.05	0.59	*	1.14	0.36		0.88	0.29	
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	1.08	0.24		0.85	0.19		0.94	0.22	
Other	0.81	0.27		0.82	0.28		0.85	0.29	
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.63	0.14	*	0.63	0.15	*	0.59	0.14	*
Pentecostal	1.15	0.27		1.04	0.26		1.00	0.25	
African/Traditional	1.17	0.35		1.20	0.37		0.90	0.28	
Muslim/Other/None	1.34	0.54		0.79	0.33		0.40	0.17	*
Family Support									
Parent responsible, both alive (ref)				1.00			1.00		
Father responsible, mother dead				2.21	1.11		2.23	1.11	
Mother responsible, father dead				0.54	0.21		0.49	0.19	
Relative responsible, not double orphan				1.00	0.29		0.77	0.23	
Relative responsible, double orphan				1.19	0.43		0.87	0.32	
Non-relative responsible or self				1.33	0.34		1.11	0.29	
Partner responsible				9.30	2.48	***	0.45	0.21	
Transitions									
Schooling									
Dropped out of school (ref)							1.00		
Finished secondary school							0.69	0.19	
In-school, behind							0.49	0.12	**
In-school, on-track							0.18	0.06	***
Ever Married							2.19	0.26	***
Ever Had a job							0.95	0.29	
Wald Chi-squared	3059.23			2817.27			2536.73		
Log Likelihood	-274.23			-232.26			-191.00		
Person-months	17,290			17,235			17,235		
(N)	279			279			279		

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

Table 7. ***Predictors of Getting a Partner Pregnant (Men).***

Variables	Model 1			Model 2			Model 3		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	1.06	0.39		1.07	0.40		1.45	0.56	
Before move -urban	1.33	0.56		1.47	0.64		2.23	1.00	
Same time - rural	1.87	1.00		1.94	1.04		1.67	0.92	
Same time - urban	0.71	0.73		0.76	0.78		0.97	1.00	
After move -rural	1.60	0.52		1.54	0.52		0.81	0.30	
After move - urban	1.43	0.55		1.58	0.62		2.07	0.85	
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	0.96	0.37		1.01	0.39		1.07	0.41	
Other	0.47	0.23		0.49	0.23		0.41	0.20	
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.48	0.13	**	0.51	0.14	*	0.88	0.26	
Pentecostal	0.68	0.24		0.70	0.25		1.03	0.37	
African/Traditional	1.03	0.41		1.07	0.43		0.76	0.32	
Muslim/Other/None	0.54	0.30		0.58	0.32		0.67	0.37	
Family Support									
Parent responsible, both alive (ref)				1.00			1.00		
Father responsible, mother dead				1.28	0.96		1.77	1.34	
Mother responsible, father dead				1.61	0.61		1.51	0.58	
Relative responsible, not double				0.77	0.35		0.42	0.20	
Relative responsible, double orphan				1.89	0.77		1.41	0.60	
Non-relative or self responsible				1.53	0.47		0.89	0.29	
Transitions									
Schooling									
Dropped out of school (ref)							1.00		
Finished secondary school							0.34	0.13	**
In-school, behind							0.37	0.12	**
In-school, on-track							0.18	0.10	**
Ever Married							2.32	0.22	***
Ever Had a job							1.51	0.45	
Wald Chi-squared	2392.43			2361.64			2026.79		
Log Likelihood	-199.28			-195.92			-149.47		
Person-months	24,555			24,467			24,453		
(N)	322			321			321		

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

Table 8. ***Predictors of Getting Married (Women).***

Variables	Model 1			Model 2			Model 3		
	Hazard Ratio	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	1.10	0.42		1.23	0.48		0.92	0.37	
Before move -urban	0.55	0.34		0.51	0.31		0.47	0.29	
Same time - rural	13.95	4.05	***	11.96	3.54	***	6.58	2.02	***
Same time - urban	3.78	1.86	**	3.19	1.59	*	2.52	1.27	
After move -rural	2.84	1.02	**	2.04	0.76		1.23	0.46	
After move - urban	4.02	1.38	***	3.72	1.32	***	3.64	1.28	***
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	0.73	0.21		0.64	0.18		0.73	0.22	
Other	1.00	0.38		1.14	0.45		1.21	0.48	
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.58	0.17		0.54	0.17	*	0.66	0.20	
Pentecostal	1.35	0.40		1.37	0.42		1.53	0.47	
African/Traditional	1.23	0.44		1.42	0.52		1.26	0.46	
Muslim/Other/None	2.38	1.05	*	2.66	1.19	*	1.87	0.85	
Family Support									
Parent responsible, both alive (ref)				1.00			1.00		
Father responsible, mother dead				2.55	1.46	*	2.55	1.44	
Mother responsible, father dead				0.64	0.29		0.61	0.28	
Relative responsible, not double orphan				1.35	0.42		1.02	0.32	
Relative responsible, double orphan				1.31	0.52		0.94	0.36	
Non-relative responsible or self				1.31	0.41		1.18	0.38	
Partner responsible				12.34	4.66	***	6.53	2.54	***
Transitions									
Schooling									
Dropped out of school (ref)							1.00		
Finished secondary school							0.70	0.22	
In-school, behind							0.27	0.09	***
In-school, on-track							0.02	0.02	***
Ever Been Pregnant							1.84	0.42	**
Ever Had a Job							0.86	0.36	
Wald Chi-squared	2239.60			2128.93			1818.26		
Log Likelihood	-184.28			-165.42			-128.66		
Person-months	19,774			19,719			19,719		
(N)	285			285			285		

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

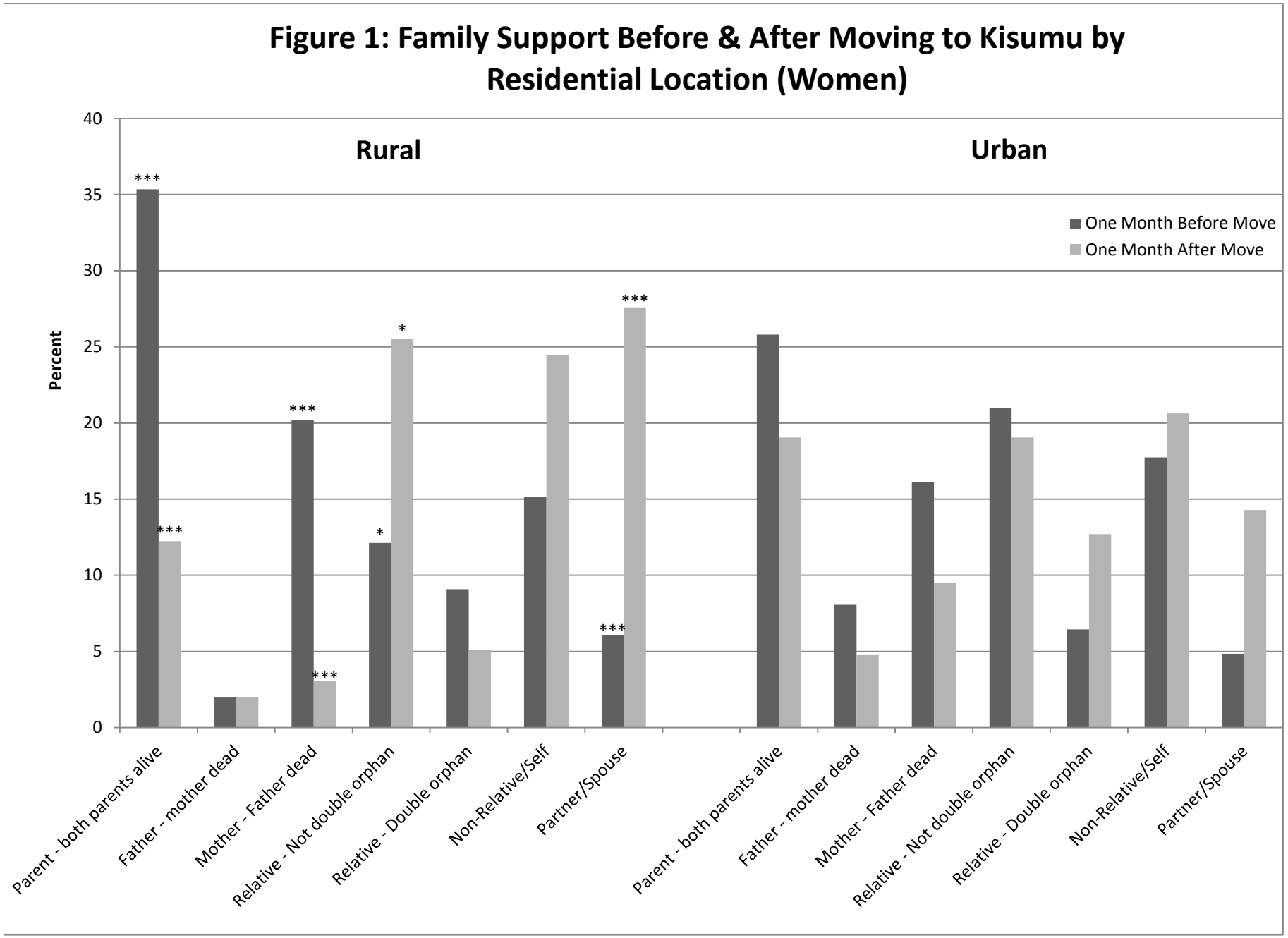
Figure 1: Family Support Before & After Moving to Kisumu by Residential Location (Women)
Rural
Urban
One Month Before Move
One Month After Move
Percent
40
35
30
25
20
15
10
5
0
***
***
***
***
*
*
***
***
Parent - both parents alive
Father - mother dead
Mother - Father dead
Relative - Not double orphan
Relative - Double orphan
Non-Relative/Self
Partner/Spouse
Parent - both parents alive
Father - mother dead
Mother - Father dead
Relative - Not double orphan
Relative - Double orphan
Non-Relative/Self
Partner/Spouse

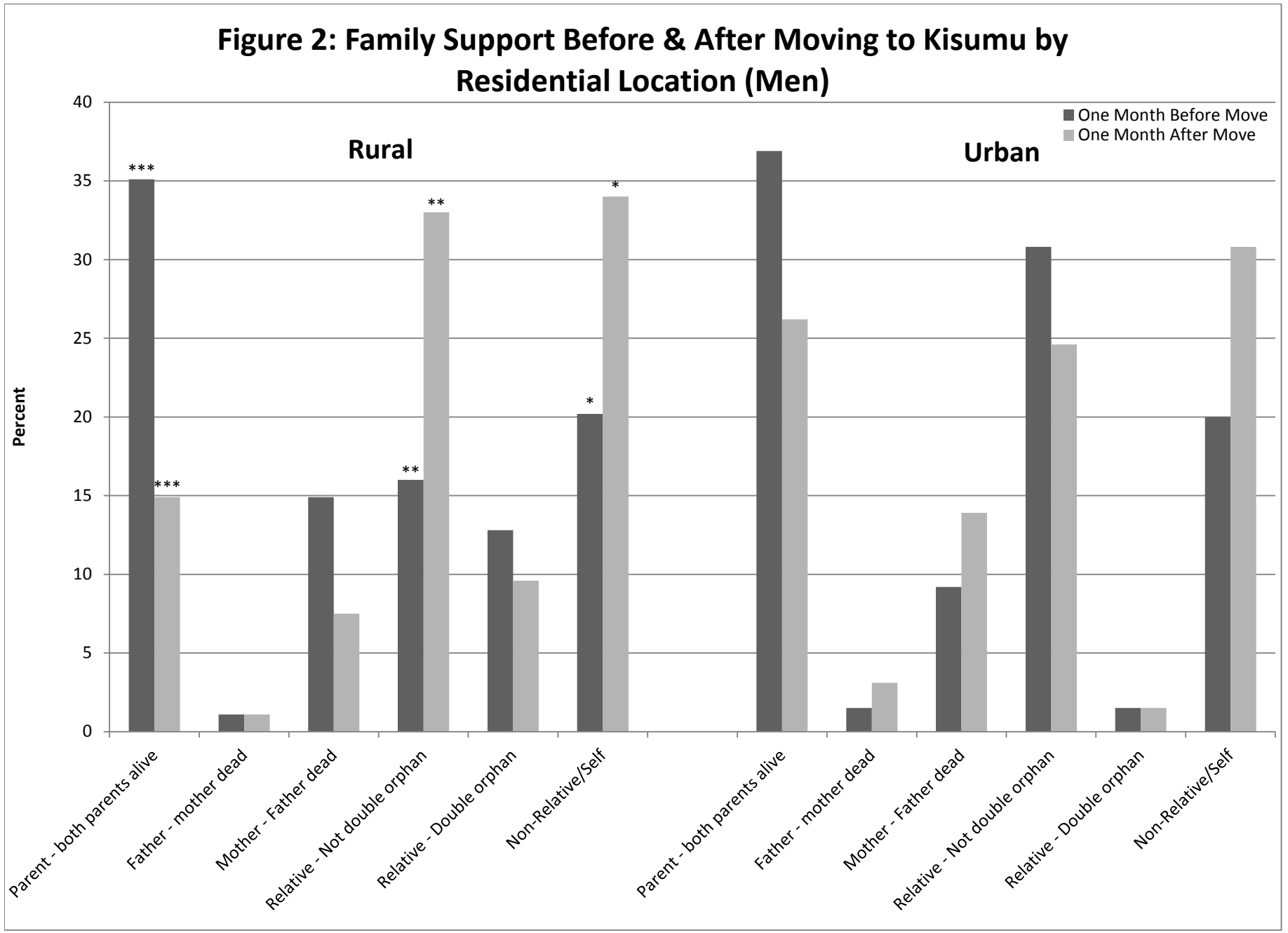
Figure 2: Family Support Before & After Moving to Kisumu by Residential Location (Men)
Rural
Urban
One Month Before Move
One Month After Move
Percent
40
35
30
25
20
15
10
5
0
***
***
**
**
*
*
Parent - both parents alive
Father - mother dead
Mother - Father dead
Relative - Not double orphan
Relative - Double orphan
Non-Relative/Self
Parent - both parents alive
Father - mother dead
Mother - Father dead
Relative - Not double orphan
Relative - Double orphan
Non-Relative/Self

Appendix A: ***Predictors of Transitionss to Adulthood Controlling for Current Household Wealth (Women).***

	School Drop-Out			Employment			Pregnancy			Marriage		
Variables	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration												
Non-Migrant (ref)	1.00			1.00			1.00			1.00		
Before move- rural	1.91	0.45	**	0.32	0.14	*	0.74	0.21		0.84	0.33	
Before move -urban	1.17	0.44		0.82	0.30		0.95	0.30		0.43	0.27	
Same time - rural	6.63	2.38	***	0.93	0.46		0.73	0.29		6.16	1.89	***
Same time - urban	3.14	1.73	*	1.21	0.58		0.75	0.40		2.35	1.19	
After move -rural	1.40	0.88		0.44	0.17	*	1.04	0.30		1.17	0.44	
After move - urban	0.52	0.34		0.84	0.28		0.90	0.30		3.22	1.15	***
Socio-Demographic Characteristics												
Ethnicity												
Luo (ref)	1.00			1.00			1.00			1.00		
Luhya	0.81	0.21		1.30	0.36		0.94	0.22		0.80	0.24	
Other	1.36	0.48		0.88	0.32		0.85	0.30		1.48	0.60	
Religion												
Catholic (ref)	1.00			1.00			1.00			1.00		
Protestant	0.82	0.21		0.59	0.16	*	0.59	0.14	*	0.73	0.22	
Pentecostal	1.44	0.41		0.86	0.24		1.01	0.26		1.57	0.49	
African/Traditional	1.81	0.61		0.57	0.26		0.91	0.29		1.31	0.48	
Muslim/Other/None	4.46	1.88	***	1.62	0.68		0.42	0.18	*	1.76	0.81	
Family Support												
Parent responsible, both alive (ref)	1.00			1.00			1.00			1.00		
Father responsible, mother dead	2.61	1.36		0.31	0.32		2.31	1.17		2.19	1.25	
Mother responsible, father dead	2.43	0.70	**	1.87	0.66		0.49	0.20		0.66	0.31	
Relative responsible, not double orphan	1.66	0.46		1.43	0.44		0.77	0.23		1.03	0.33	
Relative responsible, double orphan	3.91	1.31	***	1.06	0.47		0.91	0.34		1.05	0.40	
Non-relative or self responsible	1.13	0.36		0.86	0.29		1.11	0.30		1.37	0.44	
Partner responsible				2.26	1.21		0.45	0.22		6.48	2.55	***
Transitions												
Ever Been Pregnant	3.88	1.20	***	0.73	0.21					1.88	0.43	**
Ever Marry (For Drop-Out, Want to	1.72	0.38	*	0.51	0.29		2.17	0.26	***			
Ever Had a Job	2.96	2.31					0.95	0.29		0.79	0.33	
Schooling												
Dropped out of school (ref)				1.00			1.00			1.00		
Finished secondary school				1.91	0.54	*	0.70	0.20		0.80	0.26	
In-school, behind				0.61	0.20		0.50	0.13	**	0.29	0.10	***
In-school, on-track				0.56	0.22		0.18	0.06	***	0.03	0.03	***
Wealth Index												
Poor (ref)	1.00			1.00			1.00			1.00		
Middle	0.36	0.09	***	1.80	0.53	*	0.90	0.20		1.22	0.32	
Rich	0.20	0.05	***	1.45	0.45		0.95	0.24		0.53	0.18	
Wald Chi-squared	1896.85			2311.20			2530.09			1789.01		
Log Likelihood	-215.93			-169.65			-190.31			-124.82		
Person-months	10,844			20,417			17,137			19,621		
(N)	259			283			278			284		

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

Appendix B: ***Predictors of Transitions to Adulthood Controlling for Current Household Wealth (Men).***

	School Drop-Out			Employment			Pregnancy		
Variables	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**	**Hazard Ratio**	**Std. Error**	**Sig.**
Migration									
Non-Migrant (ref)	1.00			1.00			1.00		
Before move- rural	1.50	0.39		0.66	0.17		1.42	0.56	
Before move -urban	0.87	0.40		0.81	0.27		2.43	1.10	*
Same time - rural	7.66	2.82	***	2.71	0.71	***	1.62	0.89	
Same time - urban	4.96	2.24	***	2.06	0.74	*	1.02	1.05	
After move -rural	1.19	0.57		0.69	0.21		0.86	0.32	
After move - urban	0.86	0.48		1.03	0.29		2.07	0.85	
Socio-Demographic Characteristics									
Ethnicity									
Luo (ref)	1.00			1.00			1.00		
Luhya	0.95	0.35		1.30	0.36		1.19	0.47	
Other	0.58	0.25		1.59	0.37	*	0.41	0.20	
Religion									
Catholic (ref)	1.00			1.00			1.00		
Protestant	0.76	0.21		0.93	0.20		0.92	0.28	
Pentecostal	1.22	0.41		0.93	0.25		1.10	0.40	
African/Traditional	1.91	0.65		1.09	0.36		0.77	0.32	
Muslim/Other/None	1.16	0.49		1.09	0.34		0.68	0.38	
Family Support									
Parent responsible, both alive (ref)	1.00			1.00			1.00		
Father responsible, mother dead	1.43	0.72		0.68	0.33		1.68	1.28	
Mother responsible, father dead	1.79	0.50	*	1.04	0.27		1.53	0.59	
Relative responsible, not double orphan	1.73	0.52		0.94	0.24		0.41	0.20	
Relative responsible, double orphan	1.43	0.53		1.20	0.35		1.42	0.60	
Non-relative or self responsible	0.65	0.28		1.27	0.28		0.91	0.30	
Transitions									
Ever Had Partner Become Pregnant	3.33	1.32	**	1.74	0.45	*	1.40	0.42	
Ever Marry (For Drop-Out, Want to Marry)	0.74	0.20		0.62	0.37		2.35	0.23	***
Ever Had a Job	3.94	1.95	**						
Schooling									
Dropped out of school (ref)				1.00			1.00		
Finished secondary school				1.39	0.36		0.37	0.15	*
In-school, behind				0.44	0.09	***	0.40	0.14	**
In-school, on-track				0.22	0.08	***	0.21	0.12	**
Wealth Index									
Poor (ref)	1.00			1.00			1.00		
Middle	0.42	0.11	***	0.45	0.09	***	0.59	0.19	
Rich	0.24	0.08	***	0.49	0.11	***	0.80	0.26	
Wald Chi-squared	2022.99			3154.32			2009.50		
Log Likelihood	-184.63			-216.87			-148.01		
Person-months	15,362			19,924			24,453		
(N)	295			311			321		

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