

Migration Experience and Sexual Debut in Urban Kenya:

An Event History Analysis

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Abstract:

Migration and urban exposure during formative years could impact important life course transitions, such as the timing of sexual debut. We use unique life history calendar data to investigate patterns of migration and urban exposure among urban Kenyan youth from 1998 to 2007. We employ event history techniques to explore how the types and timing of residential moves affect the timing of sexual debut. Among 18-24-year-olds, 69 percent initiated sex before age 18. Only 15 percent of females and 25 percent of males have *not* experienced a major residential move in the last 10 years. Ever experiencing a rural-to-urban move significantly increases the likelihood of sexual debut in a given month for males, while the greater number of such moves decreases the likelihood for both sexes combined. Further analyses will examine the timing of migration experiences and sexual debut and how these associations differ by sex and orphan status.

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Introduction

There is a growing body of research that examines the linkages between migration experience and sexual and reproductive health. On the one hand, migration and urban residence appear to spur positive behaviors, such as increasing contraceptive use (Lindstrom and Munoz-Franco 2005) and lowering fertility (White et al. 2008). On the other hand, they are associated with unsafe sexual behaviors, including decreased condom use and multiple and concurrent sexual partners (Xu, Luke, and Zulu forthcoming; Mberu 2008; Sambisa and Stokes 2006; Wolffers et al. 2002), which can lead to higher rates of sexually transmitted diseases, including HIV infection (Lurie 2006; Yang 2004). Migration—particularly to urban areas—is posited to expose individuals to new ideas and social norms, access to health services, and, in the case of sexual behavior, access to a wider pool of potential sexual partners (White et al. 2008; Yang 2004; Wolffers et al. 2002; Brockerhoff and Biddlecom 1999). There has been little work on how the process of migration and urban exposure affect the sexual behavior of young people, although youth are among the most severely affected by poor reproductive and sexual health outcomes, including unintended pregnancy and HIV/AIDS (Rani and Lule 2004; UNFPA 2003; Mensch, Lloyd, and Erulkar 2001).

Migration is a process and therefore should be examined from a life course perspective, which emphasizes the sequencing and inter-locking nature of life events (Elder, Johnson, and Crosnoe 2003). With respect to young people, migration and urban exposure during formative adolescent and early adult years could have a large impact on important life course transitions, such as the timing of sexual debut (Stack 1994). In addition to a less traditional environment and a greater pool of sexual partners, adolescent and young adults who migrate to urban areas or experience a chain of residential moves may be subject to less parental control over their behaviors. This is particularly true in sub-Saharan Africa, where many youth are orphaned or fostered, and thus live with extended kin, nonrelatives, or independently (Goldberg 2010; Mberu 2008; Hosegood et al. 2007; Madhavan 2004). However, despite the recognition that migration is an unfolding process in young people's lives, most quantitative studies are cross-sectional and compare migrants to non-migrants at certain points in time (Lurie 2006; Sambisa and Stokes 2006; Brockerhoff and Biddlecom 1999). Few contain extensive details on the timing and types of residential moves to be able to explore how migrants and their behaviors change over time. This requires study designs that use a longitudinal data-gathering framework, which is yet to be readily available in many developing countries. Our study overcomes this limitation by using unique retrospective life history calendar data and event history analysis.

The life history calendar data used in this paper were collected from a sample of young males and females ages 18-24 in Kisumu, Kenya. Kisumu is the third largest city in Kenya and capital of Nyanza Province. An economic hub and destination for many internal migrants as well as the site of multiple secondary schools and colleges, it attracts a range of young people seeking employment and educational opportunities. Kisumu is also the epicenter of an ongoing HIV/AIDS epidemic in the region. HIV prevalence in the Province was estimated at 14.9 per cent in 2007, more than double the national rate (NAS COP 2009).

The Urban Life among Youth in Kisumu Project was conducted by researchers from Brown University, McGill University, and the African Population and Health Research Center in 2007. The life history data include detailed 10-year retrospective information on the residential histories of respondents as well as the type of caregiver and timing of sexual debut (for more details on the study design and instrument see Luke et al. forthcoming). These data provide the opportunity to investigate migration and its effects on sexual behavior in much greater detail than previous studies have allowed. Our paper has two main aims. First, we examine the patterns of migration and urban exposure among young men and women in Kisumu in the 10 years before the survey (1998-2007). Second, we use event history techniques to explore how the types and timing of residential moves, urban exposure, and types of primary caregiver affect the timing of sexual debut.

Preliminary Results

Table 1 presents descriptive statistics of our sample at the time of the survey and thus gives an overview of the migration experiences of youth in this urban setting. With respect to caregiving, we see that at ages 18 to 24, approximately one third of young urban dwellers report that one or both of their parents are currently their primary caregivers. About 2 percent report grandparents, 8 percent report aunts or uncles, 14 percent report siblings, and 42 percent report “other” as their primary caregivers, who include other extended family, employers or teachers (if in boarding school), and a very small proportion who are independent. It could be the case that these individuals exert less control over sexual behaviors than parents.¹ The large proportion reporting non-parental caregivers could also reflect the finding that 39 percent of respondents were orphaned by age 18 (Goldberg 2010).

We also see that while very few young people have experienced a rural-to-urban move in the last month, about 17 percent have had such a move in the last six months and over one-half have in the last 10 years. Even larger percentages have experienced major residential moves, defined as moving between districts or provinces regardless of their designation as rural or urban. Indeed, only 15 percent of females and 25 percent of males have *not* experienced a major residential move in the 10 years before the survey.

The bottom panel of Table 1 shows the average number of moves as well as urban exposure. We see that respondents have spent approximately 85 months (7 years) on average living in urban locations (Kisumu or other cities) out of the last 10 years. During this time period, respondents experienced more than one rural-to-urban move on average, with females having slightly more moves than males. Interestingly, females had approximately four and males approximately three major moves on average in the last 10 years. While previous research has shown that migrants in sub-Saharan Africa experience frequent movements between cities, towns, and home villages (Andersson 2001; Geschiere & Gugler 1998; Bartle 1981), this is one of the first insights into such detailed aspects of migration for young people in the region.

¹ These figures refer to the survey month only. If the full period of adolescence from age 11 to 18 is considered, 90 percent of the sample report a parental caregiver during at least one month, 10 percent grandparents, 19 percent aunts/uncles, and 14 percent siblings (Goldberg 2010). Thus, we see that it is common to have non-parental relations as caregivers during the early life course period in this setting.

Table 2 shows preliminary results from Cox regression models that examine the correlates of the timing of sexual debut for the full sample and for males and females separately. The average age at first sex is 15.7 years, regardless of those who had not experienced sexual debut by the time of survey. About 69 percent of respondents had sex by age 18. The exposure period for the regression analysis begins at age 13 for all respondents. We drop 59 respondents whose first sexual partnerships were not reported on the calendar in the last 10 years because of the lack of data on covariates to include in the analysis. We drop 36 respondents who initiated sexual intercourse within the last 10 years but before age 13, as we consider early sexual debut before age 13 to involve different processes than sexual activity at later stages. We further drop 67 respondents who began the calendar at age 14 years and thus did not supply information for age 13, the starting point of the exposure period. The final sample size for our regression analysis is thus 446. Respondents are right-censored if they did not report having had sexual intercourse by the time of survey (N=86) or age of 18 (N=73). All variables are time-varying by month (with the exception of sex of respondents and place of birth). Hazard ratios indicating the relative likelihood of reporting first sex during the month based on the independent variables at any given point in time and standard errors are reported. In addition to variables for type of caregiver and urban experience, Model 1 also includes variables for rural-to-urban migration and Model 2 includes variables for major residential moves between districts and provinces regardless of rural or urban origin and destination.

The results in Table 2 show that there is no difference in the timing of sexual debut between males and females in Kisumu. We also see across all regressions that in months where parents, aunts/uncles, and other types of individuals were caregivers, youth were significantly less likely to debut sexually than when siblings were caregivers, the reference category. There is no significant difference in the timing of sexual debut in months where siblings or grandparents were caregivers. These findings support the view that siblings and grandparents exert less control over the sexual behavior of young people than parents as well as other types of relatives. It could be the case that these are the caregivers of orphans (Goldberg 2010), and further analysis will examine the differences in migration histories and timing of sexual debut by orphan status.

Our preliminary results also find no significant associations between being born or living in an urban area and timing of sexual debut. With respect to migration experience, we see in Model 1 that ever having moved from a rural to an urban area significantly increases the likelihood of sexual debut in a given month, and this effect holds for males but not females. In addition, the greater the number of previous rural-to-urban moves decreases the likelihood of having first sex in a month, however this association is only significant for the full sample. Finally, we see that the number of previous moves between districts or provinces decreases the likelihood of sexual debut, and this effect holds for females only, where it is statistically significant. The latter two findings are interesting, given that we may have expected that multiple moves would disrupt family and community social support and supervision, leading to earlier sexual debut. Further analyses will examine the possibility that young women who experience numerous major residential moves may be those who are more educated or moving for schooling, for example, which may itself decrease their propensity or opportunity for debuting sexually.

Next Steps

In addition to the next steps mentioned above, we plan to further explore additional types of moves as well as their frequency and timing (in the last six months or one year, for example) and their relation to sexual debut by sex. It could be the case that disruption or lack of supervision associated with migration is most manifest soon after a residential change, and thus could affect sexual debut immediately. Alternatively, the effects of moving to a new environment on sexual behavior may take longer to arise. The consequence of exposure to urban living could also vary depending on its duration. Overall, we aim to inform future policies about the extent of youth migration and its potential effects on an important reproductive and sexual health outcome.

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Table 1. Descriptive statistics at time of survey, youth ages 18-24, Kisumu, Kenya, 2007

	Total (n=446)		Female (n=225)		Male (n=221)	
	N	%	N	%	N	%
Primary caregiver						
Parent	158	35.4	68	30.2	90	40.7
Grandparent	7	1.6	3	1.3	4	1.8
Aunt/Uncle	34	7.6	16	7.1	18	8.1
Sibling	61	13.7	29	12.9	32	14.5
Other	186	41.7	109	48.4	77	34.8
Born in urban area						
No	148	33.2	93	41.3	55	24.9
Yes	298	66.8	132	58.7	166	75.1
Moved from rural to urban areas in last month						
No	442	99.1	223	99.1	219	99.1
Yes	4	0.9	2	0.9	2	0.9
Moved from rural to urban areas in last 6 months						
No	372	83.4	181	80.4	191	86.4
Yes	74	16.6	44	19.6	30	13.6
Moved from rural to urban areas to date ¹						
No	213	47.8	90	40.0	123	55.7
Yes	233	52.2	135	60.0	98	44.3
Moved between districts or provinces in last month						
No	434	97.3	220	97.8	214	96.8
Yes	12	2.7	5	2.2	7	3.2
Moved between districts or provinces in last 6 months						
No	320	71.8	149	66.2	171	77.4
Yes	126	28.3	76	33.8	50	22.6
Moved between districts or provinces to date ¹						
No	89	20.0	34	15.1	55	24.9
Yes	357	80.0	191	84.9	166	75.1
	Mean	SD	Mean	SD	Mean	SD
Number of months living in urban area to date ¹	84.8	38.3	79.7	40.1	90.0	35.8
Number of moves from rural to urban areas to date ¹	1.2	2.5	1.5	2.9	1.0	2.0
Number of moves between districts or provinces to date ¹	3.6	5.7	4.0	5.7	3.2	5.6

¹Since January 1998.

Table 2. Hazard ratio estimates from Cox regression models of sexual debut, youth ages 18-24, Kisumu, Kenya, 2007

	Model 1						Model 2					
	Total		Female		Male		Total		Female		Male	
	HR	SE	HR	SE	HR	SE	HR	SE	HR	SE	HR	SE
Sex (ref = Female)												
Male	1.13	0.14	—	—	—	—	1.11	0.13	—	—	—	—
Primary caregiver (ref = Sibling)												
Parent	0.58	0.12 **	0.57	0.15 *	0.58	0.19 +	0.58	0.12 **	0.59	0.16 *	0.58	0.18 +
Grandparent	0.65	0.20	0.73	0.31	0.55	0.26	0.66	0.20	0.74	0.31	0.60	0.28
Aunt/Uncle	0.33	0.10 ***	0.34	0.16 *	0.30	0.13 **	0.34	0.10 ***	0.32	0.15 *	0.35	0.15 *
Other	0.48	0.11 ***	0.51	0.15 *	0.42	0.15 *	0.48	0.11 ***	0.52	0.16 *	0.44	0.15 *
Born in urban area (ref = No)												
Yes	0.98	0.15	0.83	0.17	1.23	0.28	0.96	0.14	0.82	0.16	1.24	0.29
Residing in urban area in present month (ref = No)												
Yes	1.04	0.16	1.19	0.26	0.91	0.20	1.07	0.16	1.19	0.26	0.90	0.20
Ever moved from rural to urban areas to date ¹ (ref = No)												
Yes	1.77	0.38 **	1.32	0.40	2.39	0.76 **	—	—	—	—	—	—
Number of moves from rural to urban areas to date ¹	0.80	0.08 *	0.80	0.11	0.82	0.12	—	—	—	—	—	—
Ever moved between districts or provinces to date ¹ (ref = No)												
Yes	—	—	—	—	—	—	1.18	0.17	1.31	0.28	1.06	0.22
Number of moves between districts or provinces to date ¹	—	—	—	—	—	—	0.95	0.03 +	0.91	0.04 *	1.00	0.03
Log-likelihood	-1616.99		-708.31		-706.9		-1619.29		-707.38		-710.74	
Number of person-months	18229		9307		8922		18229		9307		8922	

¹Since January 1998.

Note: HR = hazard ratio; SE = standard error; ***p<.001; **p<.01; *p<.05; +p<.1.