



Early sexual debut: A multi-country, sex-stratified analysis in sub-Saharan Africa

Ilana Seff , Jordan J. Steiner & Lindsay Stark

To cite this article: Ilana Seff , Jordan J. Steiner & Lindsay Stark (2020): Early sexual debut: A multi-country, sex-stratified analysis in sub-Saharan Africa, Global Public Health, DOI: 10.1080/17441692.2020.1814833

To link to this article: <https://doi.org/10.1080/17441692.2020.1814833>



Published online: 06 Sep 2020.



Submit your article to this journal [↗](#)



Article views: 32



View related articles [↗](#)



View Crossmark data [↗](#)



Early sexual debut: A multi-country, sex-stratified analysis in sub-Saharan Africa

Ilana Seff^{a,b}, Jordan J. Steiner^c and Lindsay Stark ^b

^aDepartment of Population and Family Health, Columbia University Mailman School of Public Health, New York, NY, USA; ^bGeorge Warren Brown School, Washington University in St. Louis, St. Louis, MO, USA; ^cRutgers School of Social Work, New Brunswick, NJ, USA

ABSTRACT

This study examined outcomes associated with early sexual debut in five sub-Saharan African countries for males and females, separately. We employed Violence Against Children Surveys (VACS) from Kenya, Malawi, Nigeria, Tanzania, and Uganda, restricting samples to males and females age 18–24 years. Early sexual debut was defined as having one's first sexual intercourse before 15. Logistic, Ordinary Least Squares, and Poisson regressions were utilised to estimate associations between early sexual debut and outcomes across four ecological domains: individual, family, peer/partner, and community. Regressions were stratified by sex. The prevalence of early sexual debut ranged from 8.6% in Tanzania to 17.7% in Malawi. Males were more likely to report early sexual debut in Kenya (16.3%, compared to 6.7% for females; $P < 0.001$) and Uganda (15%, compared to 10.4% for females; $P = 0.037$). In Nigeria, 14.5% of females reported early sexual debut, compared to 5.4% of males ($P < 0.001$). Early sexual debut was associated with only one outcome in the individual and family domains, and was most consistently associated with outcomes in the peer/partner domain. Differences in these relationships for males and females suggest programs and policies working to reduce early sexual debut and promote healthy sexual relationships among young adolescents should thoughtfully consider framing messaging through a gendered lens.

ARTICLE HISTORY

Received 6 December 2019
Accepted 17 August 2020

KEYWORDS

Adolescents; LMICs; early sexual debut

Introduction

The last decade has ushered in progress in reducing risky sexual behaviours for adolescents in sub-Saharan Africa (Woog & Kågesten, 2017). In particular, the majority of adolescents' sexual debuts now take place between the ages of 15 and 18 (Amo-Adjei & Tuoyire, 2018). Nonetheless, early sexual debut, defined here as having one's first incident of sexual intercourse prior to age 15, continues to pose a comparatively greater threat to adolescent sexual and reproductive health (SRH) in sub-Saharan Africa, where median age at first sex has historically been lower than the rest of the developing world (Hindin & Fatusi, 2009; Mmari & Astone, 2014; Ouattara et al., 1998; Peltzer, 2010).

A wide body of evidence highlights the negative SRH outcomes associated with early sexual debut, including lowered likelihood of using contraception, higher risk of sexually transmitted infections (STIs), HIV, pregnancy, and unintended pregnancy, increased fertility or number of children during adolescence, and unsafe abortion (Ariho & Kabagenyi, 2020; Doyle et al., 2012; Hindin & Fatusi, 2009; Kaestle et al., 2005; Mathews et al., 2008; Palermo & Peterman, 2009). Studies from the region

CONTACT Lindsay Stark  lindsaystark@wustl.edu  George Warren Brown School, Washington University in St. Louis, Goldfarb Hall, Room 241, Campus Box 1196, One Brookings Drive, St. Louis, MO 63130, USA

also demonstrate correlations between early sexual debut and early marriage, particularly among females; this relationship is often fueled by community norms that place expectations on females to marry and begin sexual activity before their male counterparts (Fagbamigbe & Idemudia, 2017; Stephenson et al., 2014). Further, early marriage for females may in turn limit their ability to negotiate condom use or abstain from unwanted sex (Clark, 2004). Most importantly, as early sexual debut is often forced or coerced, it is a direct threat to child rights (Moore et al., 2007; Muldoon et al., 2018).

Literature from high-income settings demonstrates that early sexual debut may also engender negative outcomes beyond those related to SRH, including anti-social behaviour, cigarette and drug use (Biglan et al., 1990; Magnusson et al., 2012), and diminished likelihood of attending post-secondary education (Parkes et al., 2010; Spriggs & Halpern, 2008). A nascent body of evidence has emerged from LMICs as well. A recent study from eight countries in sub-Saharan Africa found associations between early sexual debut and alcohol, tobacco, and drug use, poor parental connectedness, and mental distress (Peltzer, 2010). Similarly, a study from West Africa found early sexual debut to be significantly associated with multiple sexual partners, substance use, and truancy (Doku, 2012).

Bronfenbrenner's social ecological model (1994) can be a useful framework to conceptualise risks and outcomes related to sexual debut. As demonstrated above, the majority of studies that identify impacts of early sexual debut often focus on those limited to the individual sphere of the ecology. Evidence relating to how early sexual debut might impact the ways in which an adolescent interacts with other levels of the ecology remain weak, particularly in LMIC settings (Mmari & Sabherwal, 2013). Recent literature on risk factors for early sexual debut reiterates the value of organising these determinants through an ecological lens, considering how these factors are organised across the individual, family, partner/peer, school, community and cultural domains (Lee et al., 2018). Using a similar framework to understand the various outcomes of early sexual debut beyond those related to SRH can help researchers and practitioners understand how exposure to this event might influence the ways one interacts with multiple levels of the social ecology, beyond the individual.

Research illustrates that attitudes and social norms around gender roles at all levels of the ecology can result in gendered differences in sexual and reproductive health risks and outcomes (Chandra-Mouli et al., 2017; Heise et al., 2019; Weber et al., 2019). For example, due to norms that support aggressive forms of masculinity and unequal gender dynamics, boys and girls are more likely to be the perpetrators and victims, respectively, in circumstances of early coerced sex (Glowacz et al., 2018). Similarly, across multiple countries in sub-Saharan Africa, boys have been found to initiate sexual activity earlier than girls (Richter et al., 2015; Somefun et al., 2019). Recognising the complex relationships between gender and sexual activity, particularly during adolescence, it is reasonable to anticipate gendered associations between early sexual debut and other outcomes as well. However, there is limited research that explores these relationships through a gender lens across multiple levels of the ecology.

This study aims to help fill these gaps in the literature related to early sexual debut. Specifically, this study examines associations between early sexual debut and outcomes of interest across multiple domains of the ecology, including the individual, family, peer/friend, and community domains in five sub-Saharan African countries: Uganda, Nigeria, Malawi, Kenya, and Tanzania. Further, analyses are stratified by sex to understand how these relationships may operate differently for males and females.

Methods

Data

This analysis employed all Violence Against Children Survey (VACS) datasets from sub-Saharan for which male and female data are available: Kenya (2010), Malawi (2013), Nigeria (2014), Tanzania (2009), and Uganda (2015). The VACS are implemented as part of a partnership led by the US

Centers for Disease Control and Prevention (CDC) and are developed to generate estimates of children's and adolescents' exposure to violence at the national level. VACS collect data on lifetime histories of physical, sexual, and emotional violence, as well as information on sexual behaviour, gender role and IPV attitudes, and mental health symptomology, among other characteristics, for 13–24-year-old males and females. All VACS use a multi-stage cluster sample design, where each cluster, or primary sampling unit, contains either all male or all female respondents. This 'split sample' approach is employed to minimise the chances of interviewing both a survivor and perpetrator of the same incident of violence. Approximately 20–25 respondents were selected from each primary sampling unit (Chiang et al., 2016).

Consent was acquired directly for respondents over 17 years; both caregiver consent and informed assent were obtained for respondents 17 years and younger. Per the World Health Organization's guidelines on the safety and ethics of studying violence against women, all surveys were administered in a private space and no identifying information was collected. All survey protocols were approved by the CDC and in-country Institutional Review Boards (National Center for Injury Prevention and Control, Division of Violence Prevention, 2017).

Variables of interest

The predictor of interest was early sexual debut, and was operationalised as a dichotomous variable, defined as having had one's first sexual intercourse at age 14 or younger (Pettifor et al., 2008; Wand & Ramjee, 2012; Yount & Abraham, 2007). Respondents who reported ever having had sex and who reported their first incident of sexual intercourse occurred before age 15 were assigned a '1'; all other respondents were assigned a '0'. Outcomes of interest were classified using the six domains associated with early sexual debut as outlined by Lee et al. (2018): the individual, family, partner/peer, school, community, and cultural domains. While causality cannot be demonstrated given the cross-sectional nature of the data, any variable measuring an event that feasibly occurred prior to a respondent's first sexual intercourse was not selected for inclusion in order to minimise the issue of temporality in our interpretation of results. Outcomes selected for this analysis were classified under four of the six ecological domains: individual, family, partner/peer, and community domains (see Table 1). All variables were self-reported and collected at the individual level.

Analysis

Our sample was limited to 18–24-year-olds and prevalence of early sexual debut was estimated for 1,349 18–24-year-olds in Kenya, 1,076 in Malawi, 2,239 in Nigeria, 1,872 in Tanzania, and 2,996 respondents in Uganda. We assessed the associations between having an early sexual debut and the outcomes of interest outlined in Table 1. The relationship for each outcome was estimated using a separate regression, and regressions were estimated for each country, separately. Logistic, ordinary least squares (OLS), and Poisson regressions were used to estimate the associations for dichotomous, continuous, and ordinal outcomes, respectively. All regressions controlled for age and whether the respondent had completed primary school. Recognising the very different drivers and experiences of sexual activity for adolescent males and females, the relationships of interest were assessed separately for males and females using stratified regressions. To account for multiple hypothesis testing, Bonferroni adjustments were used to identify statistically significant effect sizes. Observations were weighted to be representative of each country's 18–24-year-old population and standard errors were adjusted for the complex sampling design. All analyses were implemented using Stata14.

Results

The share of respondents who reported an early sexual debut ranged from 8.6% of all 18–24-year-olds in Tanzania to 17.7% in Malawi (see Table 2). Males were significantly more likely to have had

Table 1. Outcomes of interest, by domain.

Domains	Outcome of interest	Type	Operationalisation	Denominator	Exceptions
Individual	Smoked cigarettes, last 30 days	Dichotomous	Smoked cigarettes 'occasionally' or 'daily' in last 30 days	18–24-year-olds	
	Alcohol use, last 30 days	Ordinal	Number of days the respondent was drunk in the last 30 days	18–24-year-olds	In Tanzania, number of days the respondent drank in the last 30 days
	Suicide ideation, ever	Dichotomous	Ever considered ending his or her life	18–24-year-olds	
	Attitudinal acceptance of IPV	Dichotomous	Agree it is acceptable for a husband to beat his wife in at least one of the following circumstances: - If she goes out without telling him - If she neglects the children - If she argues with him - If she refuses to have sex with him - If she makes bad food	18–24-year-olds	
	Inequitable attitudes toward sexual gender roles	Dichotomous	Agree with at least one of the following statements: - It is the man who decides when to have sex - Men need sex more than women do - A man needs other women, even if things with his wife are fine - Women who carry condoms are 'loose' - A woman should tolerate violence to keep her family together	18–24-year-olds	Not available in Tanzania
Family	Feel close with biological mother	Dichotomous	Feel 'close' or 'very close' with biological mother	18–24-year-olds whose mothers are alive	Not available in Tanzania or Kenya
	Feel close with biological father	Dichotomous	Feel 'close' or 'very close' with biological father	18–24-year-olds whose fathers are alive	Not available in Tanzania or Kenya
Peer/friend	Age at first marriage	Continuous	Age at first marriage	18–24-year-olds who have ever been married	
	Number of sexual partners	Ordinal	Lifetime number of sexual partners	18–24-year-olds who have ever had sex	
	IPV victimisation IPV perpetration	Dichotomous Dichotomous	Experienced physical IPV in the last 12 months Ever perpetrated physical or sexual IPV	18–24-year-olds 18–24-year-olds	Not available in Tanzania or Kenya
Community	Feel safe in community	Dichotomous	Trust people living in neighbourhood 'a lot' or 'some'	18–24-year-olds	In Kenya and Tanzania, agreeing or strongly agreeing with the statement, 'I think that people in my community can be trusted'
	Trust people in community	Dichotomous	Feel 'Very safe' or 'somewhat' safe in neighbourhood	18–24-year-olds	In Kenya and Tanzania, agreeing or strongly agreeing with the statement, 'I feel safe and secure in my community'

Table 2. Early sexual debut, by sex and country (18–24-year-olds).

	Full	Males	Females	<i>p</i> -value
Kenya	11.2%	16.3%	6.7%	<0.001***
N=	1,349	680	669	
Malawi	17.7%	22.0%	14.1%	0.052
N=	1,076	510	566	
Nigeria	10.3%	5.4%	14.5%	<0.001***
N=	2,239	1,288	951	
Tanzania	8.6%	6.8%	10.1%	0.264
N=	1,872	851	1,021	
Uganda	12.3%	15.0%	10.4%	0.037*
N=	2,996	1,226	1,770	

Note: Observations are weighted to be representative of the populations of 18–24-year-olds in each country. Differences in prevalence estimates between males and females are assessed using Adjusted Wald tests. Differences are significant at * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

an early sexual debut in Kenya (16.3%, compared to 6.7% for females; $P < 0.001$) and Uganda (15%, compared to 10.4% for females; $P = 0.037$). In Nigeria, 14.5% of females reported an early sexual debut, compared to only 5.4% of males ($P < 0.001$). No differences by sex were observed in Malawi or Tanzania.

Individual and family level domains

Results from the individual- and family-domain regressions are presented in Table 3. Importantly, almost no individual- or family-level outcomes were found to be significantly associated with early sexual debut for males or females. Findings revealed a few exceptions; males in Uganda with an early sexual debut consumed alcohol at a higher rate than did those without an early sexual debut (IRR = 3.0; 95% CI [1.75,5.13]) and females in Malawi with an early sexual debut exhibited lower odds of feeling close to their biological mother (aOR = 0.31; 95% CI [0.14,0.66]) (Table 4).

Peer/partner domain

Several outcomes within the partner domain were found to be associated with early sexual debut across multiple countries. Unsurprisingly, females with an early sexual debut were more likely to first marry at younger ages in Uganda, Nigeria, and Tanzania. Males with an early sexual debut in Kenya were also more likely to get married earlier in their lives. Further, males in Uganda, Malawi, and Kenya who had their first sexual intercourse before age 15 had more lifetime sexual partners than their sexually active male counterparts whose first sexual intercourse was at age 15 or older; this same relationship was observed for females in Uganda, Malawi, and Tanzania.

Findings also suggest that an early sexual debut may influence later IPV perpetration or victimisation in some contexts. For example, males in Uganda and Nigeria with an early sexual debut had 1.92 (95% CI [1.37,2.68]) and 2.39 (95% CI [1.41, 4.05]) greater odds, respectively, of perpetrating IPV as compared to males without an early sexual debut. Females with an early sexual debut in Kenya had nearly four times greater odds of experiencing IPV in the last 12 months compared to females without an early sexual debut (aOR = 3.82; 95% CI [1.61,9.10]).

Community domain

The only statistically significant association between early sexual debut and a community outcome was found for females in Kenya. Specifically, females with an early sexual debut had significantly lower odds of trusting people in their communities as compared to those without an early sexual debut (aOR = 0.3; 95% CI [0.13, 0.68]).

Table 3. Early sexual debut and outcomes, individual and family domains.

	Smoked cigarettes, last 30 days		Days drunk, last 30 days ^a (IRR)		Suicide ideation, ever		Attitudinal acceptance of IPV		Inequitable attitudes toward sexual gender roles		Feel close with biological mother		Feel close with biological father	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Uganda														
Early sexual debut	1.11 [0.67,1.84]	1.63 [0.66,4.04]	3.00* [1.75,5.13]	1.1 [0.42,2.84]	1.2 [0.64,2.25]	0.99 [0.45,2.15]	1.26 [0.90,1.78]	1.64 [0.71,3.76]	4.28 [1.42,12.89]	0.92 [0.15,5.53]	0.5 [0.28,0.89]	0.6 [0.24,1.50]	0.69 [0.45,1.07]	0.52 [0.29,0.92]
Nigeria														
Early sexual debut	1.56 [0.73,3.32]	1.41 [0.39,5.13]	1.13 [0.62,2.06]	0.97 [0.38,2.46]	1.83 [0.53,6.28]	0.62 [0.19,2.00]	0.92 [0.54,1.57]	1.43 [0.86,2.39]	0.84 [0.38,1.84]	0.71 [0.38,1.34]	1.02 [0.25,4.20]	0.59 [0.23,1.51]	0.5 [0.25,1.00]	0.65 [0.40,1.07]
Malawi														
Early sexual debut	1.86 [0.78,4.48]	1 [1.00,1.00]	0.96 [0.52,1.76]	1.46 [0.35,6.09]	0.51 [0.15,1.70]	0.67 [0.23,1.95]	1.33 [0.73,2.43]	0.77 [0.39,1.52]	1.09 [0.47,2.51]	0.51 [0.16,1.67]	0.71 [0.26,1.94]	5.65 [0.65,48.71]	0.53 [0.24,1.15]	0.31* [0.14,0.66]
Kenya														
Early sexual debut	2.31 [1.24,4.27]	1 [1.00,1.00]	1.52 [0.76,3.04]	6.24 [1.73,22.51]	2.95 [1.15,7.61]	1.76 [0.67,4.59]	1 [0.59,1.71]	1.07 [0.43,2.68]	1.34 [0.64,2.77]	0.96 [0.23,4.08]				
Tanzania														
Early sexual debut	1.1 [0.28,4.25]	7.7 [0.76,77.93]	1.43 [0.17,11.85]	4.7 [1.59,13.92]	1.29 [0.19,8.64]	0.86 [0.31,2.39]	2.53 [0.68,9.36]	1.66 [0.83,3.31]						

Note: Each column reflects a separate regression, where the column header is the outcome of interest and the sub-header is the population of interest. Odds ratios are presented unless otherwise specified. All observations are weighted to be representative of 18–24 year-olds and all models control for age and primary education. Adjusted odds ratios are significant at $*p < 0.004$; alphas were adjusted using Bonferroni corrections to account for multiple hypothesis testing.

^a Variable operationalised as number of days the respondent drank in last 30 days, in Tanzania.

Table 4. Early sexual debut and outcomes, peer and community domains.

	Age at first marriage, for ever-married (Beta)		Number of sexual partners (IRR)		IPV victimisation, last 12 months		IPV perpetration, ever		Trust people in community ^a		Feel safe in community ^b	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Uganda												
Early sexual debut	-0.55 [-1.02,0.09]	-2.55* [-3.17,1.922]	1.93* [1.59,2.33]	1.55* [1.17,2.05]	3.38* [1.56,7.32]	0.92 [0.46,1.87]	1.92* [1.37,2.68]	2.28 [1.09,4.75]	0.9 [0.65,1.24]	0.75 [0.39,1.42]	0.87 [0.61,1.24]	0.65 [0.25,1.70]
Nigeria												
Early sexual debut	-2.46 [-4.19,-0.72]	-3.10* [-3.58,-2.62]	1.44 [0.98,2.11]	1.14 [0.89,1.45]	0.52 [0.06,4.27]	0.78 [0.27,2.24]	2.39* [1.41,4.05]	0.81 [0.27,2.44]	0.63 [0.35,1.13]	1.22 [0.73,2.04]	0.53 [0.29,0.98]	0.83 [0.56,1.24]
Malawi												
Early sexual debut	0.22 [-0.47,0.91]	-0.67 [-1.67,0.34]	1.74* [1.33,2.28]	1.59* [1.43,1.77]	2.7 [0.80,9.07]	3.8 [1.41,10.24]	2.37 [1.31,4.28]	2.07 [1.22,3.52]	1.11 [0.61,2.02]	0.42 [0.15,1.21]	0.72 [0.44,1.18]	0.72 [0.38,1.35]
Kenya												
Early sexual debut	-2.76* [-4.56,0.97]	-0.64 [-1.71,0.43]	1.64* [1.27,2.11]	1.92 [1.13,3.24]	2.59 [0.98,6.86]	3.82* [1.61,9.10]			0.85 [0.51,1.42]	0.30* [0.13,0.68]	1.26 [0.84,1.91]	0.31 [0.09,1.03]
Tanzania												
Early sexual debut	-0.68 [-2.15,0.79]	-1.68* [-2.43,0.92]	1.58 [1.00,2.51]	1.49* [1.21,1.83]	1.44 [0.33,6.40]	1.7 [0.77,3.76]			0.57 [0.24,1.37]	1.3 [0.64,2.64]	0.7 [0.34,1.45]	0.79 [0.38,1.61]

Note: Each column reflects a separate regression, where the column header is the outcome of interest and the sub-header is the population of interest. Odds ratios are presented unless otherwise specified. All observations are weighted to be representative of 18–24 year-olds and all models control for age and primary education. Adjusted odds ratios are significant at * $p < 0.004$; alphas were adjusted using Bonferroni corrections to account for multiple hypothesis testing.

^aIn Kenya and Tanzania, agreeing or strongly agreeing with the statement, ‘I think that people in my community can be trusted.’

^bIn Kenya and Tanzania, agreeing or strongly agreeing with the statement, ‘I feel safe and secure in my community.’

Discussion

This study presents one of the first examinations of correlates of early sexual debut beyond those related to SRH through a gendered lens and within multiple sub-Saharan African countries. Overall, prevalence estimates for early sexual debut for males and females together ranged from 9% to 18%, suggesting this phenomenon may be slightly more common in LMICs as compared to high-income contexts (Cavazos-Rehg et al., 2009; Finer & Philbin, 2013). Interestingly, after adjusting for multiple hypotheses testing, only one outcome in the individual and family domains was found to be significantly associated with early sexual debut for males or females. However, early sexual debut was consistently correlated with negative outcomes found in the peer/partner domain.

In Uganda, Nigeria, and Tanzania, females with an early sexual debut were more likely first to marry at younger ages. While it is possible that at least some instances of early sexual debut are occurring within the context of child marriage, exploratory analysis in Uganda and Nigeria revealed that, among females with an early sexual debut, only 22% and 36%, respectively, were married before age 18. Further, analysis for both males and females in multiple countries demonstrated a correlation between early sexual debut and a greater number of lifetime sexual partners. These figures suggest that, despite increased risk of early marriage for girls with an early sexual debut, there remain a non-trivial number of children and adolescents engaging in non-marital sexual activity.

Differences in the prevalence of early sexual debut between males and females emerged across countries as well. In Kenya, Malawi, and Uganda, males were marginally more likely than females to have an early sexual debut. Previous research has found that males in Malawi and Uganda are more likely than girls to initiate sex at an earlier age (Stephenson et al., 2014), while other studies have demonstrated the high percentage of boys 12–14 years old reporting ever having had sexual intercourse in Malawi and Uganda in comparison to other countries (Bankole et al., 2007). Earlier sexual debut for boys may be a result of socialised sexual pressure, whereby they engage in early and more frequent sexual activity to project maturity (Tenkorang & Matlick-Tyndale, 2008). Qualitative research from Kenya echoes this pressure, showing that boys report feeling the need to conform to social expectations of male prowess and early sexual experience (Nzioka, 2001). Ugandan adolescent males in previous research have also articulated a societal pressure for males to prove that they are ‘normal’ to family and friends, and to perform sexually after ritual circumcision methods (Hulton et al., 2000). Further, messaging around normative sexual behaviour for male adolescents may be internalised through broader gendered social learning that emphasises aggressive forms of masculinity (Yount et al., 2016). This theory is supported by our findings in Uganda and Nigeria, where we find that boys with early sexual debuts are more likely to have ever perpetrated IPV. Sex education programs working with both adolescent boys and their caregivers may consider including individual reflection and group dialogues on norms around the healthy expressions of masculinity and sexual relationships in order to mitigate the potential relationship between early sexual debut and later perpetration of violence.

In Nigeria, the opposite pattern is observed, with girls having earlier sexual debut. Recent evidence from the Nigerian Demographic and Health Surveys (DHS) across 10 years echoes this same finding (Odimegwu & Somefun, 2017). Previous research in Nigeria demonstrates the possible role of early marriage, poverty, pressure from families to engage in trading or transactional sex, as well as coercion of younger girls, from older males such as teachers, in significantly contributing to early sex (Ankomah et al., 2011). Exploratory analysis for this study revealed that, among girls with an early sexual debut in Nigeria, 85% had their first sexual intercourse with a partner at least five years their senior. Thus, although our definition of early sexual debut includes both incidents of self-reported forced and non-forced sexual intercourse, these incidents are, at the very least, a product of an unequal power dynamic.

Findings from this study should be considered by policymakers and practitioners targeting delayed sexual debut among adolescents in LMICs. The high rates of sexual debut before age 15 stress the importance of ensuring that programs work with caregivers, schools, and community

leaders to redefine acceptable treatment of children and young adolescents and promote healthy sexual exploration. While the intention of this study is not to lend support to programs like ‘abstinence only’, which have been shown to be ineffectual and harmful (Ott & Santelli, 2007), the findings highlight that much or arguably all sex that occurs at such a young age is often considered statutory rape and legally nonconsensual; protecting the sexual rights of young people still needs to be upheld. Programs that first promote healthy social norms around early sexual debut among adult role models and decision-makers, and then encourage diffusion of these norms from adult to child, may subsequently delay sexual initiation among young adolescents (Kawai et al., 2008).

Results from this study also suggest that gendered norms may play a large role in a boy’s or male adolescent’s early sexual debut and subsequent sexual behaviours; programs might utilise social norms theory and approaches to shift boys’ perceptions of their peers’ behaviours as well as perceived expectations for their own behaviours and expressions of masculinity. Finally, in light of disparities in early sexual debut between males and females, practitioners should thoughtfully consider sex- and gender-specific curriculums and segmentation when implementing relevant interventions.

This study has a few limitations. First, while the conceptual framework presented in this study conceives of the variables of interest as outcomes, the cross-sectional nature of the data precludes the ability to establish temporality or causality. However, some timebound variables included in the analysis reference behaviours occurring in the last week (working outside the home) or last month (drug or alcohol use), and thus can be more confidently conceptualised as outcomes. Regardless, further research can usefully help elucidate whether certain covariates are protective or risk factors, outcomes of early sexual debut, or a mixture of both. Second, all variables included in this analysis are self-reported and, given the sensitive nature of some of the topics, respondents may have been influenced by social desirability bias.

Conclusion

While there is substantial evidence on the negative individual-level SRH outcomes associated with early sexual debut, less is known about how early sexual debut interacts with other outcomes and domains of the social ecology, particularly for adolescents in LMIC contexts. Our study offers new insights on the interlinkages between early sexual debut and adolescents’ interactions with their peers and partners. Further, differences in these relationships for males and females suggest interventions targeting delayed sexual debut should thoughtfully incorporate gendered approaches in programming.

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Lindsay Stark  <http://orcid.org/0000-0002-8775-9735>

References

- Amo-Adjei, J., & Tuoyire, D. A. (2018). Timing of sexual debut among unmarried youths aged 15–24 years in sub-Saharan Africa. *Journal of Biosocial Science*, 50(2), 161–177. <https://doi.org/10.1017/S0021932017000098>
- Ankomah, A., Mamman-Daura, O., & Anyanti, J. (2011). Reasons for delaying or engaging in early sexual initiation among adolescents in Nigeria. *Adolescent Health, Medicine and Therapeutics*, 75. <https://doi.org/10.2147/AHMT.S23649>
- Ariho, P., & Kabagenyi, A. (2020). Age at first marriage, age at first sex, family size preferences, contraception and change in fertility among women in Uganda: Analysis of the 2006–2016 period. *BMC Women’s Health*, 20(1), 8. <https://doi.org/10.1186/s12905-020-0881-4>

- Bankole, A., Biddlecom, A., Guiella, G., Singh, S., & Zulu, E. (2007). Sexual behavior, knowledge and information sources of very young adolescents in four Sub-Saharan African countries. *African Journal of Reproductive Health*, 11(3), 28. <https://doi.org/10.2307/25549730>
- Biglan, A., Metzler, C. W., Wirt, R., Ary, D., Noell, J., Ochs, L., French, C., & Hood, D. (1990). Social and behavioral factors associated with high-risk sexual behavior among adolescents. *Journal of Behavioral Medicine*, 13(3), 245–261. <https://doi.org/10.1007/BF00846833>
- Brofenbrenner, U. (1994). Ecological models of human development. In T. Husen & T. N. Postlethwaite (Eds.), *International encyclopedia of education* (pp. 1643–1647). Pergamon Press.
- Cavazos-Rehg, P. A., Krauss, M. J., Spitznagel, E. L., Schootman, M., Bucholz, K. K., Peipert, J. F., Sanders-Thompson, V., Cottler, L. B., & Bierut, L. J. (2009). Age of sexual debut among US adolescents. *Contraception*, 80(2), 158–162. <https://doi.org/10.1016/j.contraception.2009.02.014>
- Chandra-Mouli, V., Plesons, M., Adebayo, E., Amin, A., Avni, M., Kraft, J. M., Lane, C., Brundage, C. L., Kreinin, T., Bosworth, E., Garcia-Moreno, C., & Malarcher, S. (2017). Implications of the global early adolescent study's formative research findings for action and for research. *Journal of Adolescent Health*, 61(4), S5–S9. <https://doi.org/10.1016/j.jadohealth.2017.07.012>
- Chiang, L. F., Kress, H., Sumner, S. A., Gleckel, J., Kawemama, P., & Gordon, R. N. (2016). Violence Against children Surveys (VACS): towards a global surveillance system. *Injury Prevention*, 22(Suppl 1), i17–i22. <https://doi.org/10.1136/injuryprev-2015-041820>
- Clark, S. (2004). Early marriage and HIV risks in sub-Saharan Africa. *Studies in Family Planning*, 35(3), 149–160. <https://doi.org/10.1111/j.1728-4465.2004.00019.x>
- Doku, D. (2012). Substance use and risky sexual behaviours among sexually experienced Ghanaian youth. *BMC Public Health*, 12(1), 571. <https://doi.org/10.1186/1471-2458-12-571>
- Doyle, A. M., Mavedzenge, S. N., Plummer, M. L., & Ross, D. A. (2012). The sexual behaviour of adolescents in sub-Saharan Africa: Patterns and trends from national surveys. *Tropical Medicine & International Health*, 17(7), 796–807. <https://doi.org/10.1111/j.1365-3156.2012.03005.x>
- Fagbamigbe, A. F., & Idemudia, E. (2017). Diversities in timing of sexual debut among Nigerian youths aged 15–24 years: Parametric and non-parametric survival analysis approach. *African Health Sciences*, 17(1), 39–51. <https://doi.org/10.4314/ahs.v17i1.7>
- Finer, L. B., & Philbin, J. M. (2013). Sexual initiation, Contraceptive Use, and pregnancy Among young adolescents. *PEDIATRICS*, 131(5), 886–891. <https://doi.org/10.1542/peds.2012-3495>
- Glowacz, F., Goblet, M., & Courtain, A. (2018). Sexual coercion in adolescence: From non-consensual sexuality to sexuality under constraint. *Sexologies*, 27(2), e33–e37. <https://doi.org/10.1016/j.sexol.2018.02.010>
- Heise, L., Greene, M. E., Opper, N., Stavropoulou, M., Harper, C., Nascimento, M., Zewdie, D., Darmstadt, G. L., Greene, M. E., Hawkes, S., Heise, L., Henry, S., Heymann, J., Klugman, J., Levine, R., Raj, A., & Gupta, G. R. (2019). Gender inequality and restrictive gender norms: Framing the challenges to health. *The Lancet*, 393(10189), 2440–2454. [https://doi.org/10.1016/S0140-6736\(19\)30652-X](https://doi.org/10.1016/S0140-6736(19)30652-X)
- Hindin, M. J., & Fatusi, A. O. (2009). Adolescent sexual and reproductive health in developing countries: An overview of trends and interventions. *International Perspectives on Sexual and Reproductive Health*, 35(2), 058–062. <https://doi.org/10.1363/3505809>
- Hulton, L. A., Cullen, R., & Khalokho, S. W. (2000). Perceptions of the risks of sexual activity and their Consequences among Ugandan adolescents. *Studies in Family Planning*, 31(1), 35–46. <https://doi.org/10.1111/j.1728-4465.2000.00035.x>
- Kaestle, C. E., Halpern, C. T., Miller, W. C., & Ford, C. A. (2005). Young age at first sexual intercourse and sexually transmitted infections in adolescents and young adults. *American Journal of Epidemiology*, 161(8), 774–780. <https://doi.org/10.1093/aje/kwi095>
- Kawai, K., Kaaya, S. F., Kajula, L., Mbwambo, J., Kilonzo, G. P., & Fawzi, W. W. (2008). Parents' and teachers' communication about HIV and sex in relation to the timing of sexual initiation among young adolescents in Tanzania. *Scandinavian Journal of Public Health*, 36(8), 879–888. <https://doi.org/10.1177/1403494808094243>
- Lee, R. L. T., Loke, A. Y., Hung, T. T. M., & Sobel, H. (2018). A systematic review on identifying risk factors associated with early sexual debut and coerced sex among adolescents and young people in communities. *Journal of Clinical Nursing*, 27(3–4), 478–501. <https://doi.org/10.1111/jocn.13933>
- Magnusson, B. M., Masho, S. W., & Lapane, K. L. (2012). Early age at first intercourse and subsequent gaps in contraceptive use. *Journal of Women's Health*, 21(1), 73–79. <https://doi.org/10.1089/jwh.2011.2893>
- Mathews, C., Aaro, L. E., Flisher, A. J., Mukoma, W., Wubs, A. G., & Schaalma, H. (2008). Predictors of early first sexual intercourse among adolescents in Cape Town, South Africa. *Health Education Research*, 24(1), 1–10. <https://doi.org/10.1093/her/cym079>
- Mmari, K., & Astone, N. (2014). Urban adolescent sexual and reproductive health in low-income and middle-income countries. *Archives of Disease in Childhood*, 99(8), 778–782. <https://doi.org/10.1136/archdischild-2013-304072>
- Mmari, K., & Sabherwal, S. (2013). A review of risk and protective factors for adolescent sexual and reproductive health in developing countries: An update. *Journal of Adolescent Health*, 53(5), 562–572. <https://doi.org/10.1016/j.jadohealth.2013.07.018>

- Moore, A. M., Awusabo-Asare, K., Madise, N., John-Langba, J., & Kumi-Kyereme, A. (2007). Coerced first sex among adolescent girls in sub-Saharan Africa: Prevalence and context. *African Journal of Reproductive Health*, 11(3), 62–82. <https://doi.org/10.2307/25549732>
- Muldoon, K. A., King, R., Zhang, W., Birungi, J., Nanfuka, M., Tibengana, S., Afolabi, O., & Moore, D. M. (2018). Sexual health Consequences of forced sexual debut Among Ugandan women in HIV Serodiscordant Partnerships: Results from the HAARP study. *Journal of Interpersonal Violence*, 33(11), 1731–1747. <https://doi.org/10.1177/0886260517752155>
- National Center for Injury Prevention and Control, Division of Violence Prevention. (2017). Critical elements of interviewer training for engaging children and adolescents in global violence research: Best practices and lessons learned from the violence against children survey. <https://www.cdc.gov/violenceprevention/pdf/vacs/VACS-trainingwhitepaper.pdf>.
- Nzioka, C. (2001). Perspectives of adolescent boys on the risks of unwanted pregnancy and sexually transmitted infections: Kenya. *Reproductive Health Matters*, 9(17), 108–117. [https://doi.org/10.1016/S0968-8080\(01\)90014-X](https://doi.org/10.1016/S0968-8080(01)90014-X)
- Odimegwu, C., & Somefun, O. D. (2017). Ethnicity, gender and risky sexual behaviour among Nigerian youth: An alternative explanation. *Reproductive Health*, 14(1), <https://doi.org/10.1186/s12978-017-0284-7>
- Ott, M. A., & Santelli, J. S. (2007). Abstinence and abstinence-only education. *Current Opinion in Obstetrics and Gynecology*, 19(5), 446–452. <https://doi.org/10.1097/GCO.0b013e3282efdc0b>
- Ouattara, M., Sen, P., & Thomson, M. (1998). Forced marriage, forced sex: The perils of childhood for girls. *Gender and Development*, 6(3), 27–33. <https://doi.org/10.1080/741922829>
- Palermo, T., & Peterman, A. (2009). Are female orphans at risk for early marriage, early sexual debut, and teen pregnancy? Evidence from sub-saharan Africa. *Studies in Family Planning*, https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1728-4465.2009.00193.x?casa_token=12q0jh8s360AAAAA:YnCXcCFtutDeG5ziA7XrjEdDg3pDdfQEzlkA_RkSTLDZ6QVLacox9070y-T-T6pMx4rli4ZwFFDOgco.
- Parkes, A., Wight, D., Henderson, M., & West, P. (2010). Does early sexual debut reduce teenagers' participation in tertiary education? Evidence from the SHARE longitudinal study. *Journal of Adolescence*, 33(5), 741–754. <https://doi.org/10.1016/j.adolescence.2009.10.006>
- Peltzer, K. (2010). Early sexual debut and associated factors among in-school adolescents in eight African countries. *Acta Paediatrica*, 99(8), 1242–1247. <https://doi.org/10.1111/j.1651-2227.2010.01874.x>
- Pettifor, A. E., Levandowski, B. A., MacPhail, C., Padian, N. S., Cohen, M. S., & Rees, H. V. (2008). Keep them in school: The importance of education as a protective factor against HIV infection among young South African women. *International Journal of Epidemiology*, 37(6), 1266–1273. <https://doi.org/10.1093/ije/dyn131>
- Richter, L., Mabaso, M., Ramjith, J., & Norris, S. A. (2015). Early sexual debut: Voluntary or coerced? Evidence from longitudinal data in South Africa—the Birth to Twenty Plus study. *South African Medical Journal = Suid-Afrikaanse Tydskrif Vir Geneeskunde*, 105(4), 304–307. <https://www.ncbi.nlm.nih.gov/pubmed/26294851>.
- Somefun, O. D., Odimegwu, C., Fotso, A. S., & Adebayo, K. (2019). Union Formation Among Youth in Sub-Saharan Africa: Does early sexual debut Matter? *Emerging Adulthood*, 216769681881790. <https://doi.org/10.1177/2167696818817905>
- Spriggs, A. L., & Halpern, C. T. (2008). Timing of sexual debut and initiation of postsecondary education by early adulthood. *Perspectives on Sexual and Reproductive Health*, 40(3), 152–161. <https://doi.org/10.1363/4015208>
- Stephenson, R., Simon, C., & Finneran, C. (2014). Community factors shaping early age at first sex among adolescents in Burkina Faso, Ghana, Malawi, and Uganda. *Journal of Health, Population, and Nutrition*, 32(2), 161–175. <https://www.ncbi.nlm.nih.gov/pubmed/25076654>.
- Tenkorang, E. Y., & Matick-Tyndale, E. (2008). Factors Influencing the Timing of first sexual intercourse Among young people in Nyanza, Kenya. *International Family Planning Perspectives*, 34(04), 177–188. <https://doi.org/10.1363/3417708>
- Wand, H., & Ramjee, G. (2012). The relationship between age of coital debut and HIV seroprevalence among women in Durban, South Africa: A cohort study. *BMJ Open*, 2(1), e000285. <https://doi.org/10.1136/bmjopen-2011-000285>
- Weber, A. M., Cislighi, B., Meausoone, V., Abdalla, S., Mejía-Guevara, I., Loftus, P., Hallgren, E., Seff, I., Stark, L., Victora, C. G., Buffarini, R., Barros, A. J. D., Domingue, B. W., Bhushan, D., Gupta, R., Nagata, J. M., Shakya, H. B., Richter, L. M., Norris, S. A., ... Gupta, G. R. (2019). Gender norms and health: Insights from global survey data. *The Lancet*, 393(10189), 2455–2468. [https://doi.org/10.1016/S0140-6736\(19\)30765-2](https://doi.org/10.1016/S0140-6736(19)30765-2)
- Woog, V., & Kågesten, A. (2017). *The sexual and reproductive health needs of very young adolescents aged 10–14 in developing countries: What does the evidence show*. Guttmacher Institute. https://amaze.org/wp-content/uploads/2019/02/Resources_Guttmacher_20190219.pdf
- Yount, K. M., & Abraham, B. K. (2007). Female Genital Cutting and HIV/AIDS Among Kenyan women. *Studies in Family Planning*, 38(2), 73–88. <https://doi.org/10.1111/j.1728-4465.2007.00119.x>
- Yount, K. M., Higgins, E. M., VanderEnde, K. E., Krause, K. H., Minh, T. H., Schuler, S. R., & Anh, H. T. (2016). Men's perpetration of intimate partner violence in Vietnam. *Men and Masculinities*, 19(1), 64–84. <https://doi.org/10.1177/1097184X15572896>