Cohabitation in sub-Saharan Africa: A regional analysis.

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Abstract

Cohabitation has been an increasing feature of family transition in sub-Saharan Africa (SSA) since the new millennium but little research has been devoted to examining its underlying factors. This study used weighted pooled Demographic and Health Survey (DHS) data from sixteen countries to examine recent trends, patterns and determinants of cohabitation in SSA. A quantitative design employing bivariate and multilevel mixed effects logistic regression techniques was used to analyse the data. Individual level variables were observed to be strong predictors of cohabitation in all four sub-regions while community level correlates were important in accounting for variations among sub-regions. Based on findings of the study, both economic and sociocultural factors have been driving the increase in cohabitation in SSA. Further research is needed as is consideration of relevant transformations in family law so that all forms of family configurations are legally regulated for the benefit of children and women.

Key words: Cohabitation, family formation, sub-Saharan Africa, family transition, determinants.

1. Introduction

The 21st century has seen profound changes in the configuration of family life in sub-Saharan Africa with important implications on the lives of particularly women and children. A prominent feature of this family transition has been the increasing prominence of cohabitation which entails co-residence of unmarried partners living like husband and wife (Haskey, 2001). Cohabitation has been extensively studied from the disciplinary perspective of demography in other regions of the world like North America, Latin America, Western Europe and Eastern Europe where it has been observed to serve either as an alternative or stepping stone to marriage (Bumpass and Lu, 2000; Esteve et al., 2012; Francis et al., 2011;

Fussell and Palloni, 2004; Hoem et al., 2009; Kiernan, 2004; Thornton and Philipov, 2009). However, there is a dearth of such literature in sub-Saharan Africa where only a few studies have been conducted in countries like South Africa, Burkina Faso and Namibia (Hosegood et al., 2009a; LeGrand and Younoussi, 2009; Mashau, 2011; Pazvakawambwa et al., 2013; Posel and Rudwick, 2013). This research seeks address this dearth in literature by exploring individual and community level covariates of cohabitation in sub-Saharan Africa. The objective of the paper is to investigate recent trends, patterns and determinants of cohabitation in both countries with high levels and low levels of cohabitation.

There has only been one regional study in sub-Saharan Africa by Mokomane (2006) which can be considered 'pseudo-regional' because it primarily focused on understanding cohabitation dynamics in Botswana. This study seeks to addresses the gap in literature by examining recent regional trends, patterns and determinants of cohabitation in the sub-Saharan Africa region. Understanding cohabitation in sub-Saharan Africa is important because, as observed in other parts of the world like United States of America (USA), it is linked with non-marital childbearing, child outcomes and welfare as well as living arrangements of children and female partners following separation (Bumpass and Lu, 2000; Ermisch and Francesconi, 2000; Kennedy and Bumpass, 2008). Furthermore, using a demographic perspective to study cohabitation produces quantified delineation of the correlates of cohabitation in a format convenient for use in formulating relevant policy interventions as well as raising questions for further research. For example, multivariate analysis using categorical variables generates knowledge about size of the relationship between educational attainment or employment status and cohabitation. In a context where negative child outcomes are observed in relation to cohabitation, this gives impetus to education or employment related policy interventions or further studies.

In the western countries, existing research reports an inverse relationship between cohabitation and developmental indicators. Using different survey data sources, Bumpass & Lu (2000) and Thornton et al. (1995) observed that low socioeconomic status, measured by unemployment, low income and low educational attainment, was associated with greater probability of cohabitation in USA. Conversely, findings from the Middle East studies indicate positive relationship between educational attainment and cohabitation **&&**. Religion, particularly with respect to being Muslim or non-Muslim has been observed to be a significant factor in cohabitation. For example, Lai and Thornton (2015), using data from China, observed that non-Muslims were more likely to cohabit compared to Muslims. Literature also suggests that cohabitation in USA and Europe is more likely among younger cohorts compared to older age cohorts (Kiernan, 2004; King and Scott, 2005). While younger adults largely cohabit before entering first marriage, Xu et al. (2006) found that older adults usually enter into post-divorce cohabitation. The rich literature in other regions of the world like Europe and North America helped raise awareness of the need for transformation in family laws so that all forms of family life including that based on cohabitation are comprehensively regulated (Barlow, 2004; Garrison, 2008; Kiernan, 2004). In much of sub-Saharan Africa, lack of research has stifled comprehensive transformation of family laws despite the well-established link between family law, inheritance and intergenerational poverty (Cooper, 2010, 2012). The current extent of cohabitation in terms of developmental indicators as well as sociocultural and demographic characteristics is largely unexplored. The objective of this research is therefore to conduct a regional examination of cohabitation in terms of developmental and socio-cultural indicators, reporting on recent trends, patterns and multilevel determinants in sub-Saharan Africa. The paper advances the argument that cohabitation in sub-Saharan Africa hints at a phenomenon under dual influence from sociocultural and economic factors.

2. Theoretical framework

Theories that have been applied in studies of family formation in other regions of the world have largely come from the fields of economics and sociology. Economic theories derive from Becker's New Home Economics model while sociological theories are largely based on Lesthaeghe's recent versions of Second Demographic Transition model which covers aspects of ideational change and secularisation (Esping-Andersen and Billari, 2015). This paper adapts these two fields' theories to apply a socioeconomic theory of union formation, arguing that family formation in sub-Saharan Africa is a function of both economic and sociological factors. In light of the socioeconomic development context of sub-Saharan Africa characterised by waning influence of traditional cultural values on union formation and general stagnant and negative growth in employment sector, it is justified that an examination of cohabitation in the region applies a theoretical framework that captures interactions between economic and sociodemographic factors. The theoretical framework applied in this study is illustrated below.

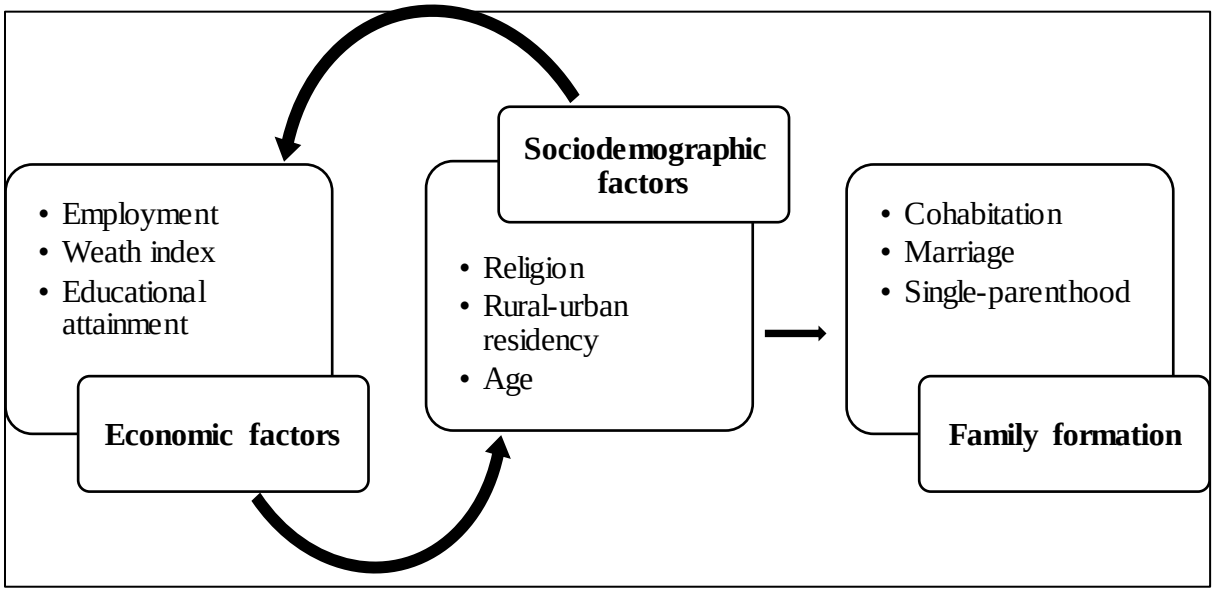

Figure 1. Socioeconomic conceptual framework for examining cohabitation in sub-Saharan Africa

The conceptual framework shown in Figure 1 above presents the hypothesis that cohabitation, a type of family formation, in sub-Saharan Africa is underlain by multiplicative effects of the interactions between economic and sociodemographic factors. Considering that formation of marital families involves payment of bride price by the groom, unfavourable developments in the economic situations of males have negatively affected the traditional model of family formation. This has happened in the context of globalisation and secularisation which desensitise people, making them more receptive of modernistic ideas on engaging in alternative forms of union formation like cohabitation. However, due to cultural inertia, bride price is still important in formalising marriage.

3. Method

3.1 Data and variables

This study analysed pooled, weighted Demographic and Health Surveys (DHS) data from sixteen countries in sub-Saharan Africa. Data were obtained from the DHS program's online repository. Data were pooled to enable a comparative regional analysis which also used countries as spatial variables. Data pooling also enabled the analysis to include countries with low prevalence of cohabitation making possible a holistic examination of cohabitation dynamics. The countries included in the analysis were Burundi, Chad, Comoros, Congo Brazzaville hereinafter referred to as Congo, Cote D'Ivoire, Congo Democratic Republic hereinafter Congo DR, Ethiopia, Kenya, Mali, Mozambique, Namibia, Nigeria, Togo, Uganda, Zambia and Zimbabwe.

Demographic and Health Surveys collect data about population, health and nutrition indicators from nationally representative samples. In this study, the focus was on how the socio-demographic characteristics relate to cohabitation in sub-Saharan Africa. Although

country-specific questions are present, the design of DHS is standardised across all countries making collected data suitable for regional analyses.

The dependent variable was cohabitation. To measure the prevalence of cohabitation, the sample was classified into two categories depending on whether one was 'cohabiting' or in 'other' category of marital status. The category 'other' included all marital statuses namely married, divorced, widowed and never married.

The independent variables were at individual and community level. Individual level predictor variables were employment status, religious beliefs, educational attainment, age group, wealth status, country of residence and age at first sex. Community level variables included proportion in professional jobs, proportion poor, proportion with secondary education or higher, proportion never married and proportion urban. To establish a perspective of the spread of cohabitation across age groups the sample was divided into five year age groups ranging from 15-19 years to 45-49 years. Relevant categorisation was also done for other variables namely religion, wealth status, educational attainment and urban-rural residence. To provide a current picture of the prevalence of cohabitation in sub-Saharan Africa, an examination of patterns of cohabitation used each sampled country's latest DHS data

3.2 Design of study

The study employed a quantitative design consisting of bivariate and multivariate analysis. Bivariate analysis followed a descriptive design which is appropriate in studying prevalence of a phenomenon using cross-sectional survey data (Grimes and Schulz, 2002). When employing a descriptive design, scores on the dependent variable of interest are expressed in the form of percentage shares of the categories of independent variables, and as measures of central tendency or variability (Jeffrey *et al.*, 2010). This study used percentages to report on trends and patterns of cohabitation in sub-Saharan Africa. Multivariate analysis followed an

explanatory design which sought to account for the observed levels and patterns of cohabitation. Results from multivariate analysis were reported in the form of odds of cohabiting.

3.3 Sample selection

The study population comprised all the countries found in sub-Saharan Africa that have ever conducted DHS data collection. A thematic map using The DHS Program STATcompiler was generated to show concentrations [prevalence] of cohabitation for all countries in the region to enable identifying and distinguishing countries with high prevalence from those with low prevalence. From this pool of countries with data available, three steps were undertaken to come up with the final study sample of sixteen countries. The first step categorised countries into sub-regions namely Western Africa, Eastern Africa, Central Africa and Southern Africa. The classification of countries into sub-regions was not according to that found in the STATcompiler portal of the DHS Program data repository. Instead, the sub-regional classification of countries followed that in existing regional studies in family demography in sub-Saharan Africa, for example, Caldwell *et al.* (1992). The second step was to select countries in each sub-region that have at least two DHS data available. This was done so that recent trends in levels of cohabitation could be generated. The third step entailed selection of four countries from each sub-region whereby two of the countries showed high prevalence of cohabitation and the other two showed low cohabitation prevalence.

After selecting countries, a decision was made to limit the analysis to women aged 15 to 49 years. Although DHS largely collects data from women aged 15 to 49 years, ages 50 years and above have sometimes been enumerated as was the case with 2013 Namibia DHS. Only women were included in the final analysis because of potential under reporting of cohabitation by men. For example, preliminary check on cohabitation levels in the sampled countries showed lower levels for men compared to women. Lower cohabitation prevalence

for men can also be attributed to men having multiple partners outside marriage and this may lead to underestimation of cohabitation levels.

To construct recent trends, a sample of 383 867 women aged 15 to 49 years drawn from each country's two latest phases of DHS was used. To examine patterns and determinants, analysis was restricted to 201 492 women drawn from each country latest DHS data. The use of latest DHS data was so that the study would show the current levels, patterns and determinants of cohabitation. The distribution of the sample of 201 492 is shown in Table 1 below.

Table 1 Frequency distribution of the study sample for N=201 492

	Central Africa (N=41 060)			
	Chad 2004	**Comoros 2012**	**Congo 2011-12**	**Congo DR 2013**
Country total	6 085	5 329	10 819	18 827
Age group				
15-19	1 360	1 359	2 190	4 054
20-24	1 072	995	2 029	3 697
25-29	1 140	899	2 019	3 533
30-34	783	744	1 558	2 623
35-39	656	629	1 358	2 185
40-44	524	451	911	1 531
45-49	547	294	746	1 202
Religion				
Catholic	1 326	0	3 396	5 591
Protestant/Other Christian	1 043	17	6 847	12 614
Muslim/Islam	3 483	5 276	135	226
Other	230	4	438	342
Educational attainment				
No education	4 548	1 651	2 903	2 903
Primary	1 144	1 046	6 949	6 949
Secondary	367	2 113	8 286	8 286
Higher	24	502	688	687
Wealth index				
Poorest	1 216	868	1 809	3 496
Poorer	1 309	1 072	2 118	3 588
Middle	1 100	1 095	2 235	3 510
Richer	1 245	1 122	2 349	3 654
Richest	1 213	1 171	2 306	4 576
Residence				
Urban	1 289	1 761	7 422	7 224
Rural	4 795	3 567	3 396	11 602

	Eastern Africa (N=43 022)			
	Burundi 2010	**Ethiopia 2011**	**Kenya 2008**	**Uganda 2011**
Country total	9 389	16 515	8 444	8 674
Age group				
15-19	2 359	4 009	1 760	2 047
20-24	1 832	2 930	1 714	1 629
25-29	1 607	3 146	1 453	1 569
30-34	1 064	2 054	1 208	1 085
35-39	1 066	1 916	877	1 026
40-44	745	1 260	767	729
45-49	713	1 196	661	586
Religion				
Catholic	5 798	179	1 852	3 523
Protestant/Other Christian	3 168	11	5 747	3 922
Muslim/Islam	203	4 587	625	1 124
Other	210	253	215	104
Educational attainment				
No education	4 210	8 394	752	1 119
Primary	4 042	6 275	4 798	5 152
Secondary	1 053	1 117	2 273	1 948
Higher	82	728	620	453
Wealth index				
Poorest	1 989	2 986	1 393	1 519
Poorer	1 909	3 949	1 483	1 578
Middle	1 853	3 030	1 612	1 608
Richer	1 810	3 215	1 735	1 725
Richest	1 916	4 242	2 219	2 241
Residence				
Urban	1 002	3 947	2 148	1 717
Rural	8 387	12 568	6 296	6 957

	Southern Africa (N=48 503)			
	Mozambique 2011	**Namibia 2013**	**Zambia 2013-14**	**Zimbabwe 2010-11**
Country total	13 745	9 176	16 411	9 171
Age group				
15-19	3 060	1 905	3 625	1 945
20-24	2 454	1 785	3 006	1 841
25-29	2 275	1 489	2 813	1 686
30-34	1 997	1 259	2 475	1 295
35-39	1 698	1 110	2 008	1 050
40-44	1 159	917	1 464	732
45-49	1 101	708	708	620
Religion				
Catholic	3 994	1 802	2 988	773
Protestant/Other Christian	5 729	6 418	13 191	6 966
Muslim/Islam	2 420	0	101	768
Other	1 592	932	94	663

Educational attainment				
No education	4 292	419	1 375	212
Primary	6 906	1 798	7 676	2 568
Secondary	2 362	6 029	5 966	5 966
Higher	185	929	423	423
Wealth index				
Poorest	2 597	1 428	2 859	1 546
Poorer	2 551	1 625	2 861	1 593
Middle	2 575	1 795	3 077	1 681
Richer	2 782	2 116	3 510	2 072
Richest	3 239	2 211	4 103	2 277
Residence				
Urban	4 772	5 190	7 585	3 548
Rural	8 972	3 986	8 825	5 622

	Western Africa (N=68 912)			
	Cote d'Ivoire	**Mali 2012-13**	**Nigeria 2013**	**Togo 2013-14**
Country total	10 060	10 424	38 948	9 480
Age group				
15-19	2 203	1 891	7 820	1 700
20-24	1 952	1 845	6 757	1 664
25-29	1 922	2 078	7 145	1 684
30-34	1 508	1 669	5 466	1423
35-39	1 129	1 334	4 718	1 297
40-44	851	914	3 620	920
45-49	672	693	3422	791
Religion				
Catholic	1 947	270	4 316	2 461
Protestant/Other Christian	2 650	177	13 921	3 286
Muslim/Islam	4 043	9 645	20 149	1 609
Other	1 403	331	369	2 117
Educational attainment				
No education	5 351	7 903	14 729	3 012
Primary	2 551	964	6 734	3 173
Secondary	1 881	1 421	13 927	2 976
Higher	276	135	3 558	318
Wealth index				
Poorest	1 727	1 953	7 132	1 578
Poorer	1 780	1 951	7 427	1 602
Middle	1 910	1 971	7 486	1 724
Richer	2 122	2 132	7 992	2 162
Richest	2 520	2 416	8 910	2 413
Residence				
Urban	5 170	2 583	16 414	4 303
Rural	4 890	7 840	22 534	5 176

3.4 Methods of analysis

Analysis of data involved exploring trends and broad patterns of cohabitation in the sampled countries. To establish the determinants of cohabitation, mixed effects logistic regression was explored. Mixed effects logistic regression models multilevel determinants of an outcome variable, producing results which reflect the average effect of between and within cluster differences (Neuhaus and Kalbfleisch, 1998). In this study, multilevel modelling was employed to determine the relative significance of individual and community level variables in cohabitation in sub-Saharan Africa. Given the dearth of literature on the socioeconomic and demographic correlates of cohabitation in sub-Saharan Africa, multilevel analytical technique contributed in addressing the knowledge gap in literature. The logistic model as applied in the analysis was as follows;

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \delta_{0ij} + \sum_{ij=1}^{\omega} \delta_{ij} z_{ij} + \varepsilon_{ij} \qquad [1]$$

Where:

j represented the number of groups – level two units,

z_{ij} were individual level predictor,

ε_{ij} was the error term,

$\sum^{w}_{ij}$ represented the total number of covariates.

The analysis first examined trends in cohabitation at national level by sub-region. Next, the analysis examined patterns of cohabitation by demographic, socioeconomic and geographic characteristic of the sample. This part of analysis used the latest DHS data for each country.

4. Results

4.1 Trends in cohabitation

The results on recent trends in cohabitation are presented at sub-regional level because the study aimed to investigate cohabitation at a regional scale. Similar format is followed in subsequent bivariate and multivariate results presentation. The observed trends show rising prevalence of cohabitation in countries with high levels of cohabitation in Western Africa, Central and Eastern Africa. There were also increased prevalence of cohabitation in some countries with low levels of cohabitation in Eastern and Central Africa. The trends in levels of cohabitation are presented by sub-region in Figures 2 to 5.

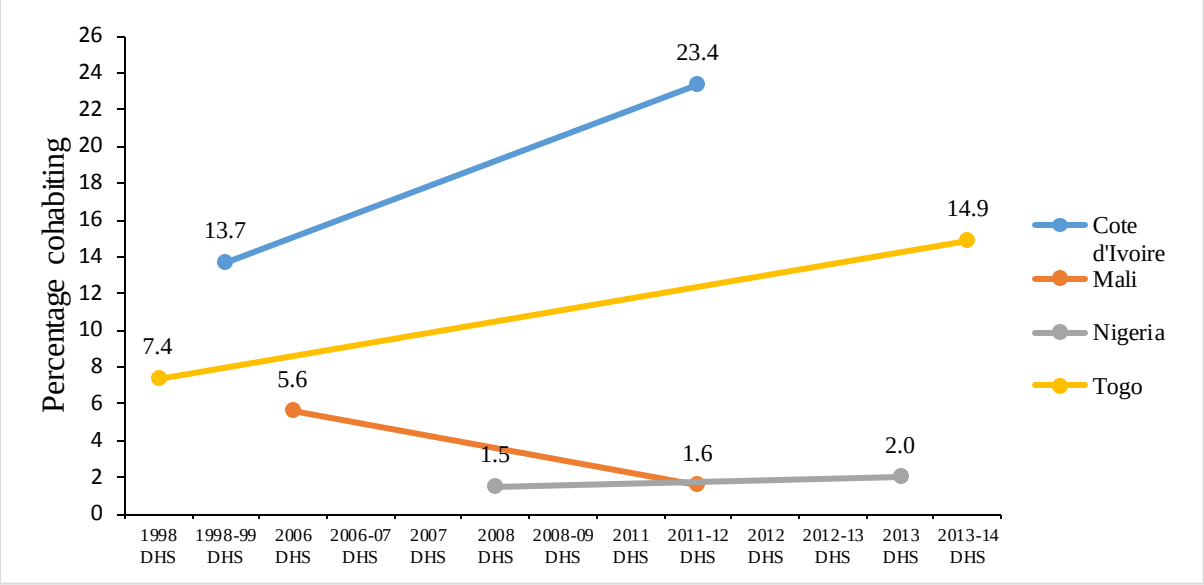

Figure 2. Trends and levels of cohabitation in the Western Africa sub-region

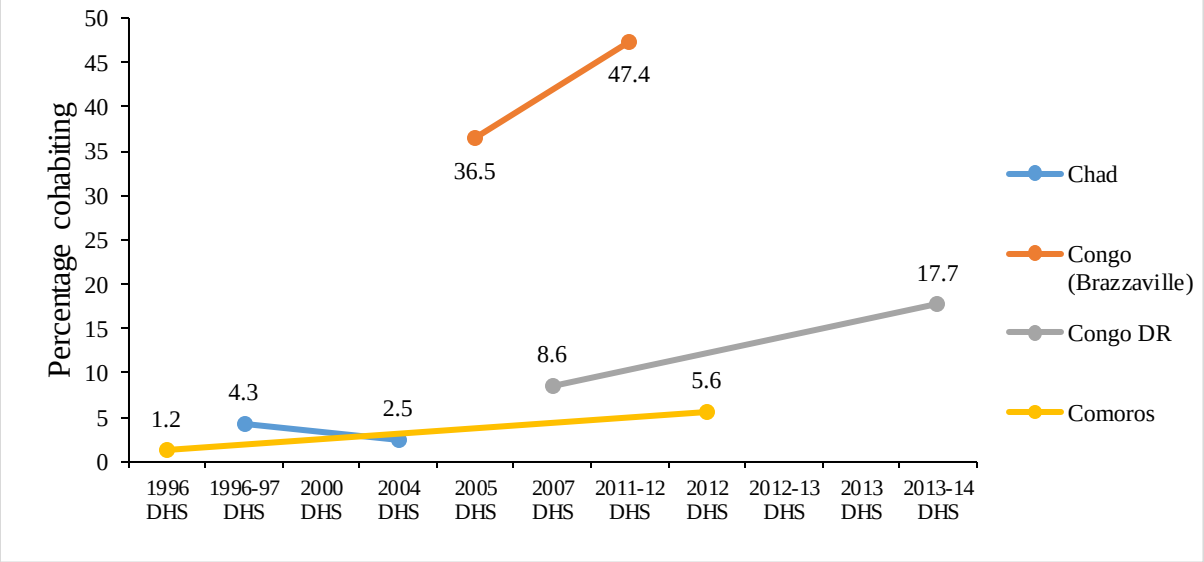

Figure 3. Trends and levels of cohabitation in the Central Africa sub-region

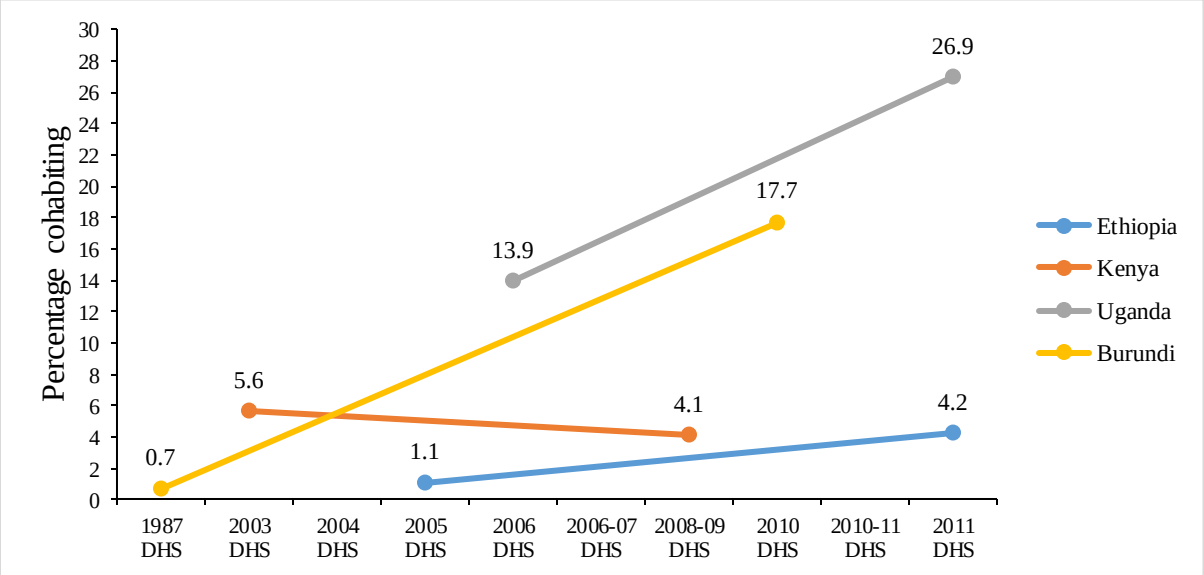

Figure 4. Trends and levels of cohabitation in the Eastern Africa sub-region

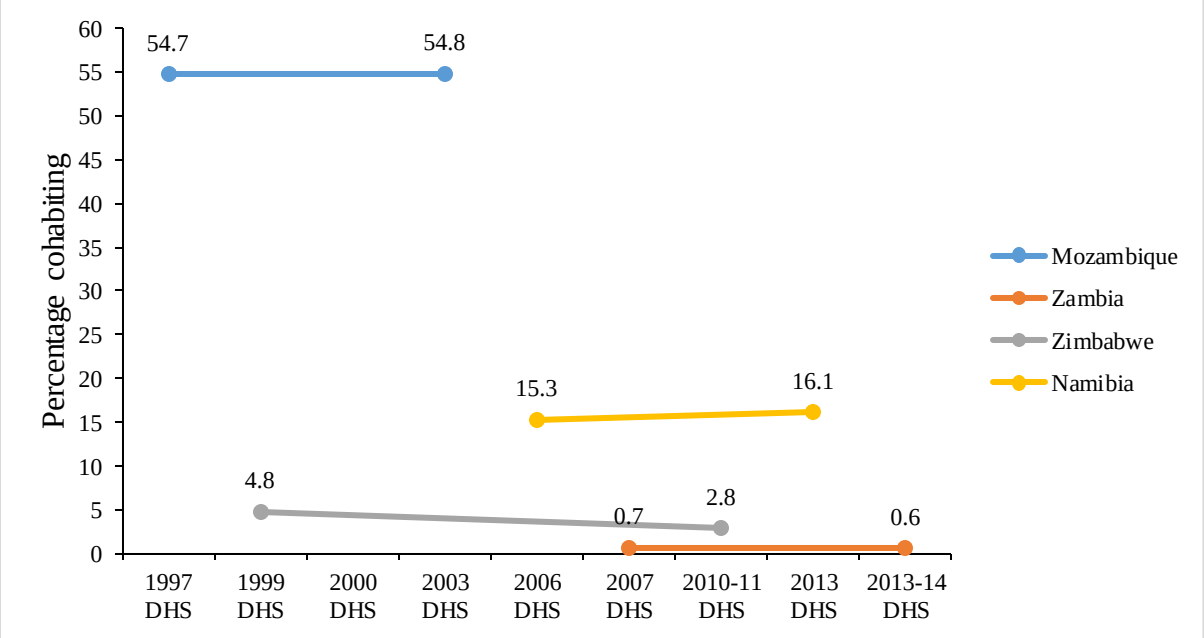

Figure 5. Trends and levels of cohabitation in the Southern Africa sub-region

4.2 Patterns of cohabitation

4.2.1 Urban-rural residency

As shown in Table 2, Eastern Africa, Southern Africa and Western Africa had higher levels of cohabitation in rural areas compared to urban arears. Conversely, Central Africa showed higher levels in urban areas compared to rural areas. In Central Africa, 51.7% of cohabiters were residing in urban areas while the respective percentages for Eastern Africa, Southern Africa and West Africa were 18.5%, 45.8% and 44.4%. The urban-rural distribution for Eastern Africa however, showed the most skewed distribution with rural prevalence three times greater than that of urban areas.

Table 2. Sub-regional prevalence and country patterns of cohabitation by place of residence and employment status for N=201 492

Region and country	Sub-regional prevalence	Residence		Employment status	
		Urban	Rural	Employed	Unemployed
Central Africa (41 060)	**21.7**	**51.7**	**48.3**	**71.4**	**28.6**
Chad 2004		32.2	67.8	80.2	19.8
Comoros 2010		46.2	53.8	40.2	59.1
Congo 2011-12		66.1	33.9	72.5	27.5
Congo DR 2013		31.1	68.9	72.1	27.9
Eastern Africa (34 348)	**11.7**	**18.5**	**81.5**	**70.5**	**29.4**
Burundi 2010		10.0	90.0	83.0	17.0
Ethiopia 2011		29.1	70.9	41.1	59.0
Kenya 2008-09		22.8	77.2	62.5	36.3
Uganda 2011		20.8	79.2	71.5	28.4
Southern Africa (48 503)	**10.4**	**45.8**	**54.2**	**46.2**	**53.8**
Mozambique 2011		40.1	59.9	47.0	53.0
Namibia2013		58.8	41.2	45.9	54.1
Zambia 2013-14		47.9	52.1	42.6	57.4
Zimbabwe 2010-11		40.1	59.9	39.0	61.0
Western Africa (68 912)	**6.8**	**44.4**	**55.6**	**70.7**	**29.1**
Cote d'Ivoire 2011-12		45.2	54.8	67.1	32.6
Mali 2012-13		45.9	54.1	52.6	47.4
Nigeria 2013		49.2	50.8	73.4	26.1
Togo 2013-14		40.3	59.7	80.0	20.0

4.2.2 Employment status

Out of the four sub-regions, three showed higher prevalence of cohabitation among employed women compared to their unemployed counterparts. As shown in Table 2, 71.4% of cohabiters in Central Africa were employed. In Eastern Africa and Western Africa, percentages of employed cohabiting women were respectively 70.5% and 70.7%. Southern Africa was the only region to have a majority of cohabiters who were unemployed (53.8%).

4.2.3 Age patterns

The age patterns of cohabitation showed that cohabitation generally peaks at the 20-24 and 25-29 year age groups. As shown in Table 3, Central Africa (23.8%), Southern Africa (22.0%) and Western Africa (24.6%) showed peak levels cohabitation in the 25 to 29 years age group.

Table 3. Sub-regional and country age patterns of cohabitation (N=201 492)

Region and country	Age group in years							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Central Africa	**9.2**	**21.3**	**23.8**	**17.8**	**14.4**	**8.4**	**5.0**	**100.0**
Chad 2004	18.6	24.7	13.0	11.3	14.7	9.8	7.8	**100.0**
Comoros 2010	22.2	32.4	26.5	10.7	5.8	1.5	0.9	**100.0**
Congo2011-12	7.7	19.6	24.2	18.8	15.8	8.4	5.4	**100.0**
Congo DR 2013	10.0	22.7	23.5	17.2	13.2	8.8	4.7	**100.0**
Eastern Africa	**8.9**	**24.4**	**23.8**	**15.7**	**13.7**	**8.0**	**5.4**	**100.0**
Burundi 2010	8.2	25.8	23.4	15.3	14.5	6.4	6.4	**100.0**
Ethiopia 2011	8.4	21.5	24.1	14.8	15.0	10.5	5.8	**100.0**
Kenya 2008-09	5.9	21.3	14.4	22.0	15.1	12.4	9.1	**100.0**
Uganda 2011	10.0	24.8	25.5	15.3	12.6	7.8	4.0	**100.0**
Southern Africa	**11.1**	**19.4**	**22.0**	**17.6**	**14.1**	**9.2**	**6.7**	**100.0**
Mozambique 2011	13.2	20.2	20.7	16.7	13.0	8.9	7.3	**100.0**
Namibia2013	6.2	17.7	24.0	20.0	17.0	10.0	6.3	**100.0**
Zambia 2013-14	12.7	19.6	25.9	20.1	14.5	4.1	3.2	**100.0**
Zimbabwe 2010-11	11.6	18.8	26.1	14.1	16.9	9.0	3.4	**100.0**
Western Africa	**8.4**	**21.7**	**24.6**	**18.4**	**13.4**	**8.3**	**5.1**	**100.0**
Cote d'Ivoire 2011-12	8.8	20.7	24.2	19.5	13.2	8.3	5.4	**100.0**
Mali 2012-13	37.8	33.0	15.4	6.4	4.7	2.1	0.8	**100.0**
Nigeria 2013	6.0	28.3	27.2	17.4	10.4	6.2	4.5	**100.0**
Togo 2013-14	5.6	18.5	25.0	18.6	16.6	10.2	5.6	**100.0**

Table 3 shows that Eastern Africa had greater percentage of cohabiters aged 20-24 years (24.4%) but, with a less than 1% difference with 25-29 year age group (23.8%). Given that Central Africa and Western Africa also showed more than 20 percentage shares of 20-24 year age group of total cohabiters in the respective regions, it can be stated that the majority of women start cohabiting within the 20-29 year age range. The sub-regional distributions

reflected underlying country distributions which are also shown in Table 3. In all the sixteen countries, the majority of cohabiters were aged 20 to 29 years.

4.2.4 Religion

Table 4 shows that more than 90% of cohabiters were non-Muslim/Islam in all sub-regions except Western Africa. The majority of cohabiters in all the sub-regions were followers of the Protestant/Other Christian doctrines. In Central Africa, 63.2% of cohabiters were Protestants/Other Christians while 28.7% were Catholic. The percentage share of the Protestant/Other Christians of cohabiters for Eastern Africa, Southern Africa and Western Africa were 48.7%, 56.2% and 41.2% respectively. Catholics made up 38.9%, 25.7% and 19.7% of cohabiters in Eastern Africa, Southern Africa and Western Africa respectively. Western Africa was the only sub-region to have more cohabiters who were Muslim/Islam (22.3%) than Catholic (19.7%).

Table 4. Sub-regional and country patterns of cohabitation by religion for N=201 492

Region and Country	Religion				Total
	Catholic	Protestant and other Christian	Muslim or	Other	
Central Africa	**28.7**	**63.2**	**5.3**	**2.8**	**100.0**
Chad 2004	18.3	11.0	68.7	2.0	**100.0**
Comoros 2010	-	0.9	99.1	0	**100.0**
Congo2011-12	29.4	66.0	0.9	3.8	**100.0**
Congo DR 2013	30.6	66.8	1.1	1.5	**100.0**
Eastern Africa	**38.9**	**48.7**	**9.7**	**2.6**	**100.0**
Burundi 2010	51.3	39.5	4.2	5.0	**100.0**
Ethiopia 2011	4.0	83.0	11.4	1.6	**100.0**
Kenya 2008-09	17.3	73.6	6.7	2.4	**100.0**
Uganda 2011	43.7	41.4	13.6	1.3	**100.0**
Southern Africa	**25.7**	**56.2**	**6.8**	**11.4**	**100.0**
Mozambique 2011	26.5	51.6	9.9	12.0	**100.0**
Namibia2013	28.0	61.7	-	10.2	**100.0**
Zambia 2013-14	13.3	86.5	0	0.2	**100.0**
Zimbabwe 2010-11	7.1	69.1	9.6	14.2	**100.0**
Western Africa	**19.7**	**41.2**	**22.3**	**16.8**	**100.0**

Cote d'Ivoire 2011-12	21.4	31.6	29.5	17.6	**100.0**
Mali 2012-13	1.7	0	96.4	1.9	**100.0**
Nigeria 2013	8.7	75.8	14.6	1.0	**100.0**
Togo 2013-14	25.2	42.9	5.7	26.2	**100.0**

4.2.5 Wealth status

Table 5 shows the distribution of cohabitation by wealth quantiles. Southern Africa and Western Africa were the only sub-regions where prevalence of cohabitation increased with wealth quantiles such that the majority were in the richer and richest quantiles. With respect to Central Africa, cohabitation was most prevalent in the three middle wealth quantiles namely poorer (20.8%), middle (20.6%) and richer (21.3%). Eastern Africa did not show distinct differences in the levels of cohabitation by wealth status. The first two wealth quantiles accounted for a combined 41.3% of the total of cohabiters in Eastern Africa while the fourth and fifth quantiles accounted for 40.6%.

Table 5. Intra-country patterns of cohabitation by wealth status for N=201 492

Sub-region	**Wealth status**					**Total**
And country	Poorest	Poorer	Middle	Richer	Richest	
Central Africa	**19.4**	**20.8**	**20.6**	**21.3**	**17.9**	**100.0**
Chad 2004	26.0	14.6	17.1	9.7	32.6	**100.0**
Comoros 2010	4.0	14.0	23.2	31.4	27.5	**100.0**
Congo2011-12	18.1	20.4	22.3	22.4	16.9	**100.0**
Congo DR 2013	22.6	22.3	17.9	19.1	18.0	**100.0**
Eastern Africa	**21.3**	**20.0**	**18.3**	**17.2**	**23.4**	**100.0**
Burundi 2010	28.1	24.4	18.5	14.1	14.9	**100.0**
Ethiopia 2011	16.8	18.2	17.3	10.5	37.2	**100.0**
Kenya 2008-09	15.1	16.3	19.3	23.7	25.6	**100.0**
Uganda 2011	18.8	17.9	18.3	20.0	25.0	**100.0**
Southern Africa	**14.5**	**16.7**	**19.5**	**25.3**	**24.1**	**100.0**
Mozambique 2011	11.4	14.8	17.6	26.1	30.1	**100.0**
Namibia2013	20.6	20.4	24.4	23.0	11.6	**100.0**
Zambia 2013-14	17.3	13.2	14.3	32.9	22.3	**100.0**
Zimbabwe 2010-11	16.5	20.9	16.6	25.4	20.6	**100.0**
Western Africa	**15.3**	**16.8**	**20.6**	**22.4**	**24.9**	**100.0**

Cote d'Ivoire 2011-12	22.2	19.2	19.1	18.5	20.9	**100.0**
Mali 2012-13	10.9	7.2	9.5	17.6	54.9	**100.0**
Nigeria 2013	1.9	9.6	19.6	32.7	36.2	**100.0**
Togo 2013-14	11.8	17.9	24.9	23.8	21.7	**100.0**

4.2.6 Education

Distribution of cohabitation by educational attainment varied by sub-region particularly with respect to highest level of educational attainment that was associated with the greatest percentage of cohabiters. These patterns are shown in Table 6. In Central Africa, the majority of cohabiters (53.4%) had up to secondary education while in Eastern Africa (49.0%) and Southern Africa (46.3%) they had primary education only. In Western Africa, the majority of cohabiters (39.4%) had no schooling. In all the sub-regions, there were small percentages of cohabiters who had tertiary education.

Table 6. Patterns of cohabitation by educational attainment for N=201 492

Country	**Education**				**Total**
	No	Primary	Secondary	Tertiary	
Central Africa	**11.4**	**31.7**	**53.4**	**3.5**	**100.0**
Chad 2004	74.1	14.1	10.8	1.0	**100.0**
Comoros 2010	7.7	12.5	52.7	27.1	**100.0**
Congo2011-12	6.2	27.6	62.5	3.6	**100.0**
Congo DR 2013	16.8	40.6	41.4	1.3	**100.0**
Eastern Africa	**33.2**	**49.0**	**14.5**	**3.3**	**100.0**
Burundi 2010	57.6	36.8	5.3	0.3	**100.0**
Ethiopia 2011	49.9	37.7	6.5	5.9	**100.0**
Kenya 2008-09	6.5	64.3	21.4	7.9	**100.0**
Uganda 2011	14.8	58.8	22.3	4.1	**100.0**
Southern Africa	**20.6**	**46.3**	**30.9**	**2.1**	**100.0**
Mozambique 2011	27.7	55.1	16.3	0.9	**100.0**
Namibia2013	9.2	29.3	57.0	4.5	**100.0**
Zambia 2013-14	4.7	53.4	39.1	2.9	**100.0**
Zimbabwe 2010-11	4.7	33.0	58.3	3.9	**100.0**
Western Africa	**39.4**	**31.4**	**26.4**	**2.9**	**100.0**
Cote d'Ivoire 2011-12	55.8	28.8	13.1	2.2	**100.0**
Mali 2012-13	33.6	15.4	45.3	6.1	**100.0**
Nigeria 2013	8.0	23.3	62.3	6.4	**100.0**

Togo 2013-14	30.1	42.0	26.2	1.7	**100.0**

4.2.7 Age at first sex

Prevalence of cohabitation by age at first sex showed that the majority of cohabiting women had their sexual debut aged 15 to 19 years. This was observed to be the case for Central Africa (58.5%), Southern Africa (64.6%) and Western Africa (54.5%). A different observation was made for Eastern Africa where the majority of cohabiters (46.4%) had their sexual debut at first union. However, a considerable proportion of women in Eastern Africa and Western Africa entered their first union below the age of 15 years although a table showing this is not presented. A considerable percentage of cohabiters (24.3%) who had their sexual debut at first union were also observed in Western Africa. There were a very small percentage of cohabiters with sexual debut at first union in Southern Africa while in Central Africa it was slightly above 10%. All sub-regions showed very small percentages of cohabiters who had first sex age 20 years or above.

Table 7. Patterns of cohabitation by age at first sex for N=201 492

Country	**Age at first sex**				**Total**
	At first	Below 15	15-19	20 years/	
Central Africa	**12.2**	**23.8**	**58.5**	**5.5**	**100.0**
Chad 2004	61.9	16.4	20.0	1.7	**100.0**
Comoros 2010	8.3	8.5	50.7	32.1	**100.0**
Congo2011-12	7.2	24.0	64.9	3.9	**100.0**
Congo DR 2013	17.9	25.0	51.0	6.0	**100.0**
Eastern Africa	**46.4**	**10.6**	**36.8**	**6.3**	**100.0**
Burundi 2010	70.3	2.0	22.1	5.6	**100.0**
Ethiopia 2011	75.5	6.6	14.6	3.3	**100.0**
Kenya 2008-09	8.9	12.5	60.0	18.6	**100.0**
Uganda 2011	26.3	17.7	50.3	5.8	**100.0**

Southern Africa	**2.3**	**23.2**	**64.6**	**9.9**	**100.0**
Mozambique 2011	0.6	32.6	62.5	4.4	**100.0**
Namibia 2013	4.9	7.0	69.2	19.0	**100.0**
Zambia 2013-14	26.0	9.8	58.1	6.1	**100.0**
Zimbabwe 2010-11	0	7.5	66.3	26.2	**100.0**
Western Africa	**24.3**	**12.0**	**54.5**	**9.3**	**100.0**
Cote d'Ivoire 2011-12	25.3	15.6	54.8	4.4	**100.0**
Mali 2012-13	34.4	11.6	44.0	10.0	**100.0**
Nigeria 2013	24.1	7.8	53.0	15.1	**100.0**
Togo 2013-14	21.4	8.3	56.0	14.3	**100.0**

4.3 Determinants of cohabitation

4.3.1 Individual level determinants

Results from multivariate mixed effects logistic regression exploring the odds of cohabitation in the four sub-regions of sub-Saharan Africa are presented in Table 8. The Central Africa sub-region showed highest odds of cohabitation for women in Congo with odds greater than those of from Chad by more than 40 times. Results for Comoros and Congo DR were also significant and greater than 1, representing greater odds of being in a cohabiting union for women from the two countries relative to those from Chad. In Eastern Africa, the odds of cohabiting were highest in Uganda (1.67) implying a 67% higher likelihood of cohabiting compared to women from Burundi. There were significant odds for Ethiopia and Kenya implying less likelihood of cohabiting relative to Burundi. Western Africa showed highest likelihood of cohabitation for women from Cote d'Ivoire with observed odds of cohabiting for Nigeria, Mali and Togo all less than 0.5. The multivariate results are presented in Tables 8 and 9 below.

Table 8. Mixed effects odds ratios of cohabiting (N=201 072)

Variable	**Central Africa (40 060)**		**Eastern Africa (43 017)**		**Southern Africa (48**		**Western Africa (68**	
	OR	Std.	OR	Std.	OR	Std.	OR	Std.
Country (Chad 2004)								

Comoros 2010	2.76**	0.51						
Congo2011-12	44.11**	8.09						
Congo DR 2013	5.96**	1.08						
Country (Burundi 2010)								
Ethiopia 2011			0.15**	0.02				
Kenya 2008-09			0.12**	0.01				
Uganda 2011			1.67**	0.16				
Country (Mozambique								
Namibia 2013					0.86	0.07		
Zambia 2013-14					0.01**	0.00		
Zimbabwe 2010-11					0.10**	0.01		
Country (Cote d'Ivoire								
Mali 2012-13							0.04**	0.01
Nigeria 2013							0.02**	0.00
Togo 2013-14							0.42**	0.04
Employment								
Employed	1.26**	0.05	0.94	0.04	0.93	0.04	0.93	0.04
Religion (Catholic)								
Protestant/Other Christian	1.15**	0.05	1.11**	0.05	0.99	0.05	1.23**	0.07
Muslim/Islamic	0.88	0.13	0.71**	0.05	0.54**	0.06	0.53**	0.04
Other	1.00	0.09	1.15	0.22	0.81**	0.08	1.31**	0.10
Education (No schooling)								
Primary	1.25**	0.06	0.99	0.05	1.14**	0.06	1.11**	0.06
Secondary	1.12**	0.06	0.82**	0.06	0.74**	0.05	0.96	0.06
Higher	0.79**	0.09	0.65**	0.07	0.40**	0.05	0.49**	0.06
Age group (15-19 years)								
20-24 years	2.34**	0.13	1.61**	0.11	1.63**	0.11	1.99**	0.14
25-29 years	2.61**	0.15	1.41**	0.10	2.11**	0.14	2.06**	0.15
30-34 years	2.35**	0.14	1.29**	0.10	1.81**	0.13	1.71**	0.13
35-39 years	1.98**	0.12	1.00	0.08	1.77**	0.13	1.43**	0.12
40-44 years	1.42**	0.10	0.79**	0.07	1.39**	0.11	1.19**	0.10
45-49 years	0.87	0.07	0.56**	0.05	1.03	0.09	0.78	0.08
Wealth status (poorest)								
Poorer	1.00	0.05	0.91	0.06	1.12	0.08	1.15**	0.08
Middle	0.89**	0.05	0.78**	0.06	1.21**	0.09	1.18**	0.08
Richer	0.91	0.06	0.66**	0.04	1.28**	0.10	1.47**	0.13
Richest	0.73**	0.06	0.61**	0.05	1.13	0.11	1.45**	0.14
Age at first sex (At first								
Below 15 years	1.39**	0.08	1.12	0.08	1.43**	0.16	1.25**	0.08

15-19 years	1.18**	0.06	1.21**	0.06	1.16	0.13	1.25**	0.06
20 years and above	1.03	0.09	0.93	0.07	0.87	0.10	1.03	0.08
% Professional jobs								
In professional employment	1.31	0.57	0.90	0.21	0.71**	0.11	0.78	0.40
% Wealthy (Poorest)								
Poorer	0.84	0.12	1.28	0.16	1.16	0.14	1.05	0.16
Richer	0.73	0.14	1.65**	0.24	1.24	0.16	0.95	0.16
Richest	0.73	0.16	1.71**	0.29	1.16	0.16	0.89	0.16
% Schooling								
Secondary/higher	1.1	0.48	1.14	0.26	0.84	0.13	0.26**	0.14
%15-24 never married								
Never married	0.86	0.13	0.73**	0.09	0.91	0.08	1.01	0.15
% Urban (urban)								
Rural	0.71**	0.07	0.59**	0.05	0.73**	0.06	0.97	0.09

** Significant at p<.05; base categories are in parenthesis.

In Southern Africa, Table 8 shows that there were no significant differences in the odds of cohabitation for women in Namibia and Mozambique. The other two countries, Zambia and Zimbabwe, showed significantly less odds of cohabitation for their residents relative to Mozambican counterparts.

Being employed was associated with significantly greater odds of cohabiting in Central Africa but not in Eastern Africa and Western Africa where odds less than 1 were observed albeit insignificant. The same was also observed for Southern Africa. This shows that at individual level, employment status is not a strong predictor of cohabitation in most of sub-Saharan Africa.

Religion was observed to be a significant factor affecting cohabitation in Western Africa. Relative to Catholics, Protestant/Other Christians (OR 1.23) and women in 'Other' religions (OR 1.31) had significantly greater odds of cohabiting. Conversely, Muslim/Islamic women (OR 0.53) had significantly less odds of cohabiting relative to Catholics. In Eastern Africa, significant differences were observed between Catholics and Protestants as well as between Catholics and Muslim/Islam believers. Southern Africa showed significantly less odds of

cohabiting for Muslim/Islam believers relative to Catholics. Followers of 'Other' religions in Southern Africa were also significantly less likely to cohabit compared to Catholics.

The significance of educational attainment on cohabitation was observed across all the sub-regions. Relative to not having any schooling, having primary education was associated with greater odds of cohabiting in Central Africa, Southern Africa and Western Africa. In these three sub-regions, primary education was associated with increased odd of cohabitation ranging from 11% in Western Africa to 25% in Central Africa. Only one sub-region, Central Africa (OR 1.12) showed increased odds of cohabitation associated with obtaining secondary education. Eastern Africa and Southern Africa showed that having secondary education was associated with significantly less odds of cohabitation compared to not any schooling, showing the importance of educational attainment in reducing cohabitation. Having tertiary education significantly reduced the odds of cohabiting in all the four sub-regions relative to not having any schooling.

A positive relationship between age and odds of cohabitation was observed across all the sub-regions. With the exception of Eastern Africa, the odds of cohabitation were highest among women in the 25-29 years age group for all sub-regions. Results show that the odds of cohabitation for 25-29 year olds were more than double those of 15-19 year olds in Central Africa, Southern Africa and Western Africa. In the case of Central Africa, the same was observed for 20-24 and 30-34 year age groups. The odds of cohabitation by age group depicted in Table 8 imply that young adult women were more likely to cohabit when they are aged 20 to 34 years.

Wealth status displayed inverse association with likelihood of cohabitation in Central Africa and Eastern Africa. The middle and the richest wealth quantiles in Central Africa were associated with significantly less odds of cohabitation in Central Africa while in Eastern

Africa all top three wealth quantiles showed significantly less odds of cohabitation relative to the poorest wealth quantile. Conversely, Southern Africa and Western Africa showed a general increase in the odds of cohabitation as one moves from bottom to top quantiles. The results on odds of cohabitation by wealth status point to varying implications of socioeconomic status on cohabitation across sub-regions. Given that sub-Saharan Africa is still not generally affluent, sub-regions which show genitive association between wealth status and odds of cohabitation tend to be the ones with high prevalence of cohabitation.

Age at first sex was observed to be a significant factor in odds of cohabitation for women in sub-Saharan Africa. Having sexual debut below the age of 20 years was associated with significantly higher odds of cohabiting compared to having sexual debut at first union. This was the case if the woman did not enter into first union aged below 20 years. In Western Africa, sexual debut below 20 years was associated with increased odds of cohabitation by a significant 25% compared to when one initiates sexual intercourse at first union. The corresponding increased odds of cohabiting for Central Africa were 39% for those who had first sex below 15 years and 18% for those whose sexual debut was at ages 15-19 years. There positive odds for the first two categories of age at first sex for Eastern Africa and Southern Africa. However, there were significant odds of cohabitation only for those who with sexual debut aged 15 to 19 years in Eastern Africa, and below 15 years for Southern Africa.

4.3.2 Community level determinants

Analysis of community level variables showed subdued impact on cohabitation. The significance of the community variables across the region was observed to be sparse. As shown in Table 8, the proportion of women in professional employment was only significant in Southern Africa. All the community variables except urban-rural residency were significant in one sub-region or the other. The proportion of women with secondary education

or higher was a significant factor in Western Africa only where it showed that increased number of women with secondary schooling or higher negatively impacted on odds of cohabitation. The proportion of never married 15-24 year olds was not a significant factor in cohabitation in all sub-regions except Eastern Africa. The proportion of women living in urban areas in a sub-region was observed to be a significant factor affecting cohabitation in all the sub-regions. While bivariate analysis showed generally higher prevalence of cohabitation in rural areas, multivariate analysis showed that urban women were more likely to cohabit compared to their rural counterparts if the effect of socioeconomic and demographic factors was controlled.

4.3.3 Sub-regional differences

Table 9 below shows the odds of cohabitation for three sub-regions relative to Central Africa. The table is an extension of the analysis presented in Table 8. It is presented separately because it pertains to the entire region while Table 8 was meant to present results at sub-regional level.

Table 9. Sub-regional comparison of odds of cohabitation net of individual and community level variables (N=201 072)

Sub-region (Central Africa)	Odds ratio	Standard Error
Eastern Africa	0.61**	0.01
Southern Africa	0.37**	0.01
Western Africa	0.36**	0.01

** Significant at p<.05; Base category was Central Africa.

The results in the above table imply that the odds of cohabitation in sub-Saharan Africa are highest in Central Africa followed by Eastern Africa and lowest in Western Africa. The observed odds of cohabitation for all three sub-regions shown in Table 9 were all significantly below 1.

5. Discussion

This study found evidence to suggest that cohabitation in sub-Saharan Africa is spreading particularly in countries with small proportions of Muslim/Islam community. The observed results are consistent with findings reported in previous studies in other parts of the world like North America and Europe which pointed out that non-Muslims and the less religious are more receptive to secular family formation behaviours like cohabitation (Lai and Thornton, 2015; Lehrer, 2004). This explains why Western Africa, because it has a greater proportion of the population which is Muslim/Islam has the lowest prevalence of cohabitation as a sub-region.

The age pattern of cohabitation observed suggests a relationship between rising age at marriage and cohabitation pointed out in some studies based on African countries (Pazvakawambwa et al., 2013; Hosegood et al., 2009b; Mokomane, 2006). Existing literature on cohabitation in other regions of the world has also found that as the average age at first marriage increases, incidences of cohabitation increase (Bradatan and Kulcsar, 2008). This appears to be occurring in sub-Saharan Africa where rising average age at first marriage has been reported in some countries (Hosegood et al., 2009b).

Unlike in the western countries like United States of America and Britain in the 1970s and 1980s, this study found that cohabitation was most prevalent among women with primary education only followed by those whose highest educational attainment was secondary school (Ní Bhrolcháin and Beaujouan, 2013). Recent patterns in Britain show a reverse of the 1980s patterns as the best educated now have the least prevalence of cohabitation, a feature visible in current patterns in most sub-Saharan African countries (Ní Bhrolcháin and Beaujouan, 2013).

The pattern observed for educational attainment can be interpreted as reflective of the pattern of cohabitation across the wealth index quantiles. The best educated women are usually located in the richer and richest wealth quantiles and as a result, cohabitation tends to be selective of women in low socioeconomic status categories (Ní Bhrolcháin and Beaujouan, 2013). This highlights the thrust of this research's theoretical framework that negative economic outcomes coupled with waning traditional cultural values of marriage flexes the bride-price driven model of family formation in sub-Saharan Africa. This is in spite of the reason that bride price does not necessarily have to be paid in full before marriage.

Multilevel analysis observed that individual level variables are more important than community level factors in explaining cohabitation in sub-Saharan Africa. Cohabitation is thus more an individual outcome than socially driven behaviour. In light of globalisation and value systems driven by market principles, individualistic values tend draw people away from the traditional values that an individual was obliged by society to enter into socially agreed forms of family based on marriage. The general lack of adequate employment opportunities and educational attainment particularly post-secondary mean that unlike in other parts of the world, cohabitation in sub-Saharan Africa is generally selective of the socioeconomically disadvantaged.

6. Conclusion

This research has analysed cohabitation in sub-Saharan Africa. The research adopted a socioeconomic theoretical framework drawn from economic and sociological theories of family formation. A quantitative design was employed to examine recent trends, patterns and determinants of cohabitation in the region. Results showed increasing levels of cohabitation in several countries including some of those with low prevalence. Central Africa is a leading sub-region in cohabitation followed by Eastern Africa. Based on the results, it can be

concluded that cohabitation in sub-Saharan Africa appears to be driven by unfavourable economic indicators in the context of waning effect of strong traditional marriage values.

7. Recommendations

There is need for further research extending beyond analysis of quantitative associations between cohabitation and socioeconomic and demographic characteristics. Further research exploring stability of cohabitation in sub-Saharan Africa is needed, as well as child outcomes associated with living in households based on cohabitation. In the event of such research observing negative child outcomes, interventions aimed at improving the capacity of households based on cohabitation cope better with the needs of children are recommended. Collection of longitudinal data will enrich research on cohabitation in sub-Saharan Africa.

In terms of policy, it is important that countries transform family laws so that all forms of families are comprehensively regulated. This is equally important in all countries regardless of current prevalence of cohabitation. This will provide welfare security especially to women and children in the event of separation. Furthermore, interventions aimed at making cohabitation more stable are also needed.

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