

Partner Age Gaps and Desired Family Size in West AfricaAshwini Shridhar¹ and Anna Bolgrien²¹ Humphrey School of Public Affairs, University of Minnesota-Twin Cities² Institute for Social Research and Data Innovation, University of Minnesota- Twin Cities**Short abstract:**

Significant age gaps are a common feature of West African relationships, with men typically more than 8 years older than women. Heterogeneity in partner age gaps within and between West African countries is underexplored. Large partner age gaps also affect fertility, as older male partners can exert more power over their younger female partners and influence fertility preferences. In this paper, we 1) map the evolution of partner age gaps over time across multiple geographic and demographic dimensions in West Africa; and 2) for a subset of West African countries, ask whether partner age gaps are correlated with larger desired family sizes. We use spatially harmonized geographic information and microdata from IPUMS International and IPUMS Global Health for 17 West African countries spanning from 1960 to the present. Comprehensively exploring partner age gaps will inform fertility policies that account for male influence on female fertility in West Africa.

Extended abstract:**Introduction**

Partner age gaps, especially older men-younger women unions, are a historical facet of conjugal unions across the world. Worldwide, on average, men are 4.2 years older than their partners (Ausubel et al., 2022). Partner age gaps are not homogenous across the world. In European countries the range of age gaps have been lower compared to other regions of the world, fluctuating between 2-3 years since the early 20th century (Ní Bhrolcháin, 2005). Similarly, in North America the average age gap is 2.2 years (Ausubel et al., 2022). In Asian and Latin American countries, the average spousal age gap has fluctuated between 3-4 years, and in the Middle Eastern and North African regions the age gap has been relatively higher, with an average of 5-6 years (Ausubel et al., 2022; Barbieri et al., 2005).

In contrast, Sub-Saharan Africa has some of the highest partner age gaps compared to the rest of the world (average 8.6 years). There is heterogeneity even among Sub-Saharan Africa. West African countries have larger age gaps compared to other regions, with Gambia having the largest partner age gap of 14.5 years and every country in West Africa except Ghana and Liberia having a partner age gap over 8 years (Ausubel et al., 2022). Following along similar lines, we are interested in further exploring the dimensions of this heterogeneity in age gaps within the West Africa region over time.

Our goals in this paper are twofold: **first, we map the evolution of partner age gaps over time across multiple dimensions in the West African region.** Using a compilation of data available through IPUMS International and IPUMS Global Health, we will provide detailed descriptions of how partner age gaps have evolved over national and subnational levels. IPUMS publishes spatially harmonized geographic information that allows us to create a series of partner age gaps over time and at the sub-national administrative unit. We can also leverage microdata to produce estimates based on socio-demographic and household characteristics such as age, education, wealth status, and urban/rural residence. This deep analysis of how partner age gaps may or may not have changed over time provides us an understanding of the ways in which conjugal power has evolved in tandem with demographic transition in this region.

Second, we ask **whether partner age gaps, specifically male-older partners, are correlated with larger desired family sizes.** We want to understand whether partner age gaps can be used as an adequate proxy for conjugal power. We are interested in deciphering the influence of partner age gaps on desired family size of the couple. Previous literature has documented the variability of desired family size among couples in West Africa, with male partners often desiring more number of children compared to their female partners (Ahinkorah et al., 2021; Owoo, 2023; Yeboah et al., 2023). Men's preferences are not often considered while planning fertility policies, and this often underestimates the power that men exercise over women's fertility outcomes in this region (Dodoo & Frost, 2008; Frost & Dodoo, 2009). Older partners may exercise more power over their younger female partners, and therefore influence the couple's desired family size and subsequent fertility outcomes to be closer to the male partner's higher desired size.

Theoretical Background

Despite partner age gaps being such a universal and essential facet of marriages and unions across the world, it is an understudied topic. In the Sub-Saharan African (SSA) context, where spousal age gaps are highest, there is limited knowledge on the determinants and the effects of age gaps. Studies specific to the SSA context have focused on fertility and health outcomes for women (Barbieri et al., 2005; Lawson et al., 2021) and topics of intimate partner violence (Adebowale, 2018) and transactional sexual unions among adolescents (Luke & Kurz, 2022). Spousal age gaps have also been used as a proxy for female agency, with education having an impact on depressing spousal age gaps and increasing age at first marriage (Carmichael, 2011). While studies have focused on the impacts of age gaps on women's health and welfare outcomes, there have been few studies exploring the evolution of spousal age gaps over time.

Early interest in spousal age gaps is related to its impact on fertility and contraceptive practice (Barbieri et al., 2005; Casterline et al., 1986). After examining data from 18 countries in the SSA region, Barbieri et al (2005) find that modern contraceptive use is most prevalent in couples that have smaller age gaps. Age gaps may have a lot of influence on the decision-making process of the couples, whether they are more egalitarian or authoritarian in style. Spousal age gap is also associated with women experiencing intimate partner violence (IPV) in Nigeria. With an average age gap of 8.2 years, IPV was experienced more in households where the spousal age gaps were between 0-4 years. This is an unexpected finding, as it would be expected that a larger age gap signifies a lower status for women, potentially increasing their chances of experiencing IPV. However, the study posits that IPV might be lower in higher spousal age gap households as the men have reached a certain level of maturity (Adebowale, 2018). This study further underscores the heterogeneity of the impacts of spousal age gaps and the lack of consensus on its influence.

Our study will add to the conversation on conjugal partner dynamics and provide detailed breakdowns of how partner age gaps have changed over time. Additionally, we offer a deeper examination of the influence of male older partners on fertility and family outcomes and shed more light on how partners make fertility decisions. Consequently, our study has implications for policies on the determinants of fertility outcomes.

Data and Methods

Below we outline the different data and methods that we plan to use to answer our research questions. For the first question, we rely on the rich spatially harmonized geographic data available through IPUMS. IPUMS data provides consistently harmonized data across time and place within the 4 international IPUMS projects. IPUMS International provides census data from countries, and IPUMS Global Health contains data from three large scale demographic surveys- Demographic and Health Surveys (DHS), Performance Monitoring for Action (PMA), and Multiple Indicator Cluster Surveys (MICS). IPUMS Global Health and IPUMS International

data covers most of West Africa¹ from 1960 to the present with over 100 datasets (Table 1 provides a breakdown of the different available samples that we will use).

Table 1. Breakdown of available samples for West African countries from IPUMS Global Health and International

	IPUMS Demographic and Health Surveys	IPUMS Performance Monitoring for Action	IPUMS Multiple Indicator Cluster Surveys	IPUMS International
Benin	1996, 2001, 2006, 2011, 2017		2014	1979, 1992, 2002, 2013
Burkina Faso	1993, 1998, 2003, 2010	2014-2022	2006	1985, 1996, 2006
Cameroon	1991, 1998, 2004, 2011, 2018		2006	1976, 1987, 2005
Cote d'Ivoire	1994, 1998, 2011	2017, 2018, 2020	2006, 2016	
Gambia			2000, 2005, 2010, 2018	
Ghana	1988, 1993, 1998, 2003, 2008, 2014, 2016	2013-2017	2006, 2010 (Accra), 2011, 2017	1984, 2000, 2010
Guinea	1999, 2005, 2012, 2018		2016	1983, 1996, 2014
Guinea-Bissau			2006, 2014, 2018	
Liberia	1986, 2007, 2013			1974, 2008
Mali	1987, 1995, 2001, 2006, 2012, 2018		2009, 2015	1987, 1998, 2009
Mauritania			2007, 2011, 2015	
Niger	1992, 1998, 2006, 2012	2015-2022 (some national, some Niamey only)		
Nigeria	1990, 1999, 2003, 2008, 2013, 2018	2014a-2021 (Some national, some Lagos, Kano, or Kaduna only)	2007, 2011, 2016	2006, 2007, 2008, 2009, 2010
Rwanda	1992, 2000, 2005, 2008, 2010, 2014			1991, 2002, 2012
Senegal	1986, 1992, 1997, 2005, 2010, 2012, 2014, 2015, 2016, 2017		2015 (Dakar)	1988, 2002, 2013
Sierra Leone			2005, 2010, 2017	2004
Togo	1988, 1998, 2013		2006, 2010, 2017	1960, 1970, 2010
Number of samples	62	30	26	33

Using this widely scoping and richly detailed data we can assess whether partner age gaps have increased or decreased over time overall in West Africa. Additionally, we will outline

¹ IPUMS does not have data available for Cape Verde

which countries have seen the largest changes in partner age gaps at national and sub-national levels. This analysis will be compared with the start of the demographic transition in West Africa to understand broader demographic patterns in the region and its implications for marriages and partner formation.

For our second research question on the influence of partner age gaps on desired family size, we use data from DHS and PMA to look at the influence of age gaps on desired family size in Burkina Faso, Cote D'Ivoire, and Nigeria. We limit our sample to these countries as they have been found to have average partner age gaps greater than 8 years. IPUMS Global Health (specifically DHS and PMA) has a wide range of time periods available for these countries (Table 2 outlines the available samples for these countries).

Table 2. Samples available for our countries of analysis in IPUMS DHS and PMA

Data Source	Burkina Faso	Cote D'Ivoire	Nigeria
DHS	1993, 1998, 2003, 2010	1994, 1998, 2011	1990, 1999, 2003, 2008, 2013, 2018
PMA	2014-2022	2017, 2018, 2020	2014a-2021

We plan to conduct OLS regressions with desired number of children as the dependent variable. Our main independent variable is the years of age gap between partners. We have data available for female respondents in both surveys and we will include data from male respondents if available. Our planned regression model is presented below:

$$Y_{c,i} = \beta_0 + \beta_1 \text{Partner age gap}_{ci} + \beta_2 X_{ci} + \theta_t + \varepsilon_{ci}$$

Where $Y_{c,i}$ is the our dependent variable—desired number of children for respondent i in country c , $\text{Partner age gap}_{ci}$ is the difference in the ages of the respondent and their partner which is our main independent variable, X_{ci} refers to a set of demographic and geographic controls such as age, education, rural location, and number of children the respondent already has at the time of the survey. We will also have year fixed effects (θ_t). ε_{ci} is the error term.

We hypothesize that if the age gap between a respondent and their partner is high (8 years and more), the desired number of children for both female and male respondents is also likely to be high, and reflect the male partner's fertility preferences more than the female partner's fertility preferences. Controlling for other socio-demographic characteristics will show us how influential partner age gaps are in influencing fertility preferences among other determinants.

Next steps

Currently, we are in the process of compiling the required datasets for our analysis on our first research question. This data preparation will also allow us to subsequently conduct analysis on the second research question. Given our familiarity with IPUMS microdata, we feel confident that we will complete the analysis by the date of the African Population Conference.

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