

Determinants of the intended and actual family sizes among women in Kenya – cohort study

Introduction

Africa is regarded as the youngest continent by population composition. Currently the median age in Africa is 18.8 years, which is the lowest compared to other continents whose median age is 31 years and above. In Kenya the median age is 20 years (Hannah Ritchie, 2023). Despite half of the population being below 20 years, labor force participation in Africa of persons aged between 15-19 years is usually very low. In Kenya, for example, labor force participation rate of this age group is 15.3% (KNBS, 2019). This coupled with senior citizens above 65 years of age – albeit small (2.7%)- signifies a high dependency ratio on those that are involved in economic production. The average per-capita income in Africa is the lowest world over at USD1,790 against the world average of USD13,870 (IMF Datamapper, 2024). The high dependency ratio in Africa therefore implies that meagre income from the working class can hardly provide good quality of life for most Africans.

This notwithstanding, Africa continues to record the highest fertility rate which currently stands at 4.2 against the global average of 2.4. Notwithstanding, the region remains underdeveloped and with a high unemployment rate for its bulging population. If status quo is maintained, then ills such as illegal migration reported along the Mediterranean Sea, human trafficking, modern slavery among others will only get worse. These grim statistics have given impetus to government, institutions, organizations and even individual to advocate for reduction in fertility rate in Africa to levels that will guarantee improved quality of live for all.

Fertility rate is a byproduct of the actual family size per woman over their reproductive period. Intended family size on the other hand is a strong determinant of actual family size (Bankole and Westoff 1998; Morgan 2001; Schoen et al. 1999; Testa and Toulemon 2006; WHO). This implies that to lower fertility rate; efforts can be focused on reducing intended family size. To effect changes on intended or actual family size, it's imperative to understand their determinant factors across individuals' life span. This study intends to establish the factors that explain changes in intended and actual family sizes across woman's lifespan in Kenya.

Statement of the problem

Intended family size is not a static but rather a dynamic concept of a moving target (Quesnel-Vallée and Morgan, 2003; Hayford, 2009; Liefbroer, 2009; Morgan and Rackin, 2010; Iacovou and Tavares, 2011). Studies have also shown that there is always a difference between intended and actual family size.

Despite this known fact of the dynamic nature of family size intention and discrepancy with actual realized family size, much of the study that have investigated this aspect have majorly been concentrated in developed economies like USA (Morgan and Rackin 2010), UK (Berrington and Pattaro 2014; Smallwood and Jefferies 2003), Norway (Noack and Ostby 2002) and Europe regional study (Sobotka and Lutz 2010). In developing countries, the only available studies are cross-sectional which only compare intended family sizes against actual family size. Such

studies are subject to social desirability bias of the reported family size intentions (Ojha, 1999; Bhargava, 2007; Parvez et al., 2019; Hyeladi & Alfred, 2014), or only look at different determinants of fertility (Derose & Ezeh, 2005; Fere, 2008; Mboup & Saha, 1998; Mbaale & Mpuga, 2011; Martin, 1995; Dutta & Sarkar, 2014; Gomes, 2012; Upadhyay & Karasek, 2012). This implies that we are still not able to explain how and to what extent family size intentions and actual family size change across a woman's fertility lifespan in Africa and Kenya in particular.

Life Span Theory of Control

According to World Health Organization, women reproductive age is between 15 to 49 years. In the early years of fertility- that corresponds to adolescence, late teenage years or young adults, the reported intentions may not correspond to actual intentions. This is because "intentions involve a specific decision to pursue an actionable goal, with an associated commitment and, commonly, a plan for implementing the decision" (Miller 2011, p.78). For young adults' childbearing is not a priority. As such when asked about their intended family size their answers may reflect intentions, or cultural models, or just reflect basic prototypes of a family—a mother, father, and two children. (Bachrach and Morgan 2013, p. 470). Therefore, their reported intentions are highly volatile, uncertain, and unreliable (Iacovou and Tavares 2011).

As they progress and their career trajectories start taking shape, other factors that compete with and are important to family size intentions appear like career growth, finding stable employment, finding a stable partner to settle down with, accumulating resources and the like (Ní Bhrolcháin and Beaujouan 2011). These challenges require them to revisit their intentions which they may revise upward or downward depending on their present life circumstances.

Hypothesis 1: Family size intentions among young adults' changes significantly as they progress to middle early adulthood¹, and these changes would be expected to be downwards for individuals with low to no income.

Family size intentions gives an aggregate number which requires a sequence of certain actions to be taken if it is to be realized – like getting a child would require finding a stable partner first (Hagestad and Neugarten 1985; Settersten and Hagestad 1996; Settersten 1997). However, due to competing demand of other important life factors like career growth and wealth accumulation (Beets et al. 1999; Clarkberg 2002), most young adults might postpone childbearing to a later date as they prioritise other alternatives. This, they imagine, might increase their chances of realizing their intended family size in future. Studies have shown that women with higher level of education have the tendency of postponing childbearing to later years (Blossfeld and Huinink 1991). This leads to the second hypothesis:

¹ The four stages of adulthood considered here include: Early Adulthood (ages 22-34), Early Middle Age (ages 35-44), Late Middle Age (ages 45-64), and Late Adulthood (ages 65 and older) (Morris L. Medley 1980).

Hypothesis 2: Women with higher level of education and those not yet married in their late early adulthood have lower family size intention compared to married women or those with lower level of education.

Hypothesis 3: Married women and women with lower level of education have higher number of actual family size in their late early adulthood compared to women with higher education and unmarried women.

At middle age (35-44 years) majority of the women who got married as young adults or in their early adulthood by this age have completed or are completing their childbearing and have no intentions of having additional children, unless driven by other factors like sex preference or replacing a deceased child. To prevent further childbearing, majority of women who have no intentions to get another additional child may employ controls such as trying to have their partners agree to use family planning method – which is a primary control. If this fails, they employ compensatory mechanism of secondary control. This would involve enhancing the value of having more children than initially intended (Heckhausen, 1999). In early late middle adulthood (45-64 years) women harbour no more intentions for family size because they have already reached end of their fertility period. All this led to the development of the following hypothesis:

Hypothesis 4: Women who reported no intentions for additional child in their middle adulthood age report higher family size intentions at the end of the fertility period if they gave birth to additional children.

Hypothesis 5: Women in their early late middle adulthood report family size intentions that is highly correlated with their actual realized family size.

Hypothesis 6: Women who had knowledge and access to contraceptive early on before their first birth have higher chances of realizing their family size intentions.

Methodology

Ideally this study would best be conducted using longitudinal data (SR Hayford, 2009). However, since there are longitudinal studies in Kenya, this study proposes to use Kenya Demographic Survey data that have been conducted every 5 years since 1988 to 2022. This study will extract and follow through estimates of a cohort from their early age of fertility 15-20 years through to their early adulthood, middle adulthood and to late middle adulthood. Since these data comes from independent samples this study will employ comparative cross-section study design to compare aggregate elementary estimates (Gurney and Daly, 1965) of interest throughout the fertility period of the cohort of interest. According to Gurney and Daly (1965) elementary estimates generated from generalized least squares method for this samples are unbiased for the specific period in which the study was conducted.

Let $x_j(t)$ be the i th elementary estimate from the sample at time t . Since the elementary estimates $x_j(t)$ are unbiased at time t , we can write,

$$x_j(t) = \theta(t) + \varepsilon_j(t)$$

where $\theta(t)$ is the population parameter value at time t and $\varepsilon_j(t)$ is the sampling error (Gurney and Daly, 1965).

Expected results.

Result from this research is expected to confirm all the hypotheses developed in the theoretical discussion. It will confirm that reported family size intentions by women between 15 to 19 years are volatile and a reflection of the larger community schema. The results will also show that family size intentions reduce as the level of education increases. This is also expected to be true for actual family size for women with higher education level.

This research will also confirm presence of desirability desire in the family size intentions reported by women with higher actual family size than their initial intentions. It will also confirm that early knowledge and access to contraceptives increases women's chances of realizing their initial family size intentions.